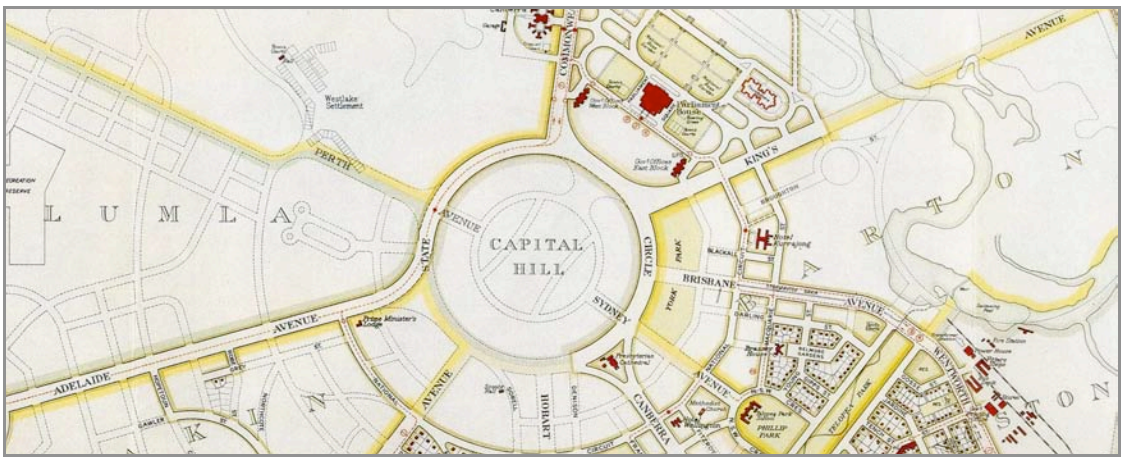
HERITAGE MANAGEMENT PLAN
FOR THE

YORK PARK NORTH OAK PLANTATION
BARTON ACT



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for the
National Capital Authority

2008

EXECUTIVE SUMMARY

This heritage management plan for the York Park North Oak Plantation provides a sound basis for the good management and conservation of this place and its heritage significance. This heritage management plan:

- describes the plantation;
- provides an overview of the history of the place;
- offers evidence related to historic, aesthetic, scientific and social values;
- analyses all of this evidence and provides a statement of significance for the place;
- considers opportunities and constraints affecting the management of the plantation; and
- provides a conservation policy and implementation strategies to guide management and conservation.

The York Park North Oak Plantation is entered on the Commonwealth Heritage List (it is actually called the York Park North Tree Plantation in the List) under the *Environment Protection and Biodiversity Conservation Act 1999*. This listing protects the heritage values of the place, and imposes a number of obligations including the need to prepare a management plan.

The York Park North Oak Plantation is at the northern end of a larger area called York Park in Barton, ACT. The plantation has a range of heritage values related to its history and historical associations, potential to yield information, as an example of a plantation, and creative achievement qualities. The plantation is:

- historically important because of its role in the early development of Canberra;
- has historical associations with Alexander Bruce and Albert, Duke of York;
- has a moderate level of creative achievement value;
- is also significant for its contribution to the setting of the Parliament House Vista; and
- has some scientific value related to its potential ability to provide information about the growth characteristics of English Oaks.

The heritage management plan considers a number of implications arising from this heritage significance, as well as a range of other legislative, management, physical and stakeholder issues. A number of stakeholders have expressed an interest in and concern for the plantation, including that the Oaks should be conserved. The range of constraints and opportunities have been used as the basis for the development of an extensive set of conservation policies and implementation strategies including:

- liaison;
- conservation of the plantation;
- the broader setting for the area;
- use of the place;
- new development; and
- interpretation.

Cover Image: Detail of 1933 Map of Canberra prepared by the Property & Survey Branch of the Department of the Interior, National Library of Australia

CONTENTS

1. INTRODUCTION

1.1 BACKGROUND AND PROJECT OBJECTIVES

The York Park North Oak Plantation is a plantation of Oaks in central Canberra which has been entered in the Commonwealth Heritage List (it is actually called the York Park North Tree Plantation in the List). The plantation is located at the northern end of the larger area which is called York Park. In accordance with section 341S of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), the Australian government agency which owns or controls a place which is on the List must prepare a management plan for the place. The National Capital Authority controls the plantation, and this heritage management plan has been prepared to meet its legislative obligations.

However, this management plan is more than just a legislative obligation. It is intended as a living and working document to help guide the conservation management of the area, especially with regard to changes that are or maybe proposed, or which will inevitably arise.

A copy of the Commonwealth Heritage List citation for the plantation is reproduced at Appendix A.

This plan builds upon a previous draft conservation management plan prepared for the former controlling agency, the Department of Finance & Administration (Marshall & John Easthope & Associates 2004).

Previous advice from the Department of the Environment, Water, Heritage and the Arts has indicated that management plans should not consider potential National Heritage values. Accordingly they have not been considered.

This heritage management plan is the same as a conservation management plan – the term more widely used in the heritage industry.

Definitions

Name of place
While the name of the plantation in the Commonwealth Heritage List is the *York Park North Tree Plantation*, it is suggested that the name, *York Park North Oak Plantation* is more descriptive. Accordingly, the latter name is used throughout this report.

Conservation
In this report, the term conservation is generally used to mean, "all the processes of looking after a place so as to retain its cultural significance" (Australia ICOMOS 2000, Article 1.4). These processes include maintenance, preservation, restoration, reconstruction and adaptation. This definition follows the *Burra Charter*.

In accordance with the EPBC Act 1999, the broad nature of cultural significance also has to be appreciated. It includes not only the physical elements of a place (for example the architecture or landscape) but can also include intangible values such as historical associations, traditional use and community attachment. Conservation has to take all of these values into account. (See for example the Commonwealth Heritage criteria at

10.03A of the *EPBC Regulations 2003 (No. 1)* and the requirements for management plans at 10.03B of the regulations)

One of the principles underpinning the *Burra Charter* is a recognition that heritage places change through time for a variety of reasons. Good heritage practice manages this change with the objective of retaining cultural significance. It does not necessarily seek to freeze a place in time, nor turn every place into a museum. (See for example Australia ICOMOS 2000, Articles 1.9, 3.2, 15, 21, 22 and 27)

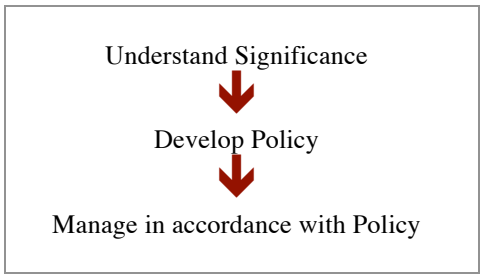
1.2 CONDUCT OF PROJECT

General

This plan has been prepared by updating and extending the previous draft conservation management plan (Marshall & John Easthope & Associates 2004).

The methodology adopted for this plan is in accordance with *The Burra Charter - The Australia ICOMOS Charter for the Conservation of Places of Cultural Significance* (Australia ICOMOS 2000). This can be summarised as a series of steps as shown in Figure 1 below.

Figure 1. Basic Steps of Conservation Management Planning
Source: Australia ICOMOS 2000



In total, the preparation of the draft plan and this heritage management plan has involved a range of consultations, research, inspections and analyses (Chapters 2 and 3). These provided a sound understanding of the place, and led to the preparation of a statement of significance. This work also provided an understanding of the constraints and opportunities related to the current and future management of the place. The statement of significance (Chapter 4) and the information about constraints and opportunities (Chapter 5) were used as the basis for developing a conservation policy and implementation strategies (Chapter 6).

Key elements of the new work specifically undertaken as part of preparing the heritage management plan include:

- generally reviewing and updating the 2004 draft, especially the:
  - management context, requirements and aspirations;
  - policies and strategies;
- reviewing heritage significance;
- investigating aerial photos for evidence of the history of the poor condition of some trees;
- updating the condition assessment of the trees;
- updating the plantation maintenance plan and guidelines for tree protection;
- a soil investigation to assess the role of soil properties in the variable tree condition;

- a botanical survey of the understorey, including preparation of comments on its significance and management recommendations; and
- updating figures.

Botanical survey
The site was visited three times in December 2006 and twice in January 2007. The earlier visits were on days and at times when the critically endangered Golden Sun Moth *Synemon plana* was flying at the nearby grassland site on the corner of Sydney Avenue and National Circuit. These visits were to determine if the moth occurs on the Oak Plantation site. Two observers walked up and down between the rows of trees at about 1300 hours on warm sunny days.

The ground layer vegetation was surveyed during the January visits. Predominantly native and predominantly exotic vegetation was mapped, and a species list was prepared.

Public consultation
In accordance with the requirements of the Environment Protection & Biodiversity Conservation Act 1999, a draft copy of this management plan was made available for public comment. The comment period closed on 16 July 2007. In response, comments were provided by four organisations. Generally, the comments supported the conservation of the plantation and this heritage management plan. A number of improvements to the plan were suggested and these have been considered in the amendment of this document.

The comments also raised a number of matters which fall outside the scope of the heritage management plan, and the NCA is to consider these matters separately.

1.3 PURPOSE OF REPORT

The purpose of this report is to provide a management plan for the York Park North Oak Plantation in accordance with the obligations under the EPBC Act, including an understanding of its heritage values (Chapter 4), and conservation policies and implementation strategies for its future management (Chapter 6).

1.4 LIMITATIONS AND NON-CONFORMING ASPECTS

The following factors limited the work undertaken as part of preparing this report:
- a number of aspects of the history of the plantation remain unclear and further archival research may help resolve these matters, notably:
    - the origin of the idea for the coppices;
    - the reason for the additional two types of trees sent from Kew;
    - the exact location, proposed plantings and planting pattern for all of the coppices;
    - whether Coppice Nos. 2 and 3 were ever started;
    - whether the Bunya Pine was part of one of the intended coppices;
    - confirmation that Coppice No. 5, the York Park plantation was planted out in 1931;
    - the date when Lord Stonehaven initiated Coppice No. 6;
- confirmation of what survives of the coppices which were planted or at least started;
- only very limited social value research was undertaken, including that related to potential aesthetic values;

- only limited research was possible into the special associations of the plantation with important figures, such as Alexander Bruce and the Duke of York,

This management plan conforms with the *Burra Charter* (Australia ICOMOS 2000) and there are no non-conforming aspects to note apart from the limitations above.

1.5 CONSULTANTS

The consultants for the project are Duncan Marshall, Dr Robert Boden, Alan Mann (Canopy Pty Ltd) and Alison Rowell, with assistance from Peter Fogarty (Soil & Land Conservation Consulting).

1.6 ACKNOWLEDGMENTS

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Mark Hollow	Geoscience Australia
Marilyn Truscott	Canberra & District Historical Society
Helen Wade	National Library of Australia, Map Section
Martin Woods	National Library of Australia, Map Section

In addition. the following people and organisations kindly assisted with the preparation of the previous draft plan (some affiliations may have changed).

Pat Keane	Department of Finance and Deregulation
Robert Jackson	Department of Finance and Deregulation
Derek Pottenger	Integrated Construction (Management Services) Pty Ltd
Dr Sandy Blair	ACT Heritage Unit
Max Bourke AM	Australian Garden History Society
Natalie Broughton	National Capital Authority
Dr Robert Bruce	Department of the Environment, Water, Heritage and the Arts
Antoinette Buchanan	ACT Heritage Library
Canberra & District Historical Society	
Grahame Crocket	Department of the Environment, Water, Heritage and the Arts
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Shamsul Huda	National Capital Authority
Stuart Mackenzie	National Capital Authority
Andrew Metcalf	Daryl Jackson Alastair Swayn Pty Ltd
Dr Warren Nicholls	ACT Heritage Council

National Archives of Australia
National Library of Australia

John Odbert	Blake Dawson Waldron
Keith Storey	ACT for Trees
Alastair Swayn	Daryl Jackson Alastair Swayn Pty Ltd
Gabrielle Tryon	Australian Garden History Society

2. DESCRIPTION, HISTORY AND OTHER EVIDENCE

2.1 LOCATION AND BOUNDARIES

The York Park North Oak Plantation is located at the southeast corner of State Circle and Kings Avenue in Barton, ACT. The plantation is Block 4, Section 1, Barton.

The formal boundary of the area defined in the Commonwealth Heritage List (CHL) is,

> "About 1.75 ha, in Barton, comprising that area of Block 2, Section 1, between Windsor Walk, State Circle, Kings Avenue and a line parallel to Kings Avenue 100 metres to the south-south-east (ie extending from the formed kerb on the most southern side of Kings Avenue)." (DEWHA 2008)

Refer to Figures 2 to 4.

It should be noted the CHL boundary is somewhat different from the area fenced with salt treated pine logs, which is clearly appreciated on site. The CHL boundary includes a larger area than the fenced area, especially to the Kings Avenue and State Circle frontages.

The block boundary is also greater than the CHL area on the southern side. The block boundary was created to allow for a 12.5 metre tree protection zone on this side of the plantation, and this boundary includes a greater area than is provided by the CHL boundary (see Figure 4).

It is also worth noting that the overall boundaries of York Park are those shown on Figure 3. At various times and in other contexts York Park has been portrayed as extending further south to Canberra Avenue, including St Andrew's Church. However, this suggested extension would formally appear to be an error. While this error does not arise in the context of this report, readers may detect the error when comparing this report to other documents.

Figure 2. Location Plan of York Park North Oak Plantation
Source: Base drawing from the Department of the Environment, Water, Heritage and the Arts

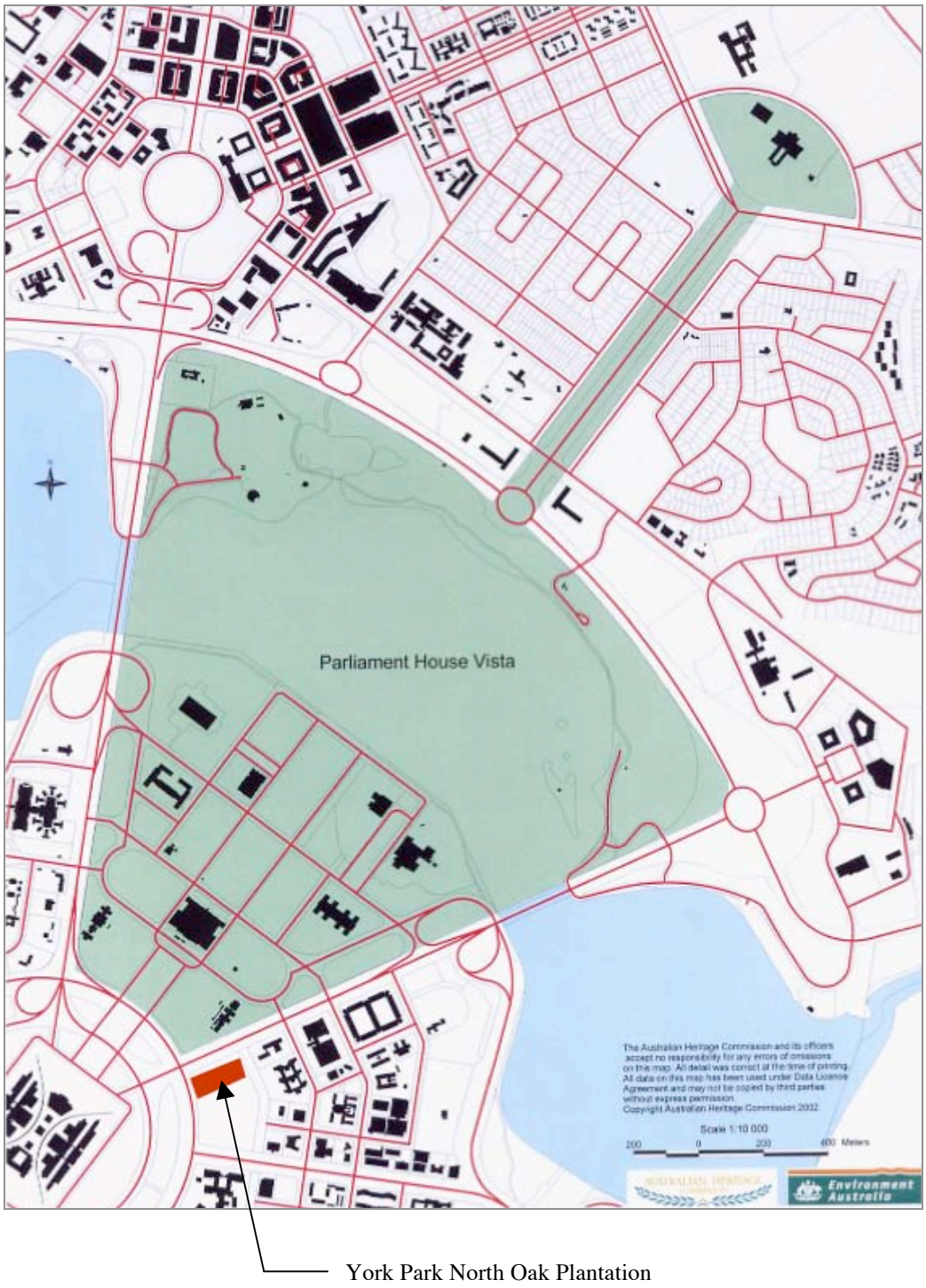


Figure 3. Plan of York Park and Oak Plantation
Source: Base plan from ACT Land Information Centre 2003, *Maps of Canberra by Suburbs*, detail of map of Barton

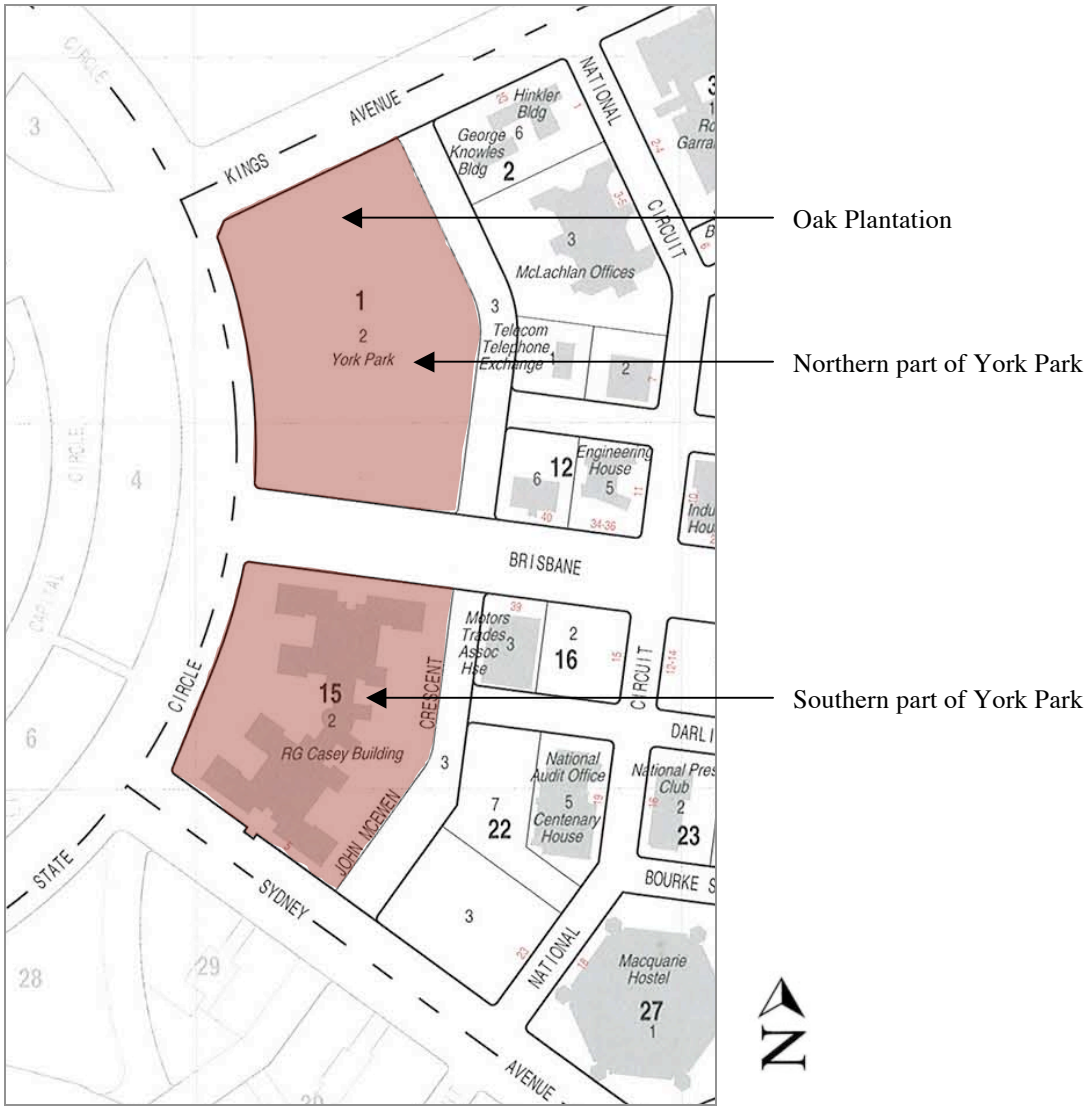
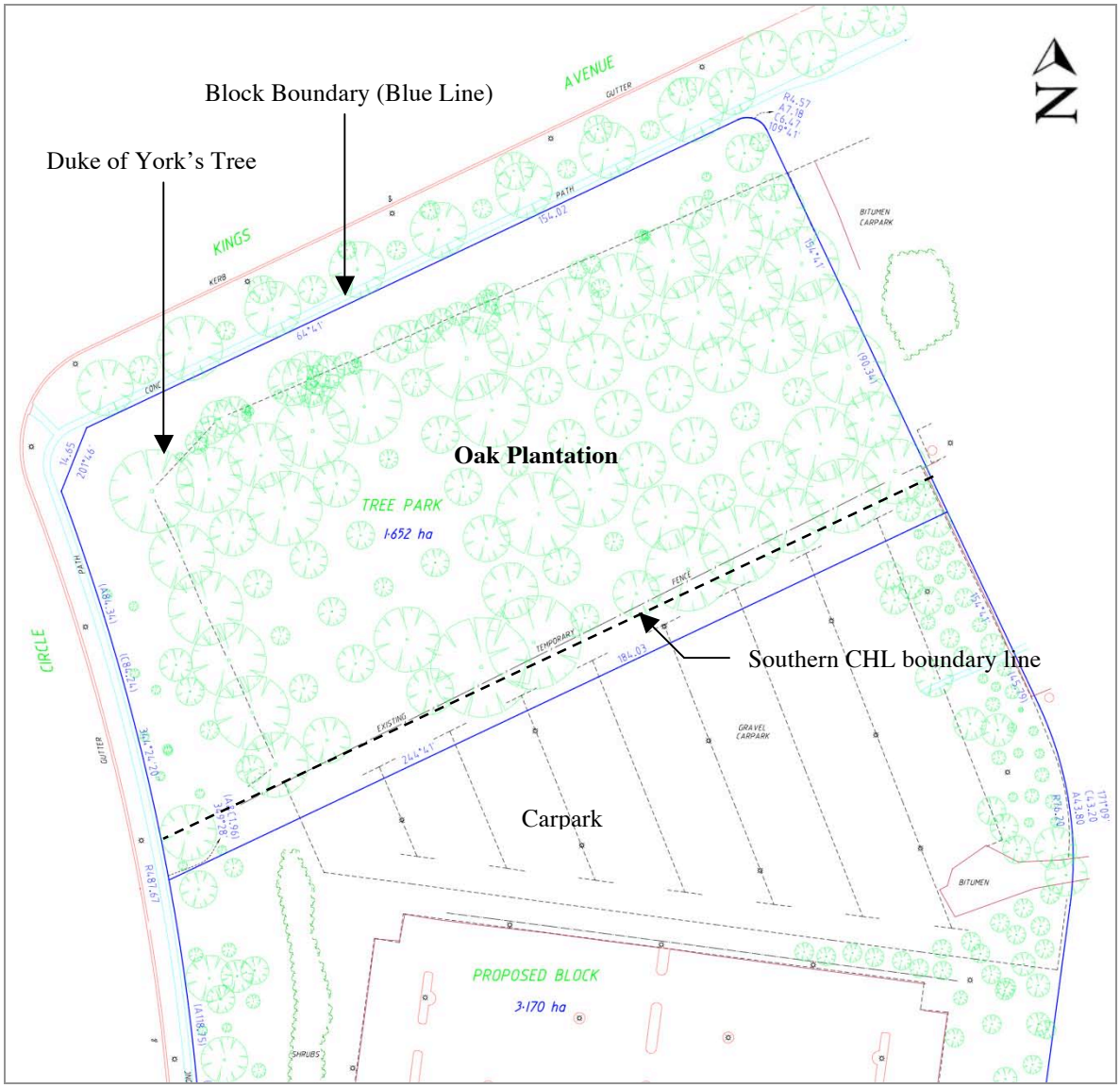


Figure 4. Existing Site Plan of York Park North Oak Plantation
Source: Base drawing by Earth Tech



Notes: The Commonwealth Heritage List boundary is the block boundary (blue line) on the north, east and west sides, and the black dotted line on the southern side as indicated.

This figure includes exact tree numbers, positions and a relative representation of canopy size. Refer also to the condition assessment at Section 5.3.

2.2 DESCRIPTION AND CONDITION

Landscape surrounding the Plantation

The area surrounding the plantation is a combination of extensive roadways, irrigated grass and unirrigated lawn, mature exotic trees, native woodland and a large gravel carpark. The landscape gently slopes to the northeast and south.

To the north of the plantation is an unirrigated grassed road verge with a mixture of mature exotic and native trees, including self-sown environmental weed species, then Kings Avenue and on the far side the irrigated lawn and exotic trees which provide a setting for East Block. West is an unirrigated grassed road verge with mostly native trees and some exotic trees, then State Circle and on the far side the native woodland slopes of Capital Hill.

South of the plantation is the gravel surface carpark on the remaining northern half of York Park. This carpark extends to Brisbane Avenue to the south.

East of the plantation is a strip of land called Windsor Walk which includes gravel and bitumen paved areas, a fast food caravan, and some mature exotic and native trees. Beyond this strip are a series of buildings with attendant carparks and landscaping.

York Park North Oak Plantation

The plantation is located on gently sloping land which rises to the west and north.

The plantation comprises 75 mature English Oak trees (*Quercus robur*) laid out in a regular grid of 6 x 13, with the trees spaced 12.19 metres (40 feet) apart. Trees on the boundary of the plantation tend to be larger than those within the plantation. The understorey is grass which is allowed to grow rather than be regularly mown. There is a suggestion in the tussock pattern that some of the grasses may have been planted.

There are remnants of the original native vegetation community (Natural Temperate Grassland) in the plantation, though this has been extensively modified. This includes native grasses (*Themeda australis*, *Austrostipa spp* and *Austrodanthonia spp*) as well as other native plants (*Dianella longifolia* and *Eryngium rostratum*). (Butler 2004)

There are a number of other native and exotic trees and shrubs located within the plantation including wattles, eucalypts and cotoneaster. These appear to be self sown and not deliberately planted, and some of the trees and shrubs are large, mature specimens. There are also some Oak seedlings resulting from acorns dropped by the mature trees.

The plantation is fenced with a low, salt treated pine rail fence to the north and west, and a star picket and wire fence to the south. There is also a temporary metal security fence located further away from the trees to the south, and the same type of fence to the east side. The Oak which is believed to be the one planted by the Duke of York in 1927 is located at the northwestern corner of the plantation, outside the line of the fence.

Several old tables and chairs are located in the plantation on the eastern side near the fast food van. A drain and short channel are also located on this side.

A small trench several metres long has been excavated in the northwest corner of the

plantation, possibly as part of soil testing. The trench has not been backfilled.

Figure 5. Aerial view of the plantation in 2004
Source: ACTMAPi/SKM

Figure 6. View of Plantation to the right with Kings Avenue to the left and Bunya Pine to the far left
Source: Duncan Marshall 2007

Figure 7. View of Plantation from Kings Avenue – behind street trees
Source: Duncan Marshall 2007

Figure 8. View of Duke of York's Oak tree, to right, and Bunya Pine across Kings Avenue to left
Source: Duncan Marshall 2007

Figure 9. View of northern edge of Plantation to left
Source: Duncan Marshall 2007

Figure 10. View of western edge of Plantation – Duke of York's tree to left
Source: Duncan Marshall 2007

Figure 11. View of southern edge of plantation – carpark to right
Source: Duncan Marshall 2007

Figure 12. View of eastern edge of Plantation to the left with Windsor Walk to the right
Source: Duncan Marshall 2007

Figure 13. View into Plantation
Source: Duncan Marshall 2007

Figure 14. View into Plantation with self sown tree at centre
Source: Duncan Marshall 2007

Figure 15. View of fast food van in Windsor Walk with Plantation behind
Source: Duncan Marshall 2007

Figure 16. View of tables and chairs within Plantation at southeast corner
Source: Duncan Marshall 2007

Condition of the Plantation

This section provides information about the condition of the plantation, prior to consideration of the heritage significance of the place in the following chapters. It provides a general impression about condition. Section 5.3 provides a detailed analysis of condition and integrity related to the actual significance of the plantation.

The plantation is in fair condition with the health of individual trees varying from poor to good, and there are also several trees missing. In addition, the plantation has a number of mature trees and shrubs grown from seed mainly dispersed by birds. There are also Oak seedlings as English Oaks have the capacity to establish under their own crown. The grassed understorey is unmown which gives the appearance of the plantation being poorly maintained.

2.3 ASSOCIATED PLACES

The plantation is associated with several other places and a group of places. These are the:

- whole of York Park;
- Bunya Pine (*Araucaria bidwillii*) located opposite the plantation on the north side of Kings Avenue, also planted by the Duke of York;
- the group of five other coppice[1] plantations established or proposed in Canberra in the late 1920s or early 1930s; and
- the Parliament House Vista conservation area, also entered on the Commonwealth Heritage List.

These associated places are identified on Figures 2 and 23, where their locations are known.

The nature of the associations between these places and the plantation is discussed in the following sections.

[1] The term 'coppice' was used in the historical documentation of the 1920s and appears to have been intended to refer simply to a plantation of trees. The current meaning of coppice, as a wood grown for periodic cutting, is quite different.

2.4 OVERVIEW HISTORY

This history deals with:

- an overview of the development of Canberra 1911-1939;
- Canberra's urban forest 1913-1960s;
- the York Park site 1911-27;
- the opening of Provisional Parliament House and the Royal Visit 1926-27;
- the origins and initial plantings for the York Park North Oak Plantation;
- York park site 1928-31 – Hinkler's visit, its re-naming and completion of the plantation;
- the planting of the other coppices;
- development in the vicinity of the plantation from 1931 to the present day; and
- the later history of the plantation from 1931 to the present day.

An Overview of the Development of Canberra 1911-1939

The Federal Capital Territory was created in 1911 and Walter Burley Griffin won the competition for the design of Canberra as the nation's capital in 1912 (actually Walter was the lead designer and Marion Griffin a contributing designer). Work began on the creation of the capital but it was largely deferred because of the First World War. The development of Canberra was given new priority in the early 1920s when the Federal Capital Advisory Committee (FCAC) was established with the purpose of completing sufficient permanent buildings to enable the Commonwealth Parliament to move from Melbourne to Canberra. (Gibbney 1988, pp. 1, 11, 27-8, 40, 44; Reid 2002, p. 149)

Following the competition plan, Griffin prepared a preliminary plan of 1913 and a revised plan in 1918. Griffin ended his formal association with the development of Canberra in 1920. In 1925, what is sometimes called the Official Plan was gazetted based on Griffin's last plan, and this was used to guide development in the following decades. (Reid 2002, pp. 108-111, 144-7, 178-9)

The 1920s saw considerable progress in establishing Canberra as a city, with particular attention being paid to building the Provisional Parliament House. In addition, there was infrastructure such as roads, public buildings like schools, commercial buildings and housing. (See for example Gibbney 1988, pp. 109-140) The work was begun by the FCAC which was replaced by the Federal Capital Commission (FCC) in 1925.

Parks and gardens including trees were a major and extensive feature of the new city. While the Griffins provided a general basis for this, later planners and Charles Weston, in charge of parks, gardens and afforestation from 1913-26, gave real form to the garden city. Special efforts were made to beautify the city with parks, gardens and plantings in the lead up to the opening of Parliament. This aspect is discussed in more detail below. (Reid 2002, pp. 127-9, 157, 360; Federal Capital Commission 1927, p. 13)

However, the end of the decade saw the onset of the Great Depression and economic and social hardship. In response, the Government significantly curtailed funding for the continued development of Canberra. Accordingly, the 1930s was a period of very limited development activity. Towards the end of the 1930s and with the outbreak of war in 1939, there was some increased level of development activity in response to the security situation. (Gibbney 1988, pp. 159-206)

Canberra's Urban Forest 1913-1960s

Canberra's rural landscape, including the Molonglo River floodplain, was very open and devoid of trees, especially on the plains, in the period prior to it becoming the site for the nation's capital in 1911. This changed dramatically over the decades, beginning with the work of Charles Weston, initially the Officer-in-Charge Afforestation, later Superintendent of Parks and Gardens, in the period 1913-26. (This section is based on Pryor and Banks 2001, pp. 202-210)

Weston embarked on a program of tree planting on the hills, and for the city site he,

> "planted densely and extensively with a mixture of native and exotic species in formal and informal arrangements. He broadened the role of landscape planting far beyond its incidental use… by pursuing large-scale structure plantings such as in Haig and Telopea Parks and in the Parliamentary Triangle." (Pryor & Banks 2001, pp. 202-3)

His primary aims were to:

- ameliorate the harsh climate;
- achieve seasonal effects and beautify the landscape with trees native to the area and others which achieved good results as quickly as possible; and
- undertake experiments to test the performance of trees, including the use of research arboreta.

Weston interplanted with fast growing, short-lived species to achieve a quick effect. He influenced the urban landscape in a number of ways including:

- establishing wide medians on main avenues to allow for extensive formal tree plantings;
- creating large scale shelter, screen and structure plantings;
- creating informal groupings of trees in parks to avoid monotony; and
- the use of a range of species especially exotic conifers and deciduous trees, with native trees in appropriate situations.

The Great Depression in the 1930s slowed landscape development. Alexander Bruce succeeded Weston from 1927-37 and he was followed by John Hobday from 1937-44. One of the major features of this period was the application of forest silvicultural management practices to the maturing urban forest. Thinning and removing short-lived and overplanted areas began in this period, sometimes against public opinion.

From 1944 to 1958, under the direction of Lindsay Pryor, landscaping expanded rapidly. Pryor broadly followed Weston's policies although he moved from Weston's formal and wide geometric designs to substantial informal massed plantings employing both native and exotic species, and leaving some open space. During the 1960s, the National Capital Development Commission's Harry Oakman focussed attention on several areas including the Parliamentary Triangle. He sought maximum display, minimum maintenance and an accent on nature – though the practice of using both exotic and native species continued. (Pryor & Banks 2001, pp. 204-10)

York Park Site 1911-27

The history of the overall York Park site (it was not named this till 1928) in the period 1911-27 has not been comprehensively researched. However, the following tentative comments are offered.

At the time the Federal Capital Territory was created in 1911, the site appears to have been open grazing land with few trees. The extent to which tree clearing for European settlement had changed the landscape is not clear. The site merged into the slope of Kurrajong Hill (later re-named Capital Hill) and the hill retained some native woodland. Figure 22 from 1927 gives a sense of the openness of the site.

The Griffins various plans from 1911 to 1918 all defined a road system to bound the site, although the shape of the site changed from something shaped like two half circles, to the current shape. (Reid 2002, pp. 52, 110, 146. See also Figure 17) The Federal Capital Commission essentially worked from the 1918 plan to form the bounding roadways during the 1920s. Otherwise, the site appears to have remained an open paddock until 1927.

All of Griffins' plans suggest the northern part of the site, at least, was to be parkland of some sort, although the 1913 plan shows a railway station within the parkland (see Figure 17).

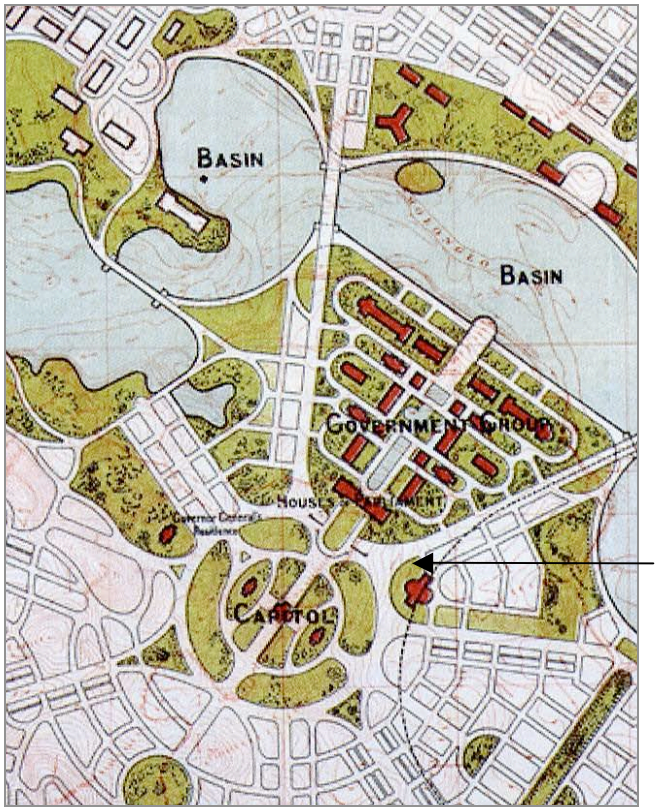


Figure 17. Detail of Griffin's 1913 Plan for Canberra with the site of York Park highlighted
Source: Reid 2002, p. 110

Opening of Provisional Parliament House and the Royal Visit of 1927

While there were many projects which together comprised the initial phase of the development of Canberra, the focus of attention was on the construction of the Provisional Parliament House, and its planned completion in 1927. The Provisional Parliament House was the centrepiece of the new capital, albeit a provisional centrepiece, and was to be the new home for the Parliament.

The opening of Parliament House on 9 May 1927 was undertaken by the Duke of York, as the highlight of a series of events to celebrate the occasion. Albert, Duke of York was the second son of King George V. Albert later became King George V1 upon the abdication of his elder brother King Edward VIII in 1936. Albert and Elizabeth, the Duke and Duchess of York, visited Australia between March and May 1927 and one of the principal

reasons for the visit was to undertake the opening ceremony. They travelled to and from Australia on HMS Renown, and during their stay visited all States. (*The Australian Encyclopaedia* nd, pp. 513-4)

The Duke and Duchess of York arrived in Canberra on 7 May by train from Sydney. They stayed at the Governor-General's official residence, Government House, Yarralumla. The opening ceremony for the Provisional Parliament House took place late in the morning of Monday 9 May. In the afternoon, the Duke reviewed Australian military forces and witnessed a flypast by the RAAF. This took place in the open area south of the Parliamentary Triangle, called at the time the Review Ground and later re-named York Park. A large rotunda was constructed on the Review Ground for official guests to view the ceremony. While the day had been sunny, it rained late in the afternoon as the Duke left a reception hosted by the Returned Soldiers League, and rain persisted into the night. (Gibbney 1988, pp. 126-130)

The itinerary for the 10th of May varied from the published program at the time as the Duke "indulged in a round of golf" in the morning before the formalities could commence (*Sydney Morning Herald*, 11 May 1927). In one of the main ceremonies of the day, the Duke and Duchess attended a reception at Parliament House, then watched a large procession of citizens from the district from the steps of the building. They lunched at the Royal Military College at Duntroon and presented the King's colours to the College. Afterwards, the Royal party toured the north of the city. The tour was intended to cover the south of the city as well, in the morning, but this was cut except for what could be accommodated as the party drove from Yarralumla to Parliament House.

There were three tree planting ceremonies undertaken by the Duke and Duchess on 10 May:

- the Duke planted an Atlas Cedar[2] at Government House, Yarralumla in the morning before leaving for Parliament House;
- in the morning the Duchess planted a Cricket Bat Willow and a Eucalypt on a site near the corner of Continent Circuit (now National Circuit) and Wellington Avenue (now Canberra Avenue – the site is part of the current Forrest Primary School), as the initial plantings for Coppice No. 1; and
- late in the day the Duke planted an English Oak and a Bunya Pine on either side of Federal Avenue (now Kings Avenue) near the corner with Capital Circle (now State Circle), as the initial plantings of Coppice No. 5. (Boden 1994a, pp. 3-4; Daley 1994, p. 100; see Figure 18)

In addition, the Royal couple also witnessed the Prime Minister planting trees to initiate Coppice No. 4. (*Sydney Morning Herald*, 11 May 1927; this may also be the event reported in Gibbney 1988, p. 257, which refers to the planting of an elm and a eucalypt)

The Duke and Duchess departed Canberra for Melbourne by train late on the night of 10 May.

[2] This was originally thought to be a Cedar of Lebanon.

Figure 18. Itinerary for the Royal Tour of Canberra for 10 May
Source: Federal Capital Commission 1927, p. 80

PROGRAMME OF THE CEREMONIES IN CONNEXION WITH THE OPENING OF PARLIAMENT HOUSE BY HIS ROYAL HIGHNESS THE DUKE OF YORK, 10TH MAY, 1927—*continued.*

Time.	Event.	Special Action.
a.m.		
9.45	The Prime Minister and Mrs. Bruce, the Minister for Home and Territories and Mrs, Marr, the Chief Commissioner of the Federal Capital Commission and Lady Butters, Commissioner Sir John Harrison, K.B.E., and Miss Harrison, and officers of the Commission detailed for duty were in attendance	
10.30	His Royal Highness planted a tree in Government House Grounds	*Cedrus Lebani* (Cedar of Lebanon)
10.45	THEIR ROYAL HIGHNESSES AND THEIR EXCELLENCIES LEFT GOVERNMENT HOUSE BY MOTOR CAR, along route defined, to inspect portion of City	Police advance and rear escorts only in motor cars
	HER ROYAL HIGHNESS PLANTED TWO TREES; one from the Royal Botanic Gardens, London, the other from the Canberra Nursery	1 *Salix Alba Caerulea* (cricket bat willow), near intersection Wellington Avenue and National Circuit 1 *Eu. Rubida* (White Gum).
11.30	THEIR ROYAL HIGHNESSES HELD A PUBLIC RECEPTION on the steps of Parliament House Public entrée without card or restriction	Their Royal Highnesses stood, public filed past four abreast.
p.m.		
12.45	Their Royal Highnesses retired to President's Room .. Their Excellencies retired to Leader of Senate's Room	Changed clothes
1.00	His Royal Highness the Duke, attended by Chief of Staff and one Equerry, and His Excellency attended by the A.D.C., departed for Duntroon	Police escort
1.00	Her Royal Highness the Duchess and Her Excellency Lady Stonehaven departed for Government House	Police escort
1.15	His Royal Highness arrived at Royal Military College Guard of Honour of Corps of Staff Cadets Royal Salute	
1.30	His Royal Highness lunched with Commandant and Staff	
2.30	Consecration of Colours	
2.45	HIS ROYAL HIGHNESS PRESENTED COLOURS TO THE CORPS OF STAFF CADETS	
3.15	His Royal Highness inspected College	
3.45	HIS ROYAL HIGHNESS AND HIS EXCELLENCY LEFT DUNTROON TO INSPECT NORTHERN AND PART OF SOUTHERN PORTION OF CITY	
4.40	Arrived Parliament House and attended R.S.S.I.L.A. Meeting Afternoon tea	
5.10	His Royal Highness planted two trees, one from the Royal Botanic Gardens, London, the other from the Canberra Nursery	1 *Quercus Robur* (English oak), 1 *Araucaria Bidwillii* (Queensland Bunya Bunya Pine) near intersection of Federal Avenue and Capitol Circuit.
5.15	Left for Government House	His Royal Highness and His Excellency drove together
5.30	Arrived Government House Evening private	
9.30	Their Royal Highnesses left Canberra Railway Station for Melbourne	

Figure 19. The Duke and Duchess of York at the opening of Parliament House – 9 May 1927
Source: ACT Heritage Library, reference 000277

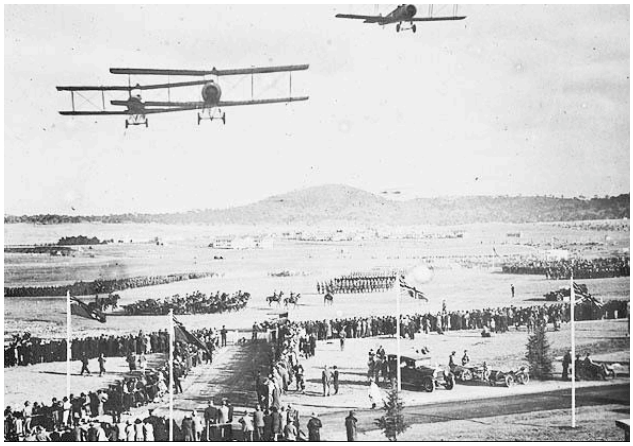


Figure 20. Royal Review at the Review Ground (York Park) during the visit by the Duke and Duchess of York, May 1927
Source: National Library of Australia, nla.pic-an11030057-154

Figure 21. Location of the Review Ground within the overall York Park site
Source: Copy held by the National Capital Authority, reference A12710/5

The Origins and Initial Planting for the York Park North Oak Plantation 1926-27

The program for the opening of Provisional Parliament House in May 1927 included a range of other events taking advantage of the presence of the Duke and Duchess of York in Canberra. One such event was the ceremonial planting of a range of English trees to commemorate the links between Britain and Australia.

In September 1926, the Federal Capital Commission (FCC) proposed that the Duke and Duchess plant trees close to and in front of the Provisional Parliament House. John Murdoch, the Government architect of the building, suggested a slightly revised location, and also suggested the Duke and Duchess should plant additional Poplars in the courtyards of the Parliament House. Two Poplars had previously been planted by visiting dignitaries. There is no evidence to suggest the Duke and Duchess actually did plant the Poplars, although they were eventually planted. (NAA CP325/6 Bundle 1 – Trees and Tree Planting file: Letter from Murdoch to Owen, 14 October 1926)

In November 1926 the Australian Prime Minister, Stanley Bruce was in England and held

discussions with staff of the Royal Botanic Gardens at Kew. The Gardens offered four specimen English trees, an Oak, Elm, Beech and Cricket Bat Willow, to be planted during the visit of the Duke and Duchess of York to Canberra in 1927 when the Duke would open the Provisional Parliament House. These trees were to form the nucleus of "separate coppice[s]", and Bruce had discussed the proposal with the Curator of the Botanic Gardens, Sydney, Edward Ward, who was also in London around this time. (NAA CP325/6 Bundle 1 – Trees and Tree Planting file: Cablegram from Bruce to Earl Page of 20 November 1926)

It is not clear where the idea for the ceremonial plantings originated. It seems that either Bruce or the Royal Botanic Gardens, Kew, was the initial proponent. Either way, the Royal Botanic Gardens certainly offered the gift of a few specimen trees.

Bruce contacted the Federal Capital Commission which agreed with the proposal. (NAA CP325/6 Bundle 1 – Trees and Tree Planting file: Cablegram(?) from J McLaren to Prime Minister's Department, 24 November 1926)

Ward subsequently explained his proposal to the Federal Capital Commission.

> "I advised that, as English trees for specimen purposes had already been planted at the Capital City, a much bolder scheme would be to create a Royal or English vista by the planting of four coppices of English trees, the Duke of York to plant the nucleus of the British Oak coppice, to consist of not less than 100 trees, the Duchess to plant the graceful Beech, the Governor General the ancient Elm, and the Prime Minister the economic Willow.
>
> It was thought that for authenticity these four trees should be English grown and supplied by the Royal Botanic Gardens own nursery, imported and acclimatised by the Sydney Botanic Gardens or the Canberra Nursery, and that the remainder be propagated and grown at our State Nursery at Campbelltown or at the Canberra Nursery…
>
> Particular care should be taken in the selection of a site, and these coppices well planned to secure in the future a worthy landscape vista." (NAA CP325/6 Bundle 1 – Trees and Tree Planting file: Letter from Ward to Federal Capital Commission of 30 November 1926; reproduced at Appendix A)

So the initial idea of either Prime Minister Bruce or the Royal Botanic Gardens was developed by Ward into coppices of trees.

As it turned out, the plants supplied by the Royal Botanic Gardens, Kew, included 8 Beech, 8 Oaks, 8 Horse Chestnut, 6 Cricket Bat Willow, 6 Alder and 6 Elms. The reason for the additional two types of trees is not known.[3] The plants were sent by the ship *SS Balranald* in December 1926 to the Royal Botanic Gardens in Sydney where they were potted, nurtured and kept before shipment to Canberra. (NAA CP325/6 Bundle 1 – Trees and Tree Planting file)

In March 1927, the FCC Chief Commissioner, John Butters, indicated some details of what had now become six coppice sites as follows:

- Site 1 for HRH Duchess of York to plant a Cricket Bat Willow;
- Site 5 for HRH Duke of York to plant an Oak;
- Site 6 for HE the Governor-General Lord Stonehaven to plant a Beech;
- Site 4 for the Prime Minister Bruce to plant an Elm (Butters preference), though earlier proposals involved an Oak; and

[3] There is evidence to suggest that Ward was sent some trees for his own purposes at the same time, unrelated to the ceremonial plantings in Canberra. However, the records are not entirely clear. NAA CP325/6 Bundle 1 – Trees and Tree Planting file: Letter from Bean to Ward of 17 December 1926.

- Sites 2 and 3 for other (future?) ceremonial plantings.

The Acting Superintendent of Parks and Gardens in Canberra, Alex Bruce, had prepared a plan of the coppice plantings (though this has not been sighted). Butters also wanted a native tree planted nearby on each ceremonial occasion. It is apparent he thought a Eucalypt would be the native tree in each case.

> "I propose also to arrange for Their Royal Highnesses each to plant an Australian native tree. Please arrange for Mr Bruce to advise the most suitable tree for this purpose which I should like, if possible, to form either part of a coppice or be located in an ordinary avenue or circuit tree planting position as near as possible the coppice site; probably the latter proposition would be the best. I particularly wish to avoid having to take the Duke and Duchess to a second site…" (CP325/6 Bundle 1, memorandum from Butters to Chief Engineer, FCC, of 4 March 1927; reproduced at Appendix A)

All of the initial plantings associated with Coppices 1, 4, 5 and 6 were intended to take place in May, if not actually during the Royal visit. With regard to Coppices 2 and 3 Butters wrote,

> "please have these also developed in readiness for planting other trees which will be available and which may be required for ceremonial purposes." (CP325/6 Bundle 1: Memorandum from Butters to Chief Engineer, FCC, on 4 March 1927)

It is not absolutely clear if Butters meant that other ceremonial plantings for Coppice Nos. 2 and 3 might take place during the Royal visit or at some future stage, or both.

On 31 March 1927, Weston, the retired former Superintendent of Parks and Gardens in Canberra, met Ward and inspected the plants which Weston said were in very good condition. However, he expressed the view that the Beech, Horse Chestnut, Cricket Bat Willow and Alder were "not altogether suitable" for Canberra's conditions. (CP325/6 Bundle 1: Letter from Weston to FCC on 1 April 1927)

On 12 April the Acting Superintendent of the Parks and Gardens Branch, Bruce, met Weston in Canberra. They inspected the proposed planting sites, which Weston approved of, and the types of native trees to be planted were also chosen. Up to this point, the basis for Weston's involvement is not clear. However, Weston was formally engaged by the FCC to assist with the Royal visit in May, after his visit to Canberra in mid April. (CP325/6 Bundle 1: Memorandum from A E Bruce to Chief Engineer, FCC, on 14 April 1927)

Charles Daley, a witness to the actual planting, recorded his recollection of the planting by the Duke on 10 May as follows.

> "…the Duke, as his last official act of the long programme, planted two trees, one an English oak from Kew Gardens, England, and a bunya-bunya pine, near the western end of King's Avenue. I have never seen more expedition at a planting ceremony. This was caused by the weather which, after being especially fine for the whole of the earlier functions, began to break, a heavy storm appearing with flashes and rolling thunder-claps. The Duke was obviously anxious to avoid being drenched to the skin, so he performed the plantings 'like lightening'." (Daley 1994, p. 100)

One source suggests that the Bunya Pine was also intended to be an initial planting for one of the coppices. A planting plan of the time and for the area shows Bunya Pine plantings in the same locality but to an irregular pattern, unlike the regular grid of the Oak plantation. (Federal Capital Commission 1927, p. 14; *Plan Showing Permanent Planting at Governmental Group Canberra* [c1927?], copy held by the ACT Heritage Library)

All the initial specimens of English trees for the various coppices were as supplied by the Royal Botanic Gardens at Kew. The native trees were supplied by the Government's Yarralumla Nursery.

York Park site 1928-31: Hinkler, Re-Naming and Completion of Plantation

In 1928 the pioneer Australian aviator, Bert Hinkler, flew into Canberra and landed at the Review Ground. He was greeted by a large crowd. Hinkler had won national praise that year for successfully completing the first solo flight from England to Australia. The rotunda provided for the 1927 Royal visit was still present on the Review Ground. (Davison and others 1998, p. 314; see Figure 21)

Also in 1928 the Review Ground and surrounding land was re-named York Park in honour of the Duke (*Commonwealth Gazette*, No. 99, 20 September 1928, p. 2643).

> "As a compliment to the Duke, and as a permanent memorial of the historic occasion, the area in which the review was held was later names York park by the Federal Capital Commission." (Daley 1994, p. 98)

At the same time, Windsor Walk was named in honour of King George V, whose surname was Windsor.

The remainder of Coppice No. 5 seems to have been planted in 1931 as part of unemployment relief work funded by the Department of Home Affairs.[4] Correspondence of the period records that,

> "In the case of York Park… it was found necessary to enlarge the tree positions and to chip the grass to a greater distance from each tree in order to afford better opportunity for root development and growth generally." (NAA A1 1935/2405: Memorandum from Lancaster to the Secretary of the Department of Home Affairs, 8 December 1931. Reproduced at Appendix A)

The tree stock was probably raised at the Yarralumla Nursery.

By 1931, the Great Depression was having severe economic and social effects, including in Canberra. While the Government drastically reduced funding for the overall development of the capital city, it none the less gave some funding for public works to provide relief work for the unemployed. Many projects were undertaken in the early 1930s, including road works, street tree and other tree planting. The coppice planting was one of these projects. (NAA A1 1935/2045, A6272 E434, A6272 E180)

[4] The plantation was not visible in aerial photos of the area in 1929 but are prominent in photos by the mid 1940s (Fax message Boden to Pryor, 28 May 1994).

Figure 22. Crowds gather to see Bert Hinkler land in York Park, then called The Review Ground, March 1928
Source: ACT Heritage Library, reference 003634

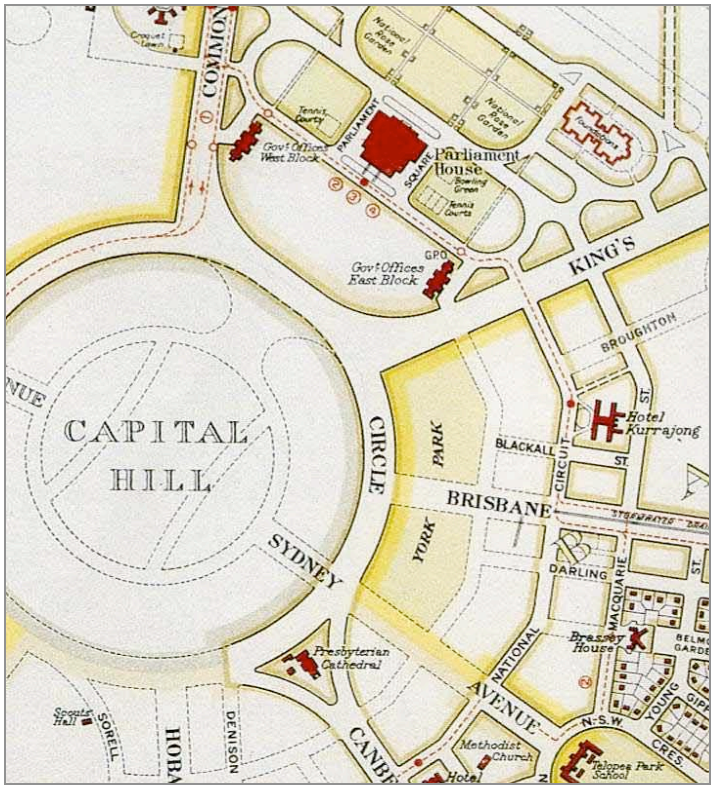


Figure 23. Detail of 1933 Map of Canberra showing York Park
Source: 1933 Map of Canberra prepared by the Property & Survey Branch of the Department of the Interior, National Library of Australia

Figure 24. Detail of 1933 Map of Canberra showing known Coppices/Plantings
Source: 1933 Map of Canberra prepared by the Property & Survey Branch of the Department of the Interior, National Library of Australia

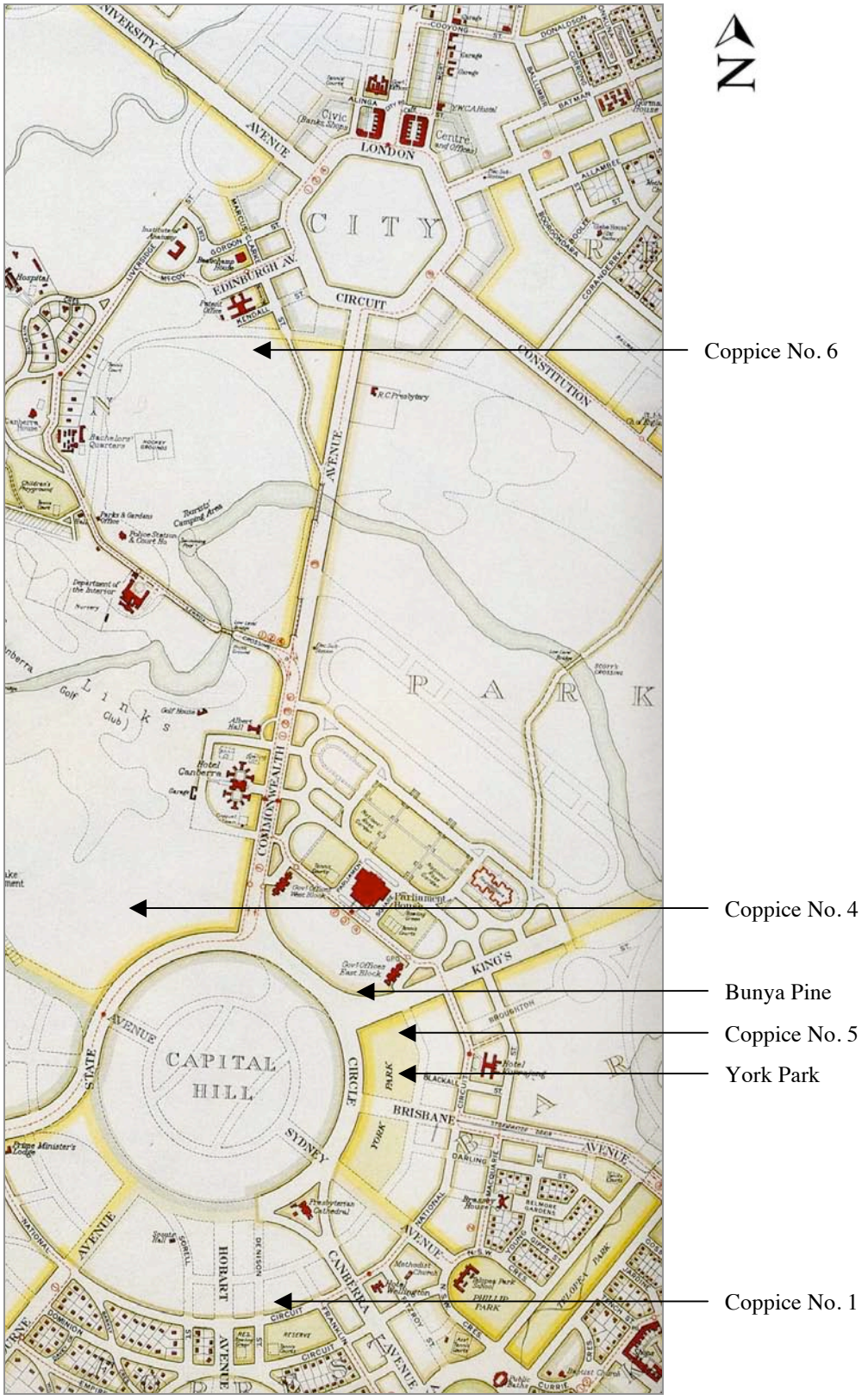


Table 1. Details of the Coppices			
Coppice No.	**Location**	**Dignitary undertaking initial planting and date**	**Tree types**
1	Corner of Continent Circuit (now National Circuit) and Wellington Avenue (now Canberra Avenue – the site is part of the current Forrest Primary School)	HRH Duchess of York 10 May 1927	Cricket Bat Willow and *Eucalyptus rubida*
2	Not known		
3	Not known		
4	Darwin Avenue	Prime Minister Bruce 10 May 1927	English Oak or Elm, and Eucalypt?
5	Federal Avenue (now Kings Avenue) near the corner with Capital Circle (now State Circle)	HRH Duke of York 10 May 1927	English Oak and Bunya Pine
6	Acton (now the north shore of the west basin of Lake Burley Griffin, near the Ferry Terminal)	HE the Governor-General Lord Stonehaven 1927	Beech and Casuarina
Note: It is possible Coppice Nos. 2 and 3 were initiated by the Duke and Duchess in 1927 by the planting of one of the trees known to have been planted (eg the Bunya Pine and *Eucalyptus rubida*). On the other hand, these coppices may never have been initiated or planted. See the text below.			

The Planting of the Other Coppices

Details about all of the coppices are scanty. One reference suggests that the two trees planted by the Duchess on 10 May 1927 were in fact the initial plantings for two coppices. No information has been found suggesting any further plantings were undertaken to complete the coppice/s associated with the Duchess. Both trees were alive in 1954, when plaques were installed near both trees, and it is thought the Cricket Bat Willow still survives although the plaques have disappeared. (Federal Capital Commission 1927, p. 14; Personal communication, Dick Mundy to Robert Boden 1994)

As noted above, Prime Minister Bruce undertook the initial plantings for Coppice No. 4 on 10 May 1927. Nothing further is known about the fate of these trees or the coppice as a whole, and the precise location is also not known. Darwin Avenue does not exist today but it was intended to lie between Perth and Commonwealth Avenues in Yarralumla, running from State Circle down to the lake. There are a number of Oaks in the vicinity of the Darwin Avenue alignment, especially closer to the lake, and some appear to be of a comparable age to those in York Park. In a few cases there is the suggestion of a regular planting pattern. However, this and other evidence requires close scrutiny before any firm conclusions can be reached about the survival of plantings from this coppice. It is also possible that Bruce planted an Elm instead of an Oak.

It seems that the Governor-General Lord Stonehaven planted a Beech and a Casuarina as the start of Coppice No. 6, possibly not in May as was originally intended but at least by 8 June 1927. Coppice No. 6 is today on the north shore of the west basin of Lake Burley Griffin, near the Ferry Terminal. It is not clear when the remaining Casuarinas were planted, though it would appear that 12 survive reflecting the grid and spacing as used at Coppice No. 5. The Beech tree has not survived. (Federal Capital Commission 1927, p. 14; NAA A561; Letter from FCC to Brigadier General Brand of 27 January 1927 in NAA

CP325/6 – Military Committee file; Robert Boden, personal communication 9 January 2004)

The fate of Coppice Nos. 2 and 3 is unclear as the evidence is slight and capable of several interpretations. It is not currently known whether initial or comprehensive plantings were ever undertaken, or whether some of the other plantings undertaken on 10 May 1927 were in fact initial plantings for these coppices.

With regard to the suggestion that the Bunya Pine on Kings Avenue was also an initial planting for one of the coppices, there is an early plan of the plantings of the Parliamentary Triangle which includes this area (*Plan Showing Permanent Planting at Governmental Group Canberra* [c1927?], copy held by the ACT Heritage Library). This plan shows a number of Bunya Pines in the vicinity of the one planted by the Duke however, the layout is informal and unlike the Oak plantation, and the overall number of pines is much less than the 78 Oaks across the road. The evidence that the Duke's Bunya Pine was an initial planting for a coppice is therefore not conclusive.

Development in the vicinity of the Plantation from 1931 to the Present Day

Developments on and around York Park after 1931 have not been comprehensively researched. However, known or apparent developments have included:

- perimeter tree plantings in 1945;
- construction of the Tariff Board offices in the late 1940s(?) adjacent to the plantation on Kings Avenue;
- a small building facing onto Windsor Walk, a pedestrian track and sports fields in York Park by 1963;
- construction of other office buildings on the land between National Circuit and Windsor Walk including the Hinkler Building (1962-68, demolished c2006), McLachlan Offices (1980), and One National Circuit (2007, on the site of the Hinkler Building);
- re-grading of Kings Avenue as part of roadworks associated with the new Parliament House which opened in 1988; and
- construction of the R G Casey Building on the southern part of York Park completed in 1996, and a surface carpark on the northern part.

In 1954 a plaque was installed near the Bunya Pine planted by the Duke in 1927 identifying its history, although this seems to have disappeared after the mid 1990s (Personal communication, Dick Mundy to Robert Boden 1994).

The later history of the Plantation from 1931 to the Present Day

The later history of the plantation seems to be one characterised more by benign neglect and no recognition than by any activity.

An aerial photo from 1944 suggests the plantation was larger than at present, with additional rows of trees to the north and west. However, by 1950 these additional trees do not appear. (See Appendix B)

In 1945, plantings of Cootamundra Wattle were made on the northern, southern and western sides of York Park, from the vicinity of the current Pavilion Hotel to the Robert Garran Offices. These may have been the source of Wattle seedlings which are now well established along the northern edge of the oak plantation. (GHD 1994, p. 41)

Aerial photographs indicate that by 1949 one of the Oaks was missing, and by 1955 three were missing. Aerial photos from 1949 and 1963 also show several pathways through the plantation from the southern to the northern side. (GHD 1994, p.41; National Trust of Australia (ACT) 1996, p. 1; Reid 2002, p. 219, see Figure 27; and see Appendix B)

Lindsay Pryor, the Superintendent of Parks and Gardens in the period 1944-58 noted that nothing particular arose regarding the plantation in his time. In addition,

> "It was of poor quality and grew slowly for many years but just well enough to avoid being hoisted out in my time." (Fax from Pryor to Robert Boden, 31 May 1994)

In 1965, Charles Daley, who witnessed the original 1927 plantings, reported in *The Canberra Times* that both the Oak and Cricket Bat Willow planted by the Duke and Duchess respectively were "growing well". (*The Canberra Times*, 23 January 1965)

At some time, perhaps associated with both the re-grading of Kings Avenue in the 1980s and the construction of the R G Casey Building in the 1990s, fencing was placed on three sides of the plantation. This presumably deterred pedestrians from passing through the plantation.

In the first half of the 1990s the Commonwealth considered constructing an office building on the northern part of York Park, including part of the plantation. However, this did not proceed. As part of this exercise, a series of reports including a masterplan were prepared on the plantation/site (Boden 1994a, Boden 1994b, Davis & Hogg 1992, GHD 1994, Officer 1992).

In 1996 it was noted that the Oaks on the southern side of the plantation had been pruned up, presumably because of the adjacent gravel path and carpark (Boden 1996, p. 4; see also Figure 11).

The National Trust classified the plantation in 1996, and also in the mid 1990s the ACT Heritage Council developed a citation for the plantation to be included in the Interim Heritage Places Register (National Trust of Australia (ACT) 1996; ACT Heritage Council 1997). This was gazetted in June 1997 however, registration lapsed in June 1999 because of the Designated Area status of the land under the *National Capital Plan*. In 1999 the Australian Heritage Commission entered the plantation in the Register of the National Estate, and in 2004 the then Minister for the Environment & Heritage placed the plantation on the Commonwealth Heritage List.

During 2003 the Department of Finance & Administration commissioned a masterplan for the development of York Park north, including the plantation. This work also involved the preparation of a draft conservation management plan (Marshall & John Easthope & Associates 2004). News of the masterplan raised public concern about the potential loss of some trees. Eventually, the Department did not proceed with the masterplan, and a commitment was given to retention of the plantation.

Related to these events, the Department also erected a temporary security fence outside the line of trees to the south to prevent cars parking too close to the trees. The Department also undertook some watering of the trees in the summer of 2007 because of the severe drought conditions. This was guided by advice from Dr Robert Boden.

Control and management of the plantation was transferred from the Department to the NCA during 2007.

Possible Further Research

The following research questions remain unresolved as part of the project:

- a number of aspects of the history of the plantation remain unclear and further archival research may help resolve these matters, notably:
    - the origin of the idea for the coppices;
    - the reason for the additional two types of trees sent from Kew;
    - the exact location, proposed plantings and planting pattern for all of the coppices;
    - whether Coppice Nos. 2 and 3 were ever started;
    - whether the Bunya Pine was part of one of the intended coppices;
    - confirmation that Coppice No. 5, the York Park plantation was planted out in 1931;
    - the date when Lord Stonehaven initiated Coppice No. 6; and
- confirmation of what survives of the coppices which were planted or at least started.

Resolving these questions will help complete an understanding of the history and context of the plantations, although this information is unlikely to change the general direction and findings of this heritage management plan.

Figure 25. View west across Barton in the mid 1940s – Oak Plantation highlighted
Source: Pryor & Banks 2001, p. 179

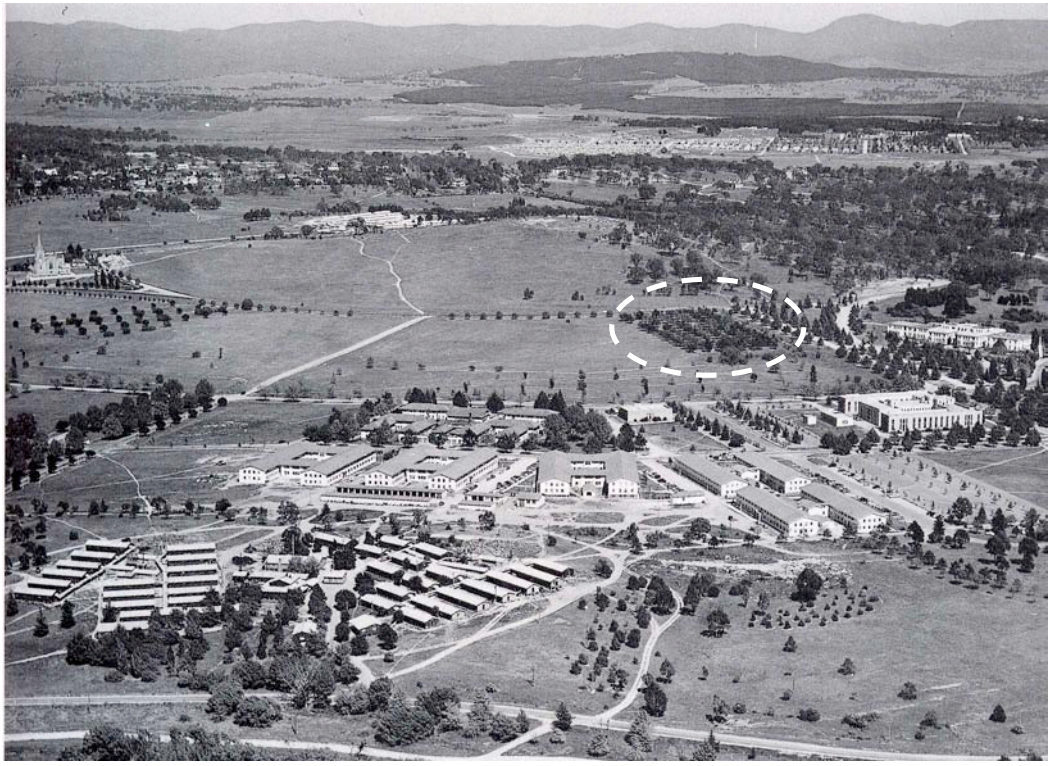


Figure 26. Detail of a 1945 Aerial Photo showing the Plantation
Source: Geoscience Australia image, Map 1537-4-77

Figure 27. View of the Parliamentary Triangle with the Molonglo River in flood, 1956, Oak Plantation highlighted
Source: ACT Heritage Library

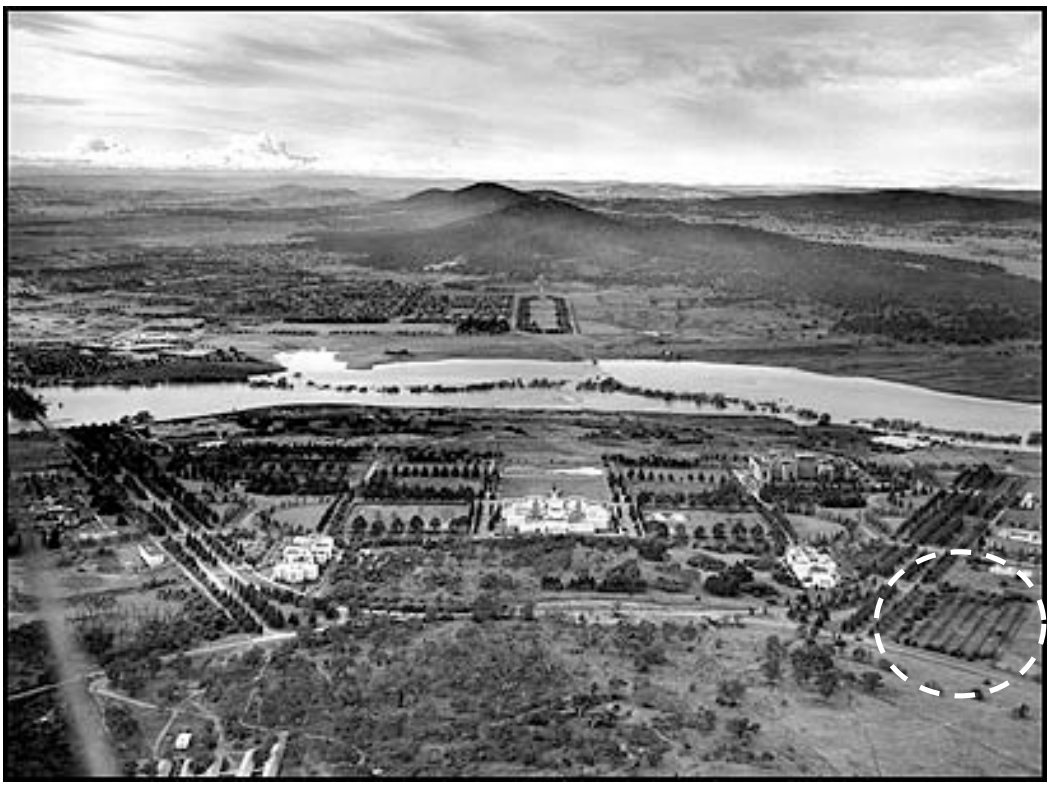


Figure 28. Aerial view from north in 1963 – Oak Plantation highlighted
Source: Reid 2002, p. 219

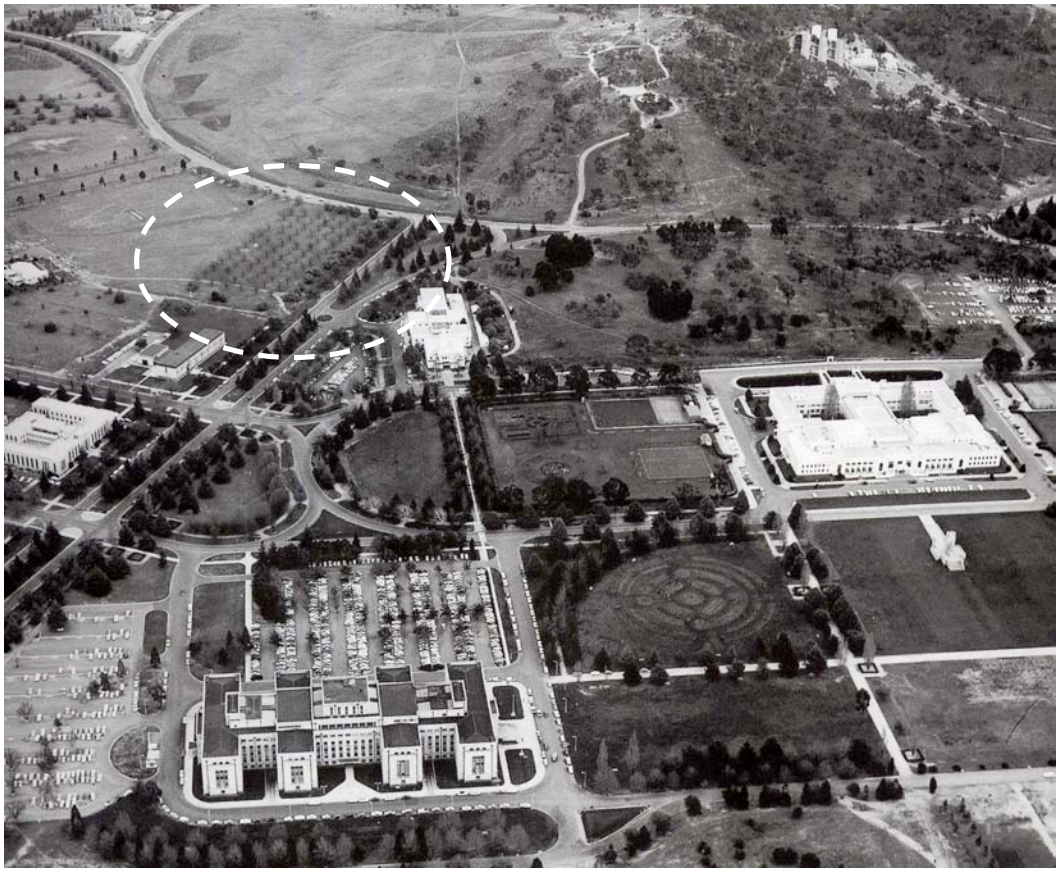


Figure 29. View northeast across Capital Hill in the 1970s – Oak Plantation highlighted
Source: ACT Heritage Library, reference 005922

2.5 AESTHETICS AND CREATIVE ACHIEVEMENT

The northwest corner and adjacent edge of the plantation is most visible from State Circle and provides views of some aesthetic value. The ground falls away from the accessways and the verge has no dominant tree planting in this corner as the existing verge trees are immature. The aesthetic quality depends on the plantation, particularly the outer rows. The scene changes given the plantation is deciduous.

With regard to other aesthetic aspects, the plantation has a range of qualities which are evidence of or at least suggest its aesthetic value. These qualities relate to the:

- massed planting of mature Oaks;
- deciduous qualities of the trees;
- mature and spreading/sheltering nature of the trees;
- regular pattern of the plantings; and
- the contribution of the plantation to the surrounding area.

This evidence is analysed in the following chapter.

2.6 EVIDENCE OF SCIENTIFIC VALUE

Natural Heritage

The understorey of the plantation has previously been identified as containing a diversity of native grassland species (Butler 2004; Davis & Hogg 1992). This was regarded as a remnant of the original plant community, taken to be Natural Temperate Grassland, which is listed as an endangered community under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and the ACT *Nature Conservation Act 1980*.

Nearby remnant vegetation at Capital Hill and West Block suggest that the original vegetation of the oak plantation area was in fact box-gum woodland (Marshall & John Easthope & Associates 2004, Figures 27 & 28), or that the site was near the boundary between woodland and grassland communities (ACT Government 2005, Figure 2.2). The type of box-gum woodland that occurs nearby is a component of the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Grassland community, which is listed as a critically endangered ecological community under the EPBC Act 1999. It is also listed as an endangered ecological community under ACT legislation (Yellow Box-Red Gum Grassy Woodland, NC Act 1980).

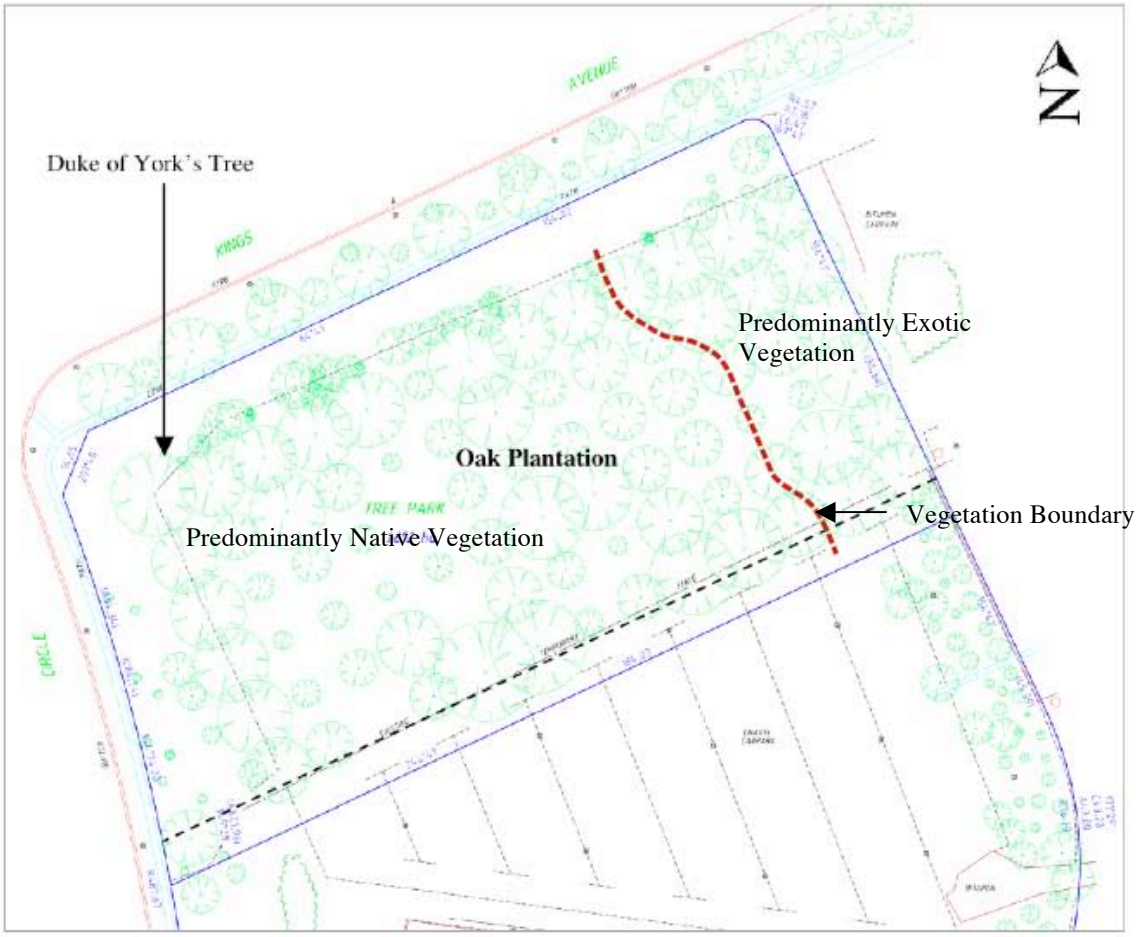
Golden Sun Moths were seen on the median near the intersection of Brisbane Avenue and National Circuit during the December visits, but none were seen at the oak plantation.

The extent and composition of the native ground layer within the oak plantation was similar to that described by previous surveyors (see Figure 30), with higher native cover in the clearings where oaks had failed. Davis & Hogg (1992) noted that the oak plantation contained more native ground layer species than any other parts of the greater York Park area, including the Golden Sun Moth site near Sydney Avenue. Part of the native ground layer mapped by these workers outside the plantation has been destroyed by construction of an adjacent carpark. Many herbaceous and woody exotic species were recorded in the current survey, and the ground layer was obviously affected by shading, deciduous leaf fall, disturbance from the lunch area and watering of the trees.

The ground layer was still quite diverse, even though the current survey was carried out in mid-summer during a serious drought. Thirteen species of native grasses were recorded, as well as nineteen native forbs and a subshrub. Two wattle species were discounted as being later invaders of the site. More species could be expected in a spring survey.

Five of the species, Cranberry Heath *Astroloma humifusum,* Flax Lily *Dianella longifolia,* a Plumegrass *Dichelachne crinita,* Stinking Pennywort *Hydrocotyle laxiflora* and Weeping Grass *Microlaena stipoides*, are more typical of woodland than grassland communities. Some of the species present are among those which are often lost from grazed or disturbed sites. These include Blue Devil *Eryngium ovinum*, Flax Lily, Bulbine Lily *Bulbine bulbosa*, Plume Grass and Kangaroo Grass *Themeda triandra*.

Figure 30. Native/Exotic Vegetation Boundary
Source: Base drawing by Earth Tech



Indigenous archaeological evidence

An archaeological survey which included the plantation area found no archaeological evidence, such as related to pre-European occupation and use by Indigenous peoples (Officer 1992, p. 13).

Growth characteristics of Oaks

The plantation has the potential to provide some information which may be evidence of its scientific value. For example,

> "I was approached last year by a vigneron who was planning to establish an oak plantation to provide

timber for wine barrels. The York Park oaks were the only place I could find where English oaks had been grown in plantation form and there were good planting records to be able to establish growth rates in an un-irrigated area." (Email from Robert Boden of 14 January 2003)

2.7 EVIDENCE OF SOCIAL VALUE

The evidence for the plantation having any social value is relatively slight. Part of the plantation, the southeast corner, is used by patrons of the adjacent fast food van. Some tables and chairs are provided in this area, and the people eat food bought from the van. This seems mostly to be a lunchtime activity. The number of people who use the plantation in this way seems small and they only use it for a short duration. In addition, the area of the plantation used is small.

The interest of the National Trust and ACT for Trees in the plantation is also evidence of some social value (see Section 5.4). In addition, a public tour of the plantation in 2004 attracted about 70 people.

2.8 PARLIAMENT HOUSE VISTA

The plantation is adjacent to the Parliament House Vista conservation area, an area which is on the Commonwealth Heritage List (see Figure 2). Generally, the vista includes the Parliamentary Triangle, Anzac Parade and the Australian War Memorial. The use of the term 'vista' reflects the original conception of this conservation area as a visual landscape centred on the Land Axis.

The Commonwealth Heritage List citation for the vista suggests the following values and qualities which are especially relevant to the plantation (DEWHA 2008).

- The Parliament House Vista is the core of the most ambitious and most successful example of twentieth century urban planning in Australia. It is important for its design pattern with large landscape and waterscape spaces with their enframement by treed avenues. (CHL Criterion (f))
- Avenues of trees along the terraces, roads and pathways of deciduous, pine, and eucalypt species provide colour, character, and contrast, emphasising the significance of the formal symmetrical design. (Criterion (f))
- The central national area of Canberra is strongly associated with the history of politics and government in Australia and the development of Canberra as the Australian National Capital. It is significant as the home of the Commonwealth Parliament, the focus of the Federal Government since 1927, initially in the Old Parliament House. (Criterion (a))
- The central national area has strong links with the planning and development of Canberra as the Australian capital. The relocation of Parliament to Canberra and the central national area in 1927 was the focus of an intense period of development of the new city and gave purpose to Canberra as the nation's capital. (Criterion (a))
- The area has strong and special associations with the broad Australian community because of its social values as a symbol of Australia and Federal Government. The values have developed over many years since Canberra's creation and the relocation of the Parliament in 1927 gave them a special focus. (Criterion (g))
- The place has high aesthetic significance due to… tree plantings that are arranged across the area... street tree plantings… and many intimate spaces rich in texture, colour… (criterion (e))

These values and qualities are in addition to or compliment the evidence presented elsewhere in this chapter. The full range of evidence is analysed in the following chapter.

3. ANALYSIS OF EVIDENCE

3.1 ANALYSIS AGAINST CRITERIA

This analysis has been prepared by the consultants using the evidence presented in Chapter 2 which has been analysed against the Commonwealth Heritage Criteria (reproduced at Appendix D), and judgements have been reached on the basis of the professional expertise of the consultants. The analysis is divided into sections related to the Commonwealth Heritage Criteria.

The plantation has been included in the Commonwealth Heritage List and details of the Commonwealth Heritage values for the plantation are reproduced at Appendix A. This analysis draws on this formal listing however, a modified/updated view about heritage values is developed based on the range of research undertaken as part of this project.

(a) the place has significant heritage value because of the place's importance in the course, or pattern, of Australia's natural or cultural history

The plantation has a range of historic values related to its part in the early development of Canberra. In broad terms, these include associations with the:

- Royal visit of 1927 and the opening of the Provisional Parliament House;
- Great Depression and Government efforts to provide relief to the unemployed; and
- the development of Canberra's landscape.

The Royal visit of 1927 was an important event in the history of Australia and Canberra. The key event was the opening of Provisional Parliament House, the first purpose-built building for the Commonwealth Parliament, and its first home in the new national capital. In many ways, this was also a symbol of the inauguration of Canberra as a real city and the nation's capital. The reason for Canberra was fulfilled by the relocation of the Parliament from Melbourne to the city. The Parliament House was a symbolic and practical generator of activity for the new city but there were also many other buildings and facilities completed around this time to enable the city to function.

The ceremonial plantings by various dignitaries, including the Duke and Duchess of York, were part of the overall ceremonial program associated with the opening of the Parliament House. At one level, they were probably intended as a lasting and growing connection between the dignitaries, the overall Royal visit, the opening of the Parliament House and this sense of inaugurating Canberra as the nation's capital. The Duke was representing the King of Australia, so there is a special association with the trees he planted.

The planting of English Oaks as a symbol of British ties with Australia has a long history. For example, Oaks have been planted on other occasions at:

- Duntroon House in 1861;
- the Australian National Botanic Gardens in 1949;
- Commonwealth Park in 1964; and
- Government House in 1966. (Boden 1994a, p. 4)

The evidence indicating that the far northwest Oak is the one planted by the Duke in 1927 comprises:

- the irregular alignment of this one Oak compared to the rest of the plantation;

- its placement relative to the Bunya Pine on the other side of Kings Avenue. While they are not symmetrically placed, the location of this Oak would appear to make it the best candidate amongst the plantation for being the Duke's tree; and
- the large size of this Oak compared to others in the plantation, noting that the edge effect of the plantation would make this a larger tree in any case.

There have been many ceremonial plantings undertaken in Canberra over the years from 1926, leaving aside the period prior to the creation of the Territory (see Pryor & Banks 2001, pp. 197-201). As noted in the history section above, there were a number of ceremonial plantings related to the Royal visit of 1927.

There are also the other ceremonial events and places which were part of the Royal visit and share the historical association. Of these, Provisional Parliament House (now Old Parliament House) would have the strongest and most important association. The Oak tree and the Bunya Pine perhaps have some greater demonstrative value than many of the other associated places, especially compared to the Review Ground, by being tangible features transformed (ie. planted) by the Duke as part of the Royal visit.

The intention to create a series of coppices or plantations using English trees, as a strong landscape feature, is a notable part of the story of the development of Canberra's landscape. In particular, the apparent design of the coppices was a marked departure from the landscape ideas of Charles Weston who was instrumental in the first phase of establishing Canberra's landscape. The regular grid pattern being unlike previous ornamental plantings, although Weston used such a pattern for commercial plantings such as at the Cork Oak Plantation south of Black Mountain and at Mount Stromlo. The practical imperative for Haig Park also influenced the regular patterned nature of this planting. Other unusual characteristics were the use of a single species and wide spacing of plants.

However, the design of the coppices was a shortlived and apparently poorly realised departure. The York Park coppice is the only known, reasonably intact example. It was undertaken during the period when Alex Bruce was in charge of parks and gardens. By the mid 1940s, Lindsay Pryor was largely seeking to re-establish Weston's principles, and formal, regular patterned coppices were not favoured for ornamental plantings.

The actual planting out of the coppice took place as part of unemployment relief work in the 1930s Great Depression. This association is also worth noting. The Depression was a major period of social and economic upheaval, and it left deep scars on the history of Australia. Relief work was one important aspect of this period. Places with a documented historical association with the Depression are not common, and those associated with relief efforts are quite rare.[5] The 1930s plantings in Bass Gardens are the only other known example in the ACT (Boden & Cosgrove 2001, p. 6; a general comparison with Bass Gardens is provided at the end of this chapter). There are probably many places still surviving which in fact have such associations but they have not yet been researched fully or considered for heritage listing. Given this imperfect situation, the York Park plantation has some historic value for its documented association with Depression relief work.

Overall, the plantation has considerable historic value for a range of associations, and meets this criterion.

[5] For example, the Register of the National Estate has only 7 places in the ACT where the Depression is mentioned in the statement of significance.

(b) the place has significant heritage value because of the place's possession of uncommon, rare or endangered aspects of Australia's natural or cultural history

Natural heritage

The York Park North Oak Plantation lies near the estimated pre-1750 boundary between native grassland and box-gum woodland, this being the period before major changes arose because of European settlement (Environment ACT 2005). Woodland sites which have lost their tree cover can still qualify as grasslands derived from the critically endangered ecological community (White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Grassland community), based on the size and composition of the native ground layer patch. The minimum criteria (DEH 2006b) are that the patch is greater than 0.1 ha in area (1,000 metres^2), and has a predominantly native understorey that contains at least twelve native, non-grass understorey species. The understorey of the York Park North Oak Plantation could be viewed as meeting these minimum criteria given its size and the presence of 19 species of native forbs (ie. herbaceous flowering plants other than grasses).

However, it is not proposed that the site should be classified as an example of the critically endangered ecological community because of the overplanting with oak trees, and the degraded and fragmented state of the ground layer.

Although not qualifying as a threatened community and meeting this criterion, the ground layer of the site could none the less be considered to have some botanical and heritage value as a sample of the vegetation present at the time that the oak trees were planted.

Historic heritage

See the discussion above under Criterion (a) about the rarity of the plantation as part of an intended series of plantations.

(c) the place has significant heritage value because of the place's potential to yield information that will contribute to an understanding of Australia's natural or cultural history

The suggested scientific value of the plantation relates to its potential ability to provide information about the growth characteristics of English Oaks in un-irrigated conditions in Canberra over the last 76 years (or 80 years in the case of the Duke's tree). For example, there has been recent local interest in truffle growing and its association with established Oak trees, indicating how such a value may develop.

While this research question is specialised and probably of limited interest, it none the less appears to be a legitimate potential research interest.

It is not clear whether this research potential meets the threshold under this criterion. However, in so far as the plantation has other values above the threshold, reference to this potential seems worthwhile.

(d) the place has significant heritage value because of the place's importance in demonstrating the principal characteristics of:
(i) a class of Australia's natural or cultural places; or
(ii) a class of Australia's natural or cultural environments

The plantation is part of the class of plantations in Australia. In general, plantations are important in Australia for a range of historical and economic reasons, at least. In general terms the plantation displays the principal characteristics of the class including a regular planting pattern and the use of a single species. However, the number of plantations within Australia from across many periods is very large, and it is arguable that the class is so large and the characteristics so common to the class, that meaningful selection on this criterion alone would not be justifiable. This criterion should only be used in conjunction with other criteria.

In this case, the plantation meets other criteria, and it is therefore justifiable to note that it meets this criterion as well.

(e) the place has significant heritage value because of the place's importance in exhibiting particular aesthetic characteristics valued by a community or cultural group

Beauty is the sole aesthetic characteristic that can be considered under this criterion. While the plantation is attractive, or has attractive features, it is difficult to argue it is beautiful. In addition, such value must be held by a community or cultural group, and while only limited research has been undertaken, no such community or cultural group has been apparent. There are certainly individuals and organisations who value the plantation but these do not necessarily constitute a community or cultural group.

On the basis of available information, the plantation does not meet this criterion.

(f) the place has significant heritage value because of the place's importance in demonstrating a high degree of creative or technical achievement at a particular period

Assessing creative achievement value is complex. The complexity resides in the fact that the value somehow resides in the properties of the scene itself. The colour, texture, composition, form, seasonal change, etc, such that any reasonably competent observer would find them. In contrast, the value presented by the York Park North Oak Plantation can be simply a matter of the psychological effect on or the attitude of the observer, and these vary considerably from observer to observer. What looks good, nice or attractive varies depending on time of day, year and indeed what is fashionable at that point in time or culturally appropriate. It is also dependant on the education and experience of the observer.

From the viewpoint of the consultants, the proximity of the plantation to the vehicle and pedestrian accessways of Kings Avenue and State Circle plays a significant role in judging its value. It is the motorist that is most likely to be the observer of the plantation. In time, pedestrian usage will increase.

The visual link from the tree planting alongside Kings Avenue to the plantation is limited by the size, position and species (predominantly evergreen) of the existing street tree planting. The scale of the plantation is not apparent given that the outer trees are larger

than those within the plantation.

In contrast, the northwest corner and adjacent edge of the plantation is most visible from State Circle. The ground falls away from the accessways and the verge has no dominant tree planting in this corner as the existing verge trees are immature. The sensory quality depends on the plantation, particularly the outer rows. The scene changes given the plantation is deciduous. From this vantage the plantation is important to the appreciation of the place.

Elsewhere, the other places to observe the plantation are from the southern carpark, which does not encourage users to linger and use the space for any other purpose than parking their car. The plantation has some significant outer edge trees and within it are a mix of sizes and shapes that are in rows and predominantly closely spaced. The unmown and fenced character of the plantation does not encourage leisure pursuits such as picnicking. Currently, there are no pedestrian desire lines or informal tracks indicating that few people are observing the value of the plantation from within it.

In terms of view points, the value of the plantation is most important along State Circle and of a lesser value along Kings Avenue.

As noted in the preceding chapter, the plantation has a range of other qualities which are evidence of or at least suggest its value. These qualities relate to the:

- massed planting of mature Oaks;
- deciduous qualities of the trees;
- mature and spreading/sheltering nature of the trees;
- regular pattern of the plantings; and
- the contribution of the plantation to the surrounding area.

Each of these qualities relates to the others and cannot be entirely considered in isolation.

The mass planting of mature Oaks is a moderately impressive sight which is best appreciated close to the plantation. The loss of some Oaks detracts from this aspect. The regular pattern of the plantings contributes to a sense of formality about the plantation, though this contrasts with the otherwise unmown and wild character of the place. As noted above, the street trees along Kings Avenue obscure views of the plantation from this side.

The Oak leaves change colour during autumn and provide a colourful display. This can be appreciated when just viewing the plantation on its own. However, the display also provides an attractive contrast with the adjacent evergreen trees on Kings Avenue, and the plantation contributes to the overall autumn display of the central part of Canberra. Such autumn displays are a major feature of the broader Canberra landscape.

The mature Oaks in the plantation provide a pleasing sense of enclosure and shelter, in contrast to the openness of other spaces in the vicinity.

In summary, these qualities give the plantation some level of value related to the:

- moderately impressive sight provided by the mass planting of Oaks, best appreciated close to the plantation;
- sense of formality about the plantation because of the regular planting pattern;
- autumn display provided by the changing leaf colour, including the Oaks themselves, their contrast with adjacent evergreen trees, and the contribution of the plantation to the broader Canberra landscape in autumn; and

- the pleasing sense of enclosure and shelter offered by the plantation.

It is worth noting that such experiences relating to an English Oak plantation are believed to be rare in Canberra, as this is the only known plantation of such trees.

These values all seem substantial enough to warrant consideration, although many are qualified by the current circumstances of the plantation, and the values operate at quite varying scales.

There are a range of factors which detract from these qualities, or at least limit their appreciation. The loss of three trees, the unmown and wild character, and the obscured views of the plantation by adjacent plantings are all detracting factors. Similarly, the fencing limits possibilities for appreciation, and the generally hidden nature of the plantation is both a limit on appreciation and perhaps an aspect of its sense of enclosure and shelter.

The values are appreciated at widely varying scales. Many are best appreciated close to the plantation but appreciating the broader landscape contribution ideally requires a more distant and elevated view.

In a city full of trees, parks and gardens, there are many places that could be compared with the York Park North Oak Plantation regarding such value. For example, there are:

- quite a number of mass plantings of various sorts, both exotic and native, such as Bass Gardens, City Hill and Haig Park;
- formal and informal planting patterns – Bass Gardens, City Hill and Haig Park all being formal plantings like York Park, though to varying patterns;
- many deciduous trees used in Canberra for colour effects, including in the Parliamentary Triangle; and
- many of these other plantings also provide enclosure and shelter.

While these other plantings may in some cases be better examples, or display stronger qualities, none the less the York Park plantation still retains a moderate level of creative achievement value. This value is probably diminished by the poor general quality of maintenance previously provided to the plantation, and with improved maintenance, this value may increase.

(g) the place has significant heritage value because of the place's strong or special association with a particular community or cultural group for social, cultural or spiritual reasons

The evidence of social value is slight and suggests the plantation does not have sufficient such value to warrant further mention. While there is certainly a level of community interest in the plantation, there is no current indication of the plantation having strong or special associations, in a social value sense, with any group in the community.

The relatively hidden, out of the way, and fenced-off character of the plantation has worked against the development and maintenance of social value.

(h) the place has significant heritage value because of the place's special association with the life or works of a person, or group of persons, of importance in Australia's natural or cultural history

The two main figures who may have a special association with the plantation, or components of it, are Alexander Bruce and Albert, Duke of York.

Bruce was Director of Parks and Gardens in the period 1926-38. He continued with Weston's planting plans for Canberra but added seasonal flowering plants such as Prunus trees and roses. In the case of the plantation, he was responsible to some extent for the initial single planting by the Duke, and later the creation of the whole plantation. Other places associated with Bruce include:

- Acton, where he both lived and was responsible for plantings;
- National Film & Sound Archive, where he designed the original landscaping, some of which survives;
- Parliament House Vista, again responsible for some plantings; and
- National Rose Gardens, responsible for planning and realisation (based on a search of the Australian Heritage Database).

The information on these associations is limited and may not be comprehensive or entirely up to date, and further research may be warranted.

Bruce is probably an important figure in Australia's history given the long and senior role played regarding the development of Canberra's landscape. It is arguable the plantation has a special association with Bruce because of the documented association and the integrity of the plantation. Other places may also share a special association with Bruce, especially the National Rose Gardens and possibly also the remnant National Film & Sound Archive landscaping.

The Duke of York is an important figure in Australia's history given his prominent role in the opening of Old Parliament House and later as the King of Australia. Places in Canberra with a potential special association with the Duke, in addition to the Oak he planted, are:

- Old Parliament House, which the Duke opened;
- the Bunya Pine planted by the Duke at the corner of Kings Avenue and State Circle;
- the Atlas Cedar also planted by the Duke at Government House; and
- York Park, which was named in his honour shortly after the opening of Parliament House.

There may also be places in other parts of Australia.

Old Parliament House clearly has a special association given this was the focus of the Duke's visit and a major event in Australia's history. It is arguable the Oak and Bunya Pine also have a special association, albeit more modest, given the ceremonial nature of these plantings which were associated with the parliamentary opening.

The plantation meets this criterion for its association with Bruce, and the Duke of York's Oak meets this criterion for its association with the Duke.

(i) the place has significant heritage value because of the place's importance as part of indigenous tradition

There is no evidence of any value under this criterion.

3.2 COMPARISON WITH BASS GARDENS

As noted in several sections above, Bass Gardens provides an interesting comparison with York Park. This section provides a summary of the comparative aspects between Bass Gardens and the York Park North Oak Plantation.

The obvious points of comparison include the:

- similar ages of the two parks, Bass Gardens dating substantially from 1930-31 compared to York Park being 1927 and 1931;
- common association with Alex Bruce who was in charge of parks and gardens and was responsible for the design of both parks;
- common historical association with unemployment relief work, both being planted using such work;
- formal design of both parks, Bass Gardens having a strongly curvilinear design compared to York Park's grid-iron pattern;
- use of exotics, Bass Gardens being predominantly mixed exotic trees, York Park being all one exotic species;
- native grass understorey of both; and
- un-irrigated nature of both. (Boden & Cosgrove 2001; Boden 2002)

In addition, there are other heritage values which are specific to each place and for which there is no comparison with the other. For example, the association of York Park with the Duke of York and the opening of Provisional Parliament House is a value not shared by Bass Gardens.

These comparative aspects are considered in both the analysis above and in the statement of significance in the next chapter.

4. STATEMENT OF SIGNIFICANCE

4.1 STATEMENT OF SIGNIFICANCE

References to criteria in the following section relate to the Commonwealth Heritage Criteria (reproduced at Appendix D). The references are provided after the relevant text.

❖

The York Park North Oak Plantation is significant and has a range of heritage values related to its history and historical associations, potential to yield information, as an example of a plantation, and creative achievement qualities.

The plantation is of historical significance because of its role in the early development of Canberra. These include associations with the:

- Royal visit of 1927 and the opening of the Provisional Parliament House;
- Great Depression and Government efforts to provide relief to the unemployed; and
- the development of Canberra's landscape.

The inaugural planting of an English Oak (*Quercus robur*) in the plantation was undertaken by Albert, Duke of York (later King George V1) on 10 May 1927 as part of the ceremonies associated with the opening of the Provisional Parliament House (now Old Parliament House). The Duke was representing the King of Australia. The program of ceremonies, including the tree planting, was an important event in the history of Australia and Canberra as it symbolised the inauguration of Canberra as a realised city and the nation's capital. The Oak tree arguably has greater demonstrative value than many of the other places historically associated with the program of ceremonies by being a tangible feature transformed (that is planted) by the Duke as part of the Royal visit.

The intention in 1926 to create a series of six coppices or plantations using English trees, such as the York Park plantation, as a strong landscape feature, is a notable part of the story of the development of Canberra's landscape. In particular, the apparent design of the plantations was a marked departure from the landscape ideas of Charles Weston who was instrumental in the first phase of establishing Canberra's landscape from 1913-26. The regular grid pattern, use of single species and wide spacing being generally unlike previous ornamental plantings. However, the design of the plantations was a shortlived and apparently poorly realised departure. The York Park plantation is the only known, reasonably intact example. It is therefore a good and rare example of this aspect of the history of Canberra's landscape.

The York Park plantation is also notable for its association with unemployment relief work in the 1930s Great Depression. The actual planting out of the coppice took place in 1931 as part of such relief work. The Depression was a major period of social and economic upheaval, and it left deep scars on the history of Australia. Relief work was one important aspect of this period. Places with a documented historical association with the Depression are not common, and those associated with relief efforts are quite rare. The York Park plantation has some historic value for its documented association with Depression relief work.

(Criteria (a) and (b))

The plantation is possibly significant because of its scientific value related to its potential ability to provide information about the growth characteristics of Oaks in un-irrigated conditions in Canberra over a lengthy period. (Criterion (c))

Generally, the plantation displays the principal characteristics of the class of tree plantations found in Australia, including a regular planting pattern and the use of a single species. Plantations are important in Australia for a range of historical and economic reasons, at least. The number of plantations within Australia from across many periods is very large, and these characteristics are very common to the class. (Criterion (d))

The plantation is significant because of its creative achievement value related to the:

- moderately impressive sight provided by the mass planting of Oaks, best appreciated close to the plantation;
- sense of formality about the plantation because of the regular planting pattern;
- autumn display provided by the changing leaf colour, including the Oaks themselves, their contrast with adjacent evergreen trees, and the contribution of the plantation to the broader Canberra landscape in autumn; and
- the pleasing sense of enclosure and shelter offered by the plantation.

Such experiences are believed to be rare in Canberra, as this is the only known plantation of English Oaks.

The York Park plantation is also significant for its contribution to the setting of the Parliament House Vista.[6] In particular, the plantation contributes to a sympathetic setting for the large landscape spaces in the Vista incorporating formal arrangements of exotic and native trees. The qualities of the plantation which contribute to the Vista's setting include the massed and formal arrangement of the Oaks, and colour variation in autumn.

(Criteria (f) & (b))

The plantation or components of it have special associations with Alexander Bruce and Albert, Duke of York.

Bruce is probably an important figure in Australia's history given the long and senior role played regarding the development of Canberra's landscape as Director of Parks and Gardens in the period 1926-38. It is arguable the plantation has a special association with Bruce because of the documented association and the integrity of the plantation. He was responsible to some extent for the initial single planting by the Duke, and later the creation of the whole plantation.

The Duke of York is an important figure in Australia's history given his prominent role in the opening of Old Parliament House and later as the King of Australia. The Duke of York's Oak has a special association given the ceremonial nature of the planting by the Duke which was associated with the opening in 1927 of Old Parliament House – a major event in Australia's history. (Criterion (h))

[6] The reference to the Parliament House Vista is a reference to the conservation area entered in the Commonwealth Heritage List which includes most of the National Triangle.

4.2 ATTRIBUTES RELATED TO SIGNIFICANCE

The following list of attributes are features that express or embody the heritage values detailed above, and these are useful in ensuring protection for the values.

Table 2. Values & Attributes of the Plantation

Criteria	Values	Attributes
Criteria (a) & (b)	The plantation is of historical significance because of its role in the early development of Canberra. These include associations with the: • Royal visit of 1927 and the opening of the Provisional Parliament House; • Great Depression and Government efforts to provide relief to the unemployed; and • the development of Canberra's landscape. The inaugural planting of an English Oak (*Quercus robur*) in the plantation was undertaken by Albert, Duke of York (later King George V1) on 10 May 1927 as part of the ceremonies associated with the opening of the Provisional Parliament House (now Old Parliament House). The Duke was representing the King of Australia. The program of ceremonies, including the tree planting, was an important event in the history of Australia and Canberra as it symbolised the inauguration of Canberra as a realised city and the nation's capital. The Oak tree arguably has greater demonstrative value than many of the other places historically associated with the program of ceremonies by being a tangible feature transformed (that is planted) by the Duke as part of the Royal visit. The intention in 1926 to create a series of six coppices or plantations using English trees, such as the York Park plantation, as a strong landscape feature, is a notable part of the story of the development of Canberra's landscape. In particular, the apparent design of the plantations was a marked departure from the landscape ideas of Charles Weston who was instrumental in the first phase of establishing Canberra's landscape from 1913-26. The regular grid pattern, use of single species and wide spacing being generally unlike previous ornamental plantings. However, the design of the plantations was a shortlived and apparently poorly realised departure. The York Park plantation is the only known, reasonably intact example. It is therefore a good and rare example of this aspect of the	• Plantation • Duke of York's tree • Regular grid pattern • Single species • Wide spacing

Table 2. Values & Attributes of the Plantation		
Criteria	**Values**	**Attributes**
	history of Canberra's landscape. The York Park plantation is also notable for its association with unemployment relief work in the 1930s Great Depression. The actual planting out of the coppice took place in 1931 as part of such relief work. The Depression was a major period of social and economic upheaval, and it left deep scars on the history of Australia. Relief work was one important aspect of this period. Places with a documented historical association with the Depression are not common, and those associated with relief efforts are quite rare. The York Park plantation has some historic value for its documented association with Depression relief work.	
Criterion (c)	The plantation is possibly significant because of its scientific value related to its potential ability to provide information about the growth characteristics of Oaks in un-irrigated conditions in Canberra over a lengthy period.	• Oak trees
Criterion (d)	Generally, the plantation displays the principal characteristics of the class of tree plantations found in Australia, including a regular planting pattern and the use of a single species. Plantations are important in Australia for a range of historical and economic reasons, at least. The number of plantations within Australia from across many periods is very large, and these characteristics are very common to the class.	• Plantation • Regular planting pattern • Single species
Criteria (f) & (b)	The plantation is significant because of its creative achievement value related to the: • moderately impressive sight provided by the mass planting of Oaks, best appreciated close to the plantation; • sense of formality about the plantation because of the regular planting pattern; • autumn display provided by the changing leaf colour, including the Oaks themselves, their contrast with adjacent evergreen trees, and the contribution of the plantation to the broader Canberra landscape in autumn; and • the pleasing sense of enclosure and shelter offered by the plantation. Such experiences are believed to be rare in Canberra, as this is the only known plantation of English Oaks. The York Park plantation is also significant for its contribution to the setting of the	• Mass planting of Oaks • Regular planting pattern • Oaks • Adjacent evergreen trees (outside the plantation) • Enclosure and shelter provided by the Oaks

Table 2. Values & Attributes of the Plantation		
Criteria	**Values**	**Attributes**
	Parliament House Vista. In particular, the plantation contributes to a sympathetic setting for the large landscape spaces in the Vista incorporating formal arrangements of exotic and native trees. The qualities of the plantation which contribute to the Vista's setting include the massed and formal arrangement of the Oaks, and colour variation in autumn.	
Criterion (h)	The plantation or components of it have special associations with Alexander Bruce and Albert, Duke of York. Bruce is probably an important figure in Australia's history given the long and senior role played regarding the development of Canberra's landscape as Director of Parks and Gardens in the period 1926-38. It is arguable the plantation has a special association with Bruce because of the documented association and the integrity of the plantation. He was responsible to some extent for the initial single planting by the Duke, and later the creation of the whole plantation. The Duke of York is an important figure in Australia's history given his prominent role in the opening of Old Parliament House and later as the King of Australia. The Duke of York's Oak has a special association given the ceremonial nature of the planting by the Duke which was associated with the opening in 1927 of Old Parliament House – a major event in Australia's history.	• Plantation • Duke of York's tree

5. DEVELOPMENT OF POLICY - OPPORTUNITIES AND CONSTRAINTS

5.1 IMPLICATIONS ARISING FROM SIGNIFICANCE

Based on the statement of significance for the plantation presented in Chapter 4, the following management implications arise:

- generally conserve the plantation;
- conserve the Duke of York's tree;
- conserve the other Oak trees;
- live original plantings should be conserved where possible given their state of health;
- the plantation should remain un-irrigated;
- conserve the regular grid pattern;
- conserve the use of a single species, *Quercus robur*;
- conserve the wide spacing;
- conserve the mass planting of Oaks;
- conserve the adjacent evergreen trees (actually outside the plantation, eg. street trees along Kings Avenue); and
- conserve the enclosure and shelter provided by the Oaks.

In addition, as noted in Chapter 3, the native understorey of the plantation has some botanical and heritage value although this does not meet the relevant criterion. None the less, conservation of this understorey could be undertaken.

These implications do not automatically lead to a given conservation policy in Chapter 6. There are a range of other factors that must also be considered in the development of the policy, and these are considered in the rest of this Chapter. Such factors may modify the implications listed above to produce a different policy outcome.

5.2 LEGISLATIVE REQUIREMENTS

The management of the York Park plantation operates within a legislative framework comprising the:

- *Australian Capital Territory (Planning and Land Management) Act 1988;*
- *Environment Protection and Biodiversity Conservation Act 1999;* and
- *Australian Heritage Council Act 2003*.

These Acts are briefly described below.

Australian Capital Territory (Planning and Land Management) Act 1988

The Act establishes the National Capital Authority (NCA) with responsibility for the *National Capital Plan* (National Capital Authority 2002) and a range of other responsibilities. (This section is based on Capital Planners ACT 2003)

The plantation site is part of the Central National Area which is a Designated Area under section 10(1) of this Act. Designated Areas are deemed to have special characteristics of the National Capital. As a Designated Area, development on the site requires works

approval from the NCA.

The plantation is part of a sub-unit of the Central National Area called the Parliamentary Zone and its Setting in the *National Capital Plan*. Specific development principles and policies for this sub-unit are detailed in the plan, including that,

> "priority will be given to the development of buildings and associated structures which have activities and functions that symbolise the Capital and through it the nation." (National Capital Authority 2002, p. 29)

The plan also includes Detailed Conditions of Planning, Design and Development for the Central National Area. These provide a number of conditions relevant to urban design and land use, especially relating to:

- a masterplan for the site;
- land use primarily relating to national functions;
- special consideration being given to certain other uses;
- high quality integrated design, and building forms and layouts on consistent alignments to enhance the structure of Griffin's plan;
- new development respecting adjacent buildings;
- building heights;
- Kings Avenue being a powerful generator of structure and urban form, and building heights and setbacks to ensure consistency and continuity; and
- subdivision. (National Capital Authority 2002, p. 31-2)

The *National Capital Plan* also has specific provisions regarding heritage places.

> "Planning and development should give due protection to any natural or cultural heritage place in the ACT included on the Register of the National Estate…
>
> Within Designated Areas the Authority will require Conservation Plans for listed heritage places…
>
> Planning policies and the applicable development conditions should conform with the requirements of any such Conservation Plan." (National Capital Authority 2002, p. 129)

It is understood that while Parliamentary scrutiny of development on York Park would not normally be required, the relevant committee could request the opportunity to review any proposal.

National Capital Plan – Amendment 42 — York Park Masterplan

The NCA amended the National Capital Plan and developed a revised masterplan for York Park (National Capital Authority 2005). The amendment and masterplan makes the land use category for the plantation "Open Space" which means,

> "Land intended for use primarily for public recreation, conservation or amenity purposes and which may include facilities for the enjoyment or convenience of the public." (NCA 2002, Appendix A, p. 11)

See Appendix E for the land use plan of the area. The amendment for York Park defines the objective for the area including the plantation as,

> "to allow development for National Capital Use in the southern part of the Block and for purposes consistent with protection of the whole heritage listed York Park North Tree Plantation (commonly known as the Oak Plantation) at the northern end of the block, and to include provision for parking, either in basements and/or in a parking structure, and ancillary/small scale retail and personal services at building ground level." (NCA 2005)

In this quote, reference to the block is a reference to a larger parcel of land that has now been subdivided into the block containing the plantation (Block 4, Section 1, Barton) and another block south of the plantation (Block 5, Section 1, Barton).

Key principles include,

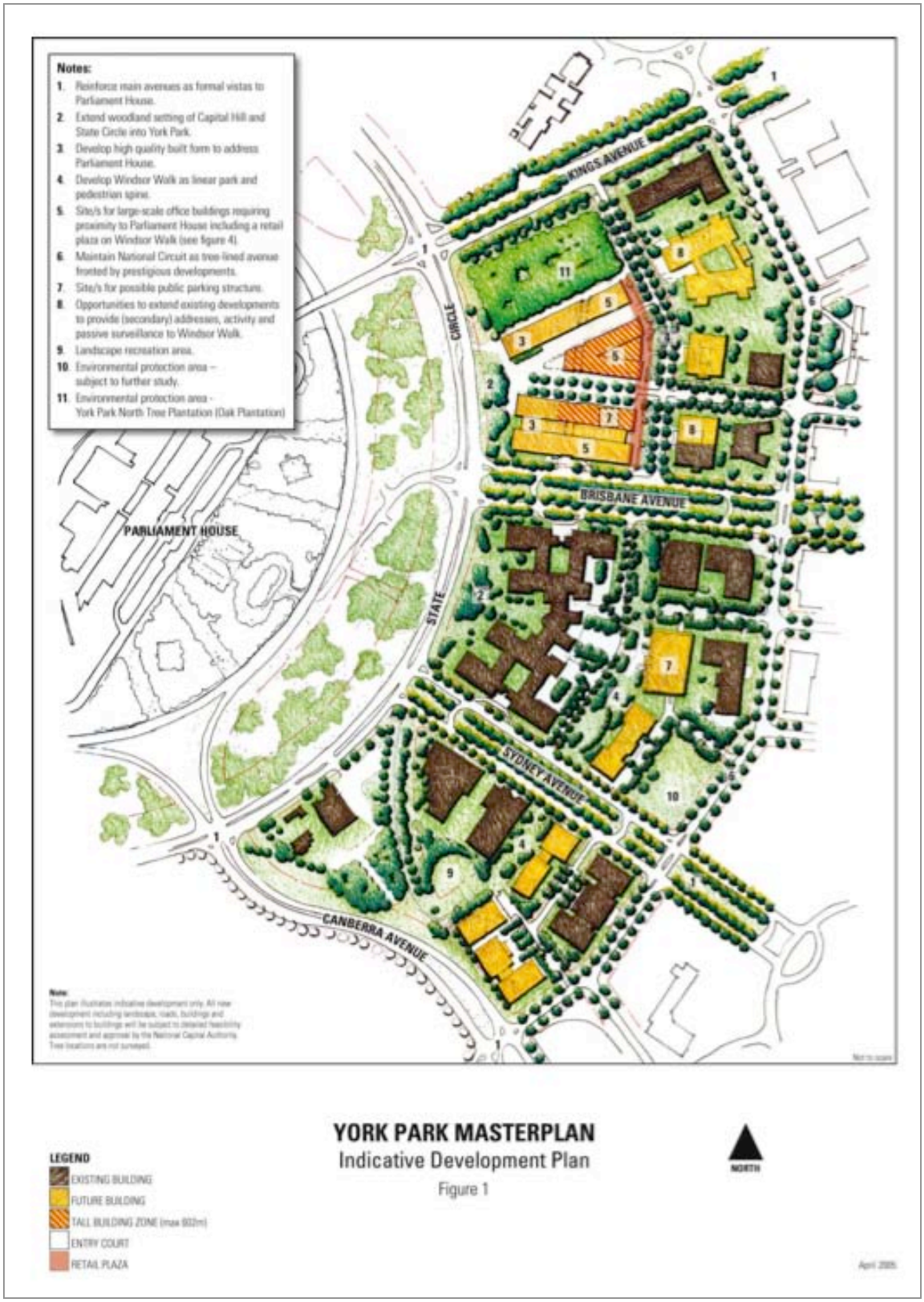
> "The York Park area should be developed primarily as a prestigious office area and landscape setting to satisfy demand for office accommodation requiring proximity to Parliament House…
>
> The landscape design of streets, pedestrian paths and open spaces of York Park are to consist of a range of formal and informal spaces that reinforce the Griffin geometry and contribute to the landscape setting of Parliament House…
>
> The public domain of York Park should provide for places for local recreation with a high level of pedestrian amenity…
>
> Significant natural and heritage values of the area should be identified and protected." (NCA 2005)

The masterplan also defines a range of policies including,

> "Development of the northern part of Section 1 Barton will be subject to a Conservation Management Plan taking into account the heritage significance of the York Park North Tree Plantation." (NCA 2005)

The masterplan provides an indicative development plan which is reproduced below. This masterplan shows office building development on the carpark adjacent to the plantation.

Figure 31. Indicative Development Plan for York Park
Source: NCA 2005



Environment Protection and Biodiversity Conservation Act 1999

This Act has certain relevant provisions relating to heritage places generally, and especially relating to places on the Commonwealth Heritage List. The plantation is entered in the Commonwealth Heritage List.

The EPBC Act requires approval from the Minister for the Environment, Heritage and the Arts for all actions likely to have a significant impact on matters protected under Part 3 of the Act. These include Commonwealth actions (section 28) and Commonwealth land (section 26). Actions by the National Capital Authority may be Commonwealth actions and the plantation is Commonwealth land for the purposes of the Act.

The Act provides that actions:

- taken on Commonwealth land which are likely to have a significant impact on the environment will require the approval of the Minister for the Environment, Heritage and the Arts;
- taken outside Commonwealth land which are likely to have a significant impact on the environment on Commonwealth land, will require the approval of the Minister; and
- taken by the Commonwealth or its agencies which are likely to have a significant impact on the environment anywhere will require approval by the Minister.

Significant impact is defined as follows.

> "A 'significant impact' is an impact which is important, notable, or of consequence, having regard to its context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value, and quality of the environment which is impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts. You should consider all of these factors when determining whether an action is likely to have a significant impact on the environment." (DEH 2006a, p. 5)

The definition of 'environment' in the EPBC Act includes the heritage values of places, and this is understood to include those identified in the Commonwealth Heritage List and possibly in other authoritative heritage lists. The definition of 'action' is also important. Action includes:

- a project;
- a development;
- an undertaking;
- an activity or series of activities; and
- an alteration of any of the things mentioned above.

However, a decision by a government body to grant a governmental authorisation, however described, for another person to take an action is not an action for the purposes of the Act. It is generally considered that a government authorisation entails, but is not limited to, the issuing of a license or permit under a legislative instrument. (Sections 523-4 of the EPBC Act)

If a proposed action on Commonwealth land or by a Commonwealth agency is likely to have a significant impact on the environment, it is necessary to make a referral under sections 68 or 71 of the EPBC Act. The Minister is then required to decide whether or not the action needs approval under the Act, and to notify the person proposing to take the action of his or her decision.

In deciding the question of significant impact, section 75(2) of the EPBC Act states that the Minister can only take into account the adverse impacts of an action, and must not consider the beneficial impacts. Accordingly, the benefits of a proposed action are not relevant in considering the question of significant impact and whether or not a referral should be made.

It is possible to obtain an exemption from seeking approval for an action if an accredited management plan is in place. This plan is not an accredited management plan.

Other specific heritage provisions under the Act include:
- the creation of a Commonwealth Heritage List and a National Heritage List; and
- special provisions regarding Commonwealth Heritage (these are discussed below).

The EPBC Act is complex and the implications of some aspects are not entirely clear. Given this situation, and that significant penalties can apply to breaches of the Act, a cautious approach seems prudent.

Commonwealth Heritage Listing

As noted above, this list is established under the EPBC Act. The plantation is listed on the Commonwealth Heritage List. (This Section is based on http://www.environment.gov.au/heritage/publications/factsheets/general.html)

Commonwealth Heritage places are protected under certain general provisions of the EPBC Act related to Commonwealth actions and Commonwealth land, and these are described above. In addition, all Commonwealth Government agencies that own or control (eg. lease or manage) heritage places are required to assist the Minister for the Environment, Heritage and the Arts and the Australian Heritage Council to identify and assess the heritage values of these places. They are required to:
- develop a heritage strategy;
- develop a register of places under their control that are considered to have Commonwealth Heritage values;
- develop a management plan to manage places on the Commonwealth Heritage List consistent with the Commonwealth Heritage Management Principles and Management Plan requirements prescribed in regulations to the Act; and
- ensure the ongoing protection of the Commonwealth Heritage values of the place when selling or leasing a Commonwealth Heritage place.

The National Capital Authority heritage strategy addresses a range of general issues related to heritage places and asset management systems.

Guidelines for management plans prepared by the Department of the Environment, Water, Heritage and the Arts are available and have been used in the preparation of this plan (Department of the Environment & Heritage 2005).

Appendix I records how this heritage management plan complies with the various EPBC Act requirements.

These Commonwealth Heritage obligations apply to the National Capital Authority in addition to the broader protective provisions for heritage places under the EPBC Act.

Australian Heritage Council Act 2003

The Council is the principal adviser to the Minister for the Environment, Heritage and the Arts on heritage issues. (This section is based on http://www.environment.gov.au/heritage/publications/factsheets/general.html)

Amongst other functions, the Council maintains the Register of the National Estate, and the plantation is entered on the Register.

The role of the AHC is in regard to the continued entry of the plantation on the RNE. The Council may also provide comments on EPBC referrals but only at the request of the Minister. It may have other roles in the future but this depends on a range of factors such as the interest of the Council in the plantation and its future, and possible National Heritage listings.

A summary of all relevant heritage listings is provided in the following table.

Table 3. Heritage Listings relevant to the York Park North Oak Plantation

Heritage Listing (Name of List/Register)	Listing Body	Impact of Listing
York Park North Tree Plantation (Commonwealth Heritage List)	Minister for the Environment, Heritage and the Arts	Places are subject to statutory protection and other measures under the EPBC Act 1999.
York Park North Tree Plantation (Register of the National Estate)	Australian Heritage Council	The plantation is subject to statutory protection under the EPBC Act 1999.
York Park North, ACT (Register of Classified Places)	National Trust of Australia (ACT)	Community listing with no statutory provisions.
Parliament House Vista (Commonwealth Heritage List)	Minister for the Environment, Heritage and the Arts	The plantation is adjacent to this registered place and actions on the plantation site which have an impact on the Vista may be subject to control under the EPBC Act.
Parliament House Vista (Register of the National Estate)	Australian Heritage Council	The plantation is adjacent to this registered place and actions on the plantation site which have an impact on the Vista may be subject to control under the EPBC Act.

Note: The ACT Heritage Council developed a citation for the plantation to be included in the Interim Heritage Places Register (ACT Heritage Council 1997). This was gazetted in June 1997 however, registration lapsed in June 1999 because of the Designated Area status of the land under the *National Capital Plan*.

5.3 CONDITION AND INTEGRITY OF THE PLANTATION

Brief information about the condition of the plantation is provided in Section 2.2 although this is not focused by an understanding of the significance of the place. This section provides an overview of condition and integrity related to the heritage values of the plantation, the results of a detailed tree assessment, and comments arising from the assessment.

Overview

As an overall comment, the plantation is in fair condition and displays moderate to high integrity. Of the 78 tree locations, there are 3 missing/lost trees leaving 75 surviving trees of which 3 are in very good condition, 23 in good condition, 35 in fair condition and 14 in poor condition. Despite the current drought conditions, the plantation seems to have maintained its condition reasonably well.

Factors which have degraded the condition and integrity include the:

- loss of 3 trees which are missing;
- poor condition of 14 trees;
- variety of mature self sown trees and shrubs of other species, and seedlings; and
- the open trench in the northwest corner.

In addition, there is some suggestion the plantation was larger than at present, with additional rows of trees to the north and west. These additional plantings appear to have been removed by 1950. If these were Oaks and part of the original planting, this would also diminish the integrity. (See Appendix B)

Detailed Tree Assessment

The trees were assessed by Canopy Pty Ltd on 23 January 2007. The day was hot and dry. The summer has been mostly hot and dry. Canberra has had at least three years of below average rainfall prior to this assessment. The results of the tree assessment are shown in the following table.

Table 4. Tree Condition

TN	TN 03	Cond.	Str.	DW	Tip DB	Rec.	Comments
A1	6	Good	Good	L			
B1	5	Fair	Good	L	P	P	
C1	4	Good	Good	L			
D1	3	Good	Good	L			
E1	2	Fair	Good	L	P	P	
F1	1	Good	Good	L			
	13						*Eucalyptus blakelyi*
A2	12	Good	Good	S	P	P	
B2	11	Poor	Poor	L	E	P	Die back of central leader
C2	10	Fair	Poor	S	M	P	Die back of central leader
D2	9	Fair	Poor	S	M	P	Twin leader structure at 4m AGL; Some die back and decay; not likely to be sound
E2	8	Good	Good	L			Older die back of central leader (not likely to be a problem
F2	7	Good	Good	L	P	P	
A3							Tree is missing
B3	18	Poor	Fair	L	E	P	

Table 4. Tree Condition

TN	TN 03	Cond.	Str.	DW	Tip DB	Rec.	Comments
C3	17	Poor	Poor	L	E	P	Die back of central leader
D3	16	Fair	Poor	S	P	P	Yellowing of foliage; Die back of central leader
E3	15	VG	Good	P			Yellowing of foliage
F3	14	Good	Good	S			
A4	24	Fair	Good	L	P	P	Outer canopy is thin; Epicormic growth in inner canopy
B4	23	Poor	Good	S	M	P	Canopy is thin; Foliage is yellowing
C4	22	Poor	VP	L	E	P	Older die back of central leader, Central leader is hollow.
D4	21	Poor	Poor	S	E	P	Yellowing of foliage; Older die back of central leader
E4	20	VG	Fair	P			Overshadowed by tree F4
F4	19	VG	Good	P			
A5	28	Good	Good	S	P	P	Some broken branches (appears to be storm damage)
B5							Tree is missing
C5	27	Poor	VP	L	E	P	Central leader is missing (possibly removed due to die back), Central leader is hollow.
D5							Tree is missing
E5	26	Good	Fair	S	P	P	Die back of central leader
F5	25	Good	Good	L	M	P	Some yellowing of the canopy; Some broken branches
	35						*Sorbus sp*.
A6	34	Fair	Good	S	P	P	Yellowing of foliage
B6	33	Fair	Good	S	P	P	Yellowing of foliage
C6	32	Fair	Fair	S	M	P	Yellowing of foliage; Die back of central leader and some main branches.
D6	31	Fair	VP	S	M	P	Yellowing of foliage
E6	30	Fair	Poor	S	E	P	Yellowing of foliage; Die back of central leader and some main branches.
F6	29	Fair	Poor	L		P	Central leader is missing, possibly due to die back, central leader is hollow.
A7	41	Fair	Fair	S	E	P	
B7	40	Fair	Fair	S	P	P	Yellowing of foliage; Central leader is missing (possibly removed due to die back)
C7	39	Good	Fair	S			
D7	38	Fair	VP		M	P	Yellowing of foliage; Central leader is missing (possibly removed due to die back), Central leader is hollow.
E7	37	Fair	Fair	S			Yellowing of foliage
F7	36	Good	Good	L			
A8	47	Good	Good	S	M	P	
B8	46	Poor	Poor	S	M	P	Die back of central leader
C8	45	Fair	Fair	S	M	P	Yellowing of foliage; Central leader is missing (possibly removed due to die back)
D8	44	Fair	Fair	S	P	P	Yellowing of foliage; Central leader is missing (possibly removed due to die back),
E8	43	Fair	Good	L	P		
F8	42	Good	Good	L	P		
A9	53	Fair	Fair	S	P	P	
B9	52	Fair	Poor	L	P	P	Die back and decay of central leader
C9	51	Fair	Good	S			Yellowing of foliage; Thinning of canopy
D9	50	Fair	Fair	S	P	P	Yellowing of foliage; Die back of central leader
E9	49	Fair	Fair	S	P	P	Yellowing of foliage
F9	48	Fair	Good	S	P	P	
A10	59	Good	Good	S	P	P	
B10	58	Poor	Poor		M	P	Yellowing of foliage; Die back of some central branches

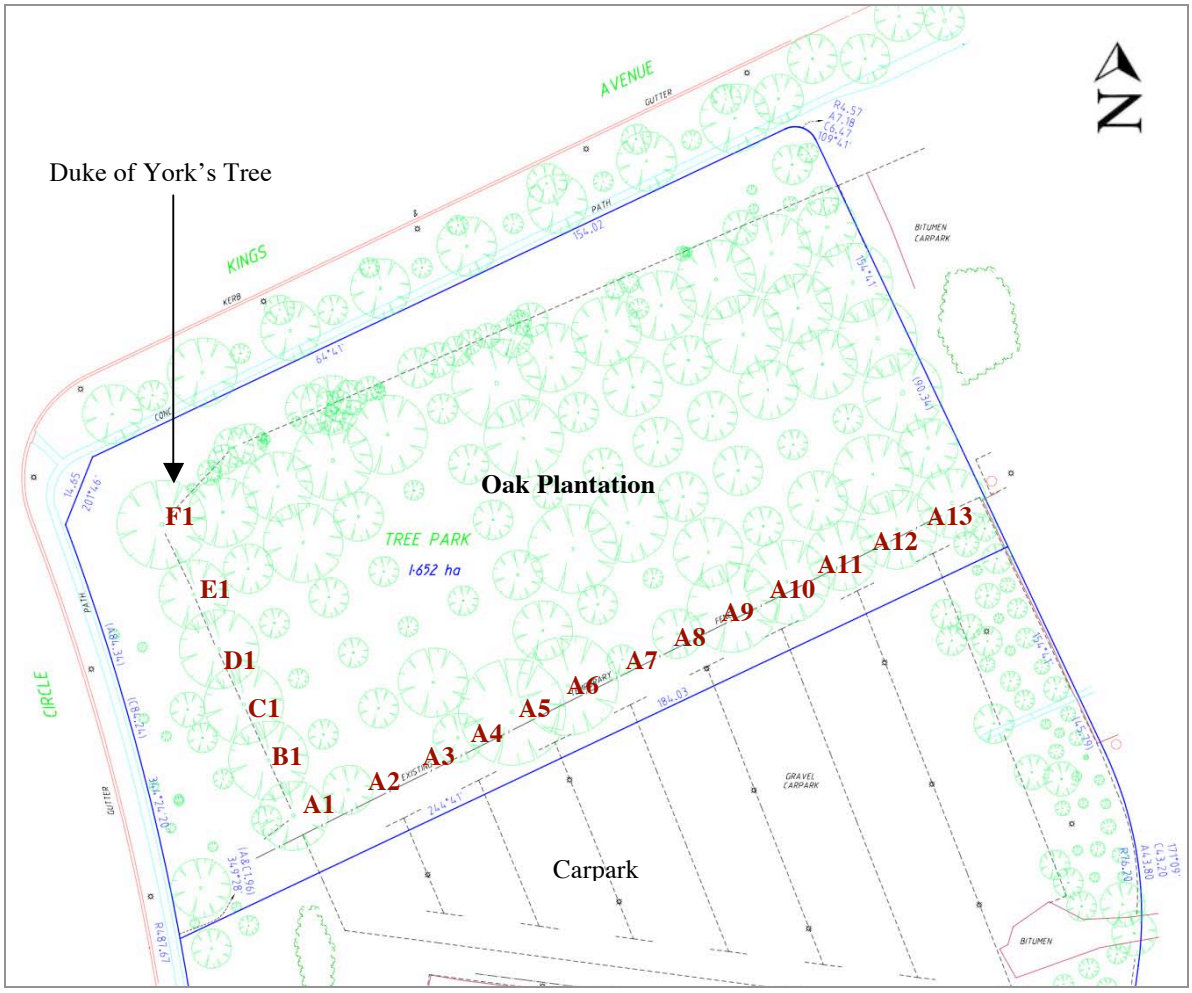
Table 4. Tree Condition

TN	TN 03	Cond.	Str.	DW	Tip DB	Rec.	Comments
C10	57	Fair	Good				Yellowing of foliage
D10	56	Poor	Fair	S	M	P	Yellowing of foliage
E10	55	Poor	Fair	S	M	P	Yellowing of foliage; Thinning of canopy
F10	54	Poor	Poor	L	M	P	Yellowing of foliage; Thinning of canopy; Die back of central leader
A11	65	Fair	Fair	L	E	P	Older die back of central leader
B11	64	Poor	Fair	S	P	P	Yellowing of foliage
C11	63	Poor	Fair	S	M	P	Yellowing of foliage
D11	62	Fair	Fair	S	P	P	Yellowing of foliage
E11	61	Fair	Good	L	P	P	Yellowing of foliage
F11	60	Fair	Good	S	M	P	
A12	71	Good	Good	L	P	P	Yellowing of foliage
B12	70	Fair	Good	L	P	P	Yellowing of foliage
C12	69	Fair	Poor	S	E	P	Death of central leader
D12	68	Fair	Good	S	M	P	
E12	67	Fair	Good	S	P	P	
F12	66	Fair	Good	S	M	P	
A13	77	Good	Good	S	P	P	
B13	76	Good	Good	S	P	P	Does not have cental leader structure
C13	75	Good	Good	S	P	P	Yellowing of foliage
D13	74	Good	Good	S	P	P	
E13	73	Good	Good	L	P	P	
F13	72	Good	Good	L	M	P	

Notes:

TN	Tree Number (This numbering is the same as that used by Dr Robert Boden). See the following figure for an indication of locations.
TN03	Tree number as used in the December 2003 Tree Condition Report by Canopy.
Cond.	Tree Condition (Very Good, Good, Fair, Poor, Very Poor).
Str.	Tree Structure (Very Good, Good, Fair, Poor, Very Poor).
DW	Deadwood (L = Large dead branches, S = Small dead branches, P = Dead branches present.
Tip DB	Tip Dieback.(E= extensive, M = Moderate amount, P = present.
Rec.	Recovery (P= present)

Figure 32. Site Plan showing Index for Tree Assessment Numbers
Source: Base drawing by Earth Tech



Condition of Trees over Time

There are various sources which enable aspects of the plantation to be tracked over time, including its condition. An analysis of aerial photos in the period 1944-2004 was undertaken to determine when losses of individual trees and changes in growth performance occurred (see Appendix B). This analysis concluded:

- the three missing trees have been missing for over fifty years;
- English oak is a long-lived hardy species under Canberra's natural conditions;
- variability in performance once evident may become persistent; and
- it has taken about thirty five years for English oak trees planted at a spacing of 12.19 metres (40 feet) to establish crown closure.

In addition, there is some survey data available to enable the condition of the plantation to be tracked over the last decade. This information is summarised in the following table. The data is no doubt subject to some factors which may not allow a meaningful comparison (eg. time of year for the survey, prevailing climatic conditions such as drought, and variability between assessors).

Perhaps the most interesting and robust comparison can be made between the two assessments by Canopy in 2003 and 2007. Remarkably, despite the current drought conditions, the trees seems to have maintained their condition reasonably well.

Table 5. Condition of Trees over Time					
Condition	**Assessment at c June 1994?** (Margules Groome & Poyry Pty Ltd)	**Assessment at January 1997** (Dr Robert Boden)	**Assessment at October 2003** (Dr Robert Boden)	**Assessment at December 2003** (Canopy Pty Ltd)	**Assessment at January 2007** (Canopy Pty Ltd)
Very Good	2	17	25	5	3
Good	22	31	29	21	23
Fair	10	19	9	30	35
Poor	37	8	12	21	14
Missing	?	3	3		3
Rainfall/Climate for Year					
Rainfall (Canberra average about 630 mm)	Dry year - about 400 mm	Dry year - about 400 mm	Below average year – about 570 mm	Below average year – about 570 mm	Very dry year – about 360 mm

Additional Comments on the Results of the Tree Assessment

Yellowing of the foliage

Yellowing of the foliage has been reported in many of the trees. This could be due to onset of decline but is more likely to be the onset of early dormancy (Autumn) due to the extremely dry conditions.

Tip die back

Many of the trees have tips of branches that have died back over the last few years most likely due to the drought. Provided that the branches involved are in the outer canopy and that the trend does not continue for too much longer the recovery is not likely to cause structural problems. If the drought continues it may lead to decline, and possible death, of the most stressed trees.

Recovery

Most of the trees show some signs of recovery from the stress that had led to the die back of branch tips. This seemed to defy logic as the drought has shown little signs of breaking. However the trees have been watered.

The recovery shows up as epicormic shoots along the branches.

Dead Wood

The presence of dead wood in the canopies of the trees has been recorded in the table. The dead wood has been classified into three categories: L (= Large dead branches), S (= Small dead branches) or P (= Dead branches present). Large dead branches are approximately over 30 mm in diameter and should be removed as a matter of safety for pedestrians in the park. Small dead branches are approximately between 15 mm and 30 mm and should be removed as a matter of safety if more extensive use is to be made of the park. Branches that are smaller than 15 mm are not likely to cause injury and would be expensive to prune out.

Tree Structure

An assessment of tree structure has been included because trees of Poor or Very Poor structure are likely to be unsafe in the future. In most cases these assessments (Poor and Very Poor) apply to trees where death, or loss of the central has occurred and this in turn

leads to, or will be likely lead to poor strength or attachment of main branches, either now, or in the future. In some cases rehabilitation might be possible through pruning, but in most cases tree failures are likely to occur if current or new branches grow larger. Ironically recovery of the health of these trees may lead to structural failures. If the park is to be open to public use, these trees will need to receive ongoing assessment to determine when they will constitute a hazard or, if the park is to subject to development of any type that will bring pedestrians into the area, these trees should be removed in the development stages and replaced.

Maintenance Concerns Observed During the Assessment of the Trees

There is some evidence of people on foot and in vehicles having had access to the plantation area. The consequences of uncontrolled and/or unplanned access to the plantation is that compaction of the soil can occur and this can, in turn, cause stress to the trees and possibly lead to their death. There has been vehicle traffic entering through a lifted bollard on the Kings Avenue side. This may have been a watering truck, but it appears that more extensive use has been made of this entry point. The area around the 'Car Park Diner' has been subject to ever increasing foot traffic. Any benefit of mulch that was spread some time ago, appears to have long since passed. The mulch has decayed and been scattered and the area of use has spread beyond the area of mulch.

Soil Analysis and Tree Health

Because of the poor persisting condition of some of the Oaks over a long period, a soil analysis was undertaken to establish whether there were any qualities of the soil which might be influencing tree health. This analysis concluded,

> "The soil data does not shed any light on the decline of the condition of the oaks in the centre of the site. The two profiles in the area of poor oak condition vary little from the profiles in the area where the oaks are in good condition… Overall, the soil chemistry indicates a low nutrient status, in terms of both phosphorous and nitrogen, but exchangeable cations and trace elements are generally favourable for plant growth. It is not possible from the data to isolate any chemical properties which contribute to tree decline."

The full analysis is produced at Appendix F.

5.4 STAKEHOLDERS AND CONSULTATION

There are a range of stakeholders with an interest in and concern for the plantation. These include:

- Department of the Environment, Water, Heritage and the Arts;
- Australian Heritage Council;
- ACT for Trees;
- ACT Heritage Council;
- Australian Garden History Society;
- Australian Institute of Landscape Architects;
- National Trust of Australia (ACT);
- Friends of the ACT Arboreta; and
- the neighbours and users of the plantation.

The interests of some of these stakeholders are related to legislation which is separately described above (DEWHA and the AHC). The following text provides a brief description of the interests of the other stakeholders listed above and records their comments arising from consultations undertaken as part of preparing the draft conservation management plan in 2004. These consultations were undertaken in a variety of ways including on-site and other meetings, email and by telephone.

ACT for Trees

This is a community organisation which believes in the importance of trees and their contribution to the streetscape and landscape of Canberra. It has been particularly concerned about the general loss of trees in Canberra although it recognises the need to remove some trees for various reasons.

With regard to the plantation, ACT for Trees is especially concerned about its visual and symbolic significance, and ACT for Trees has provided some preliminary comments, an extract of which follows.

> "The trees are an essential component of the landscape character of Kings Avenue. They help define the intersection with State Circle and visually complement the scale and landscape character on the opposite side of Kings Ave in Parkes, contrasting with the native vegetation character of Capital Hill and the Parliament House side of State Circle. Its location is one of high visibility and importance within the context of the Kings Avenue and as a main approach road to the Parliament House and in defining Griffin's Parliamentary Triangle.
>
> The dominant character of Kings Ave and Commonwealth Avenue is of buildings well set back from the avenue with buildings absorbed within a dense treed landscape "on the inside of the avenue providing a strong containment to the buildings in the Triangle". This character of the avenue has important symbolic functions arising from the Griffin's original concept of the grouping of Government buildings in the Parliament Sector using "plant material informally in contrast to the formal layout and composition of the buildings . That this was his intention can be argued from his practice before winning the competition where most of his landscapes follow this approach." (Quotes from Professor Richard Clough, The Parliamentary Triangle Landscape)
>
> From the [Edmund] Barton Building an outstanding landscape character has been achieved through to the Parliament House. This is a different concept to having buildings directly fronting the avenue. Such a design approach might be appropriate for Brisbane Ave and other avenues but [is] entirely wrong for Kings and Commonwealth Avenues.
>
> …
>
> Our concern is how… [any proposed adjacent] building is integrated with the oak plantation and open

> onto it in a suitable manner to enable outdoor use without adversely impacting on its heritage character. Protection of the plantation during the period of construction [of any adjacent building] is of major concern." (Storey 2004)

A meeting was held on-site with ACT for Trees, and it subsequently provided its views in writing.

ACT Heritage Council

The Council is an ACT statutory authority and has an overall interest in the heritage of the ACT. It has previously prepared a heritage citation for the plantation.

The Council has expressed an interest in being consulted on the development of the conservation management plan. It is particularly interested in the heritage values identified, the assessment of the impact of any proposed development, and the measures to be taken to conserve heritage values.

Australian Garden History Society

The Society is a community organisation which brings together people from diverse backgrounds united by an appreciation of and concern for parks, gardens and cultural landscapes as part of Australia's heritage. The Society promotes knowledge of historic gardens and research into their history. It aims to examine gardens and gardening in their widest social, historic, literary, artistic and scientific context.

The Society considers that the plantation has substantial heritage values, that these should be protected, and that development which removes or damages trees should not be allowed. In responding to a draft amendment to the *National Capital Plan*, it expanded on these views as follows.

> "York Park North Plantation is a special central urban single-species plantation that has been recognised for its heritage importance. Part of its value is in its geometric plantation layout. Like all major tree plantings their value increases as the trees mature and they become places for recreation and city amenity. York Park North Plantation is just approaching that stage of maturation. As such the Plantation would provide enormous social benefits to any planned office development. As well, York Park Plantation is now beginning to provide streetscape value to Kings Avenue aesthetically balancing the parkland plantings to the rear of the National Archives (East Block).
>
> Our Society is aware that the management of the trees in the plantation needs attention and that some trees may need to be replaced. This should be undertaken with the same species to ensure the continuity of the plantation aesthetic. Any development adjacent to the Plantation will need to ensure that roots of the trees are not damaged and that natural drainage is not impacted. With a little care and tidying up York Park Plantation will be a great asset to the York Park urban area. We hope that the proposed Conservation Management Plan will address these issues and address the social and aesthetic values of the place in the Statement of Significance.
>
> The Australian Garden History Society [would strongly object]… to any plan that might remove, impact or damage York Park Plantation or any trees in it." (Letter from the AGHS to the National Capital Authority of 24 December 2003)

A meeting was held with Society representatives on site, and it also provided a copy of its letter to the NCA.

Australian Institute of Landscape Architects

AILA is a professional body representing Landscape Architects. Its mission as follows,

> AILA provides the primary leadership, structure and network to effectively harness and focus the intellectual energy of Australian landscape architects in the creation of more meaningful, enjoyable, equitable and sustainable environments. (http://www.aila.org.au/)

This may be interpreted as encouraging an evolving landscape (creation), that respects the social and cultural character of the place (meaningful) whilst offering all types of current and future users and owners (equitable & sustainable) a positive experience (enjoyable) when using or passing by this corner of the National Triangle. A landscape does not have to be preserved or conserved. It has to be responsive to the environmental, social, cultural, economic inputs and processes placed on it.

National Trust of Australia (ACT)

The Trust is a community based heritage conservation organisation. It maintains a register of heritage places, and generally operates as an advocate for heritage conservation. Listing on the Trust's register carries no statutory power, though the Trust is an effective public advocate in the cause of heritage. The Trust has classified/registered the plantation. A meeting was held with a representative of the Trust.

The Trust believes the whole plantation is significant and should be conserved and used for compatible recreation.

Friends of the ACT Arboreta

This is a community group whose aims are to foster the good management and appreciation of the values of arboreta in the Canberra region. Arboreta may include both native and exotic species, and significant and notable trees. Its rules include enhancing the heritage values of tree plantings. FACTA is interested in the future of the York Park plantation and in this management plan.

Neighbours and Users of the Plantation

The occupants and owners of adjacent buildings and land are potential stakeholders regarding the plantation. The plantation does or may provide an attractive view for adjacent building occupants, and these people are also current or potential users of the plantation.

No users were interviewed in the course of the project. However, it is assumed those people who use the plantation as a place to have their lunch and so forth are interested in being able to continue to do so. They may also be interested in enhanced opportunities to enjoy the plantation but this is speculation.

5.5 MANAGEMENT CONTEXT, REQUIREMENTS AND ASPIRATIONS

The National Capital Authority has both a statutory planning role as well as an asset management role with regard to the plantation. The statutory planning role is discussed in the section on legislation above.

General management framework

The plantation is owned by the Commonwealth and managed by the National Capital Authority. The NCA is a Commonwealth statutory authority established under the *Australian Capital Territory (Planning and Land Management) Act 1988*. This Act is briefly described in the legislation section above, especially with regard to the *National Capital Plan* and the development control role of the NCA.

The NCA undertakes design, development and asset management for some of the National Capital's most culturally significant landscapes and national attractions, including the plantation, as well as for other assets located on National Land. In managing these assets the NCA must ensure that they are created, maintained, replaced or restored to:

- enhance and protect the unique qualities of the National Capital; and
- support activities and events which foster an awareness of Canberra as the National Capital.

The NCA has an Asset Management Strategy linked to its corporate plan and operational activities. The strategy:

- provides the framework for the NCA's decision making about the creation of new assets and the care of existing assets;
- guides decision-making about the level and standard of care required for the respective assets; and
- identifies the heritage role of assets.

In managing its assets, the NCA aims to ensure that maintenance and other practices are consistent with their design intent, and support the objectives of the *National Capital Plan*.

The NCA also has a heritage strategy in accordance with the EPBC Act which addresses a range of general issues related to heritage places and asset management systems. The strategy is linked to the NCA's corporate planning.

There are potentially a number of different parts of the NCA involved in aspects of the plantation. These relate to maintenance, developing new assets, events, as well as the conservation and management of the plantation.

Day-to-day management, operation and maintenance

The NCA undertakes maintenance of the plantation through a period contract relating to landscape/garden horticultural maintenance. This contract is administered by the Estate Unit of the NCA.

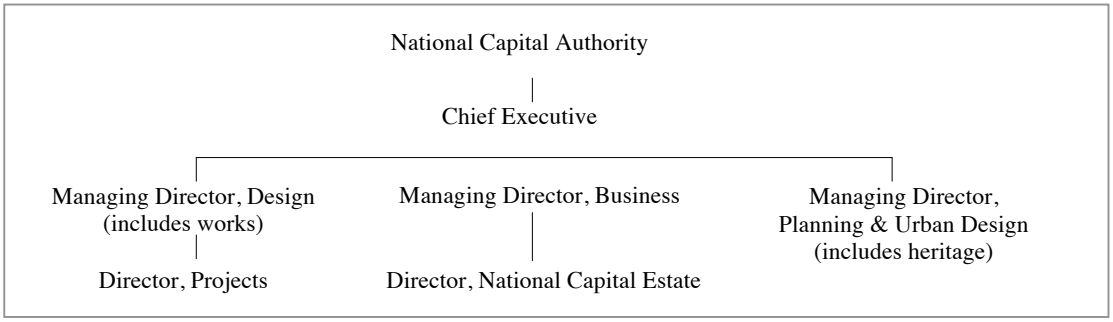
The maintenance of the plantation is undertaken as part of a contract for the whole of the Parliamentary Zone. The contract involves normal horticulture maintenance to ensure plants are cared for, and the plantation is kept in a neat and tidy fashion. The contract includes a schedule of periodic works to be undertaken.

The NCA does not yet have guidelines for the use of the plantation for events.

Management/maintenance decision-making process

The decision-making hierarchy in the NCA relevant to the management/maintenance of the plantation is as follows.

Figure 33. NCA Decision-making hierarchy



Capital works

The National Capital Projects unit is responsible for major projects involving NCA assets, such as might arise from the current Masterplan and Design Services Project discussed below. The NCA's Capital Management Policy deals with the identification, funding and programming of the Capital Works Program for the replacement and refurbishment of existing assets. The policy outlines a range of objectives, and to achieve this policy, the NCA has a Capital Management Plan.

Works approval

The National Capital Plan unit has a role in providing works approval. The NCA's role in works approval is discussed in more detail in the section on legislation above.

Masterplan and Design Services Project for the Plantation

The NCA has commissioned a consultant to undertake a project whose scope includes,

> "to undertake improvements to enhance the York Park Oak Plantation while protecting its heritage significance; and to establish and implement an appropriate ongoing maintenance regime." (NCA 2006. p. 3)

Identified issues are,

> "New redevelopments adjacent to the plantation will place further urban pressures on the area. These pressures include the need for appropriate maintenance and upgraded park infrastructure. This may include new irrigation, paths, street and park furniture." (NCA 2006, p. 5)

Uses and Users of the Plantation

The only known users of the plantation are the office workers and others who use the southeast corner of the plantation as a place to have their lunch or other refreshment acquired from the fast food van adjacent in Windsor Walk. Several old tables and chairs are permanently located within the plantation for this purpose, and new tables and chairs

are also set up in the plantation as needed by the van owner.

Management Issues

There are a range of issues which arise either from the current circumstances of the plantation or because of its likely future circumstances. These include:

- there is no current plan for ongoing expert arboricultural advice to monitor and manage the health of the plantation;
- there is no ongoing mechanism for liaison with relevant stakeholders about the plantation;
- there is no tree replacement strategy to deal with current or possible future tree losses;
- the open trench in the northwest corner detracts from the plantation;
- there is no maintenance plan or periodic monitoring for the plantation;
- the current fencing excludes the Duke of York's tree;
- future possible uses of the plantation will require management, especially if adjacent office building development encourages increased use;
- adjacent development may lead to suggestions for new development of various sorts within the plantation, such as shelters or sculptures, and these matters require management. The cumulative impact of such developments requires careful assessment;
- the plantation, including the Duke of York's tree, is not interpreted;
- possible occasional irrigation in times of drought for trees in poor health; and
- possible new paths, street and park furniture as anticipated by the Masterplan and Design Services Project.

During the drought in 2007, an effort was made to undertake supplementary watering for the trees. However, this highlighted some difficulties with ensuring it was undertaken in the right way. Problems arose because a watering truck was driven into the plantation, and because of the high pressure used to apply water which resulted in excessive disturbance to the understorey.

These issues are addressed in the conservation policy in the following chapter.

Managing the Native Understorey

While there is no requirement to retain this vegetation, it would be possible to choose to retain it by applying conservative management.

Recommended management for retention of the ground layer would involve weed control and some biomass control. Annual slashing in mid to late summer, with removal of slashed material, would be adequate to keep biomass at suitable levels.

Weed control would include ongoing removal of woody weeds (self-sown exotics such as *Cotoneaster, Sorbus, Ulmus, Crataegus, Pyracantha, Prunus*, also *Acacia mearnsii* and *A. baileyana*), and spot-spraying with appropriate herbicide of exotic perennial grasses (Chilean Needlegrass *Nassella neesiana*, Cocksfoot *Dactylis glomerata*, Tall Fescue *Festuca arundinacea*, Serrated Tussock *Nassella trichotoma*, Paspalum *Paspalum distichum*) and St Johns Wort *Hypericum perforatum*.

Protection of the oaks from damaging activities (earthworks, alterations in drainage, dumping, cultivation and soil compaction) will also favour the native ground layer. Areas

of conflict in management would include replacement of dead oaks, irrigation, pruning of oaks, sowing of exotic pasture species and mulching.

Management of the native understorey may also conflict with other aspirations for the plantation, such as creating an environment for passive recreation. These various aspirations will be considered in the masterplanning for the plantation discussed above.

5.6 ISSUES RELATING TO THE BROADER LANDSCAPE

Issues relating to the broader landscape within which the plantation is located are mentioned in a number of other sections of this plan. The major issues include:

- the contribution of the plantation to the extensively treed landscape of the central part of Canberra, including the adjacent Parliament House Vista conservation area; and
- the intention to develop the adjacent site for National Capital Uses, including Australian Government offices needing a prestigious location, and incorporating parking and ancillary/small scale retail and personal services.

These issues are considered in the conservation policy below.

6. CONSERVATION POLICY AND IMPLEMENTATION STRATEGIES

6.1 OBJECTIVE

The objective of this policy is to achieve the conservation of the heritage significance of the York Park North Oak Plantation and to guide potential future changes within the plantation given adjacent office developments.

6.2 DEFINITIONS

The definitions for terms used in this report are those adopted in *The Burra Charter, The Australia ICOMOS Charter for places of cultural significance* (Australia ICOMOS 2000), a copy of which is provided at Appendix H. Key definitions are provided below.

Place means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views.

Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.

Fabric means all the physical material of the place including fixtures, contents and objects.

Conservation means all the processes of looking after a place so as to retain its cultural significance [as listed below].

Maintenance means the continuous protective care of the fabric, and setting of a place, and is to be distinguished from repair. Repair involves restoration or reconstruction.

Preservation means maintaining the fabric of a place in its existing state and retarding deterioration.

Restoration means returning the existing fabric of a place to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material.

Reconstruction means returning a place to a known earlier state and is distinguished from restoration by the introduction of new material into the fabric.

Adaptation means modifying a place to suit the existing use or a proposed use. [Article 7.2 states regarding use that: a place should have a compatible use]

Compatible use means a use which respects the cultural significance of a place. Such a use involves no, or minimal impact on cultural significance.

6.3 CONSERVATION MANAGEMENT POLICY AND IMPLEMENTATION STRATEGIES

Table 6. Policy and Strategy Index, Priority and Implementation Timetable

Number	Policy Title	Strategies	Priority	Timetable
General Policies				
Policy 1	Significance the basis for management, planning and work		High	Ongoing
Policy 2	Adoption of Burra Charter		High	Ongoing
Policy 3	Adoption of policies	3.1 Priority and implementation timetable	High	On finalisation of the plan
Policy 4	Compliance with legislation	4.1 EPBC Act 4.2 Non-compliance	High Medium	As needed As needed
Policy 5	Planning documents for or relevant to the Plantation		High	As needed
Policy 6	Expert heritage conservation advice	6.1 Involvement of qualified arboriculturalist	High	As needed
Policy 7	Decision making process for works or actions	7.1 Process 7.2 Log of decisions 7.3 Prioritisation of work 7.4 Conflicting objectives 7.5 Annual review	High High Medium Medium High	As needed 12/2007 As needed As needed Annually
Policy 8	Review of the conservation management plan	8.1 Reasons to instigate a review	Medium	In 5 years or as needed
Liaison				
Policy 9	Relationship with the Department of the Environment, Water, Heritage and the Arts		High	Ongoing
Policy 10	Relationship with other stakeholders	10.1 List of stakeholders 10.2 Informing stakeholders	Medium High	Ongoing As needed
Conservation of the Plantation				
Policy 11	Conservation of the Plantation	11.1 Tree replacement strategy 11.2 Protection of the root zone 11.3 Pruning 11.4 Backfilling Trench 11.5 Protection of Trees during construction 11.6 Temporary irrigation 11.7 Limitation on mulching	High High High Medium High High Medium	From 3/2007 Ongoing Ongoing 10/2008 Ongoing As needed As needed
Policy 12	Maintenance planning and works	12.1 Maintenance plan 12.2 Maintenance and monitoring 12.3 Annual grass slashing 12.4 Weed control	High Medium Medium Medium	Ongoing Ongoing Annually Ongoing
Policy 13	Fencing	13.1 Fencing the Duke of York's tree 13.2 DEWHA approval of replacement fencing	High High	10/2008 As needed

Table 6. Policy and Strategy Index, Priority and Implementation Timetable				
Number	**Policy Title**	**Strategies**	**Priority**	**Timetable**
		13.3 Replacement fencing	High	As needed
Policy 14	Condition monitoring	14.1 Monitoring program	Medium	Ongoing
Setting				
Policy 15	Protection of the Setting for the Plantation		Medium	Ongoing
Use of the Place				
Policy 16	Primary uses of the Plantation		High	Ongoing
Policy 17	Other possible uses of the Plantation	20.1 Guidelines for secondary uses	Medium	6/2008
Policy 18	New uses compatible with significance		High	Ongoing
Policy 19	Control of leased areas/activities	19.1 Lease arrangements 19.2 Lease arrangements and condition monitoring	High High	As needed As needed
New Development				
Policy 20	New development	20.1 Impact assessment 20.2 Deck for café seating 20.3 Footpaths and café seating areas 20.4 DOFD study	High High High High	As needed As needed As needed As the opportunity arises
Interpretation				
Policy 21	Interpretation of the significance of the Plantation	21.1 Interpretive strategy	Medium	12/2008
Unforeseen Discoveries				
Policy 22	Unforeseen discoveries or disturbance of heritage components		Medium	As needed
Keeping Records				
Policy 23	Records of intervention and maintenance	23.1 Records about decisions 23.2 Records about maintenance and monitoring 23.3 Summary of changes in heritage register	Medium Medium Medium	Ongoing Ongoing Ongoing
Further Research				
Policy 24	Addressing the limitations of this management plan		Low	As the opportunity arises

General Policies

Policy 1 ***Significance the basis for management, planning and work***

The statement of significance set out in Chapter 4 will be a principal basis for management, future planning and work affecting the York Park North Oak Plantation.

Policy 2 ***Adoption of Burra Charter***

The conservation and management of the plantation, the trees and use of the place, will be carried out in accordance with the principles of *The Burra Charter* (Australia ICOMOS 2000), and any revisions of the Charter that might occur in the future.

Policy 3 ***Adoption of policies***

The policies recommended in this heritage management plan will be endorsed as a primary guide for management as well as future planning and work for the plantation.

Implementation Strategies

3.1 The NCA will adopt the priority and implementation timetable for policies and strategies which is indicated in Table 6.

Policy 4 ***Compliance with legislation***

The NCA must comply with all relevant legislation and related instruments as far as possible, including the:

- *Australian Capital Territory (Planning and Land Management) Act 1988;*
- *National Capital Plan;* and
- *Environment Protection and Biodiversity Conservation Act 1999*.

In addition, it must comply with relevant subsidiary requirements arising from this legislation.

Implementation Strategies

4.1 The NCA will comply with its obligations under section 341S of the EPBC Act and the related regulations to:

- publish a notice about the making, amending or revoking of this plan;
- advise the Minister for the Environment, Heritage and the Arts about the making, amending or revoking of this plan; and
- seek and consider public comments.

4.2 Where the NCA is not able to achieve full compliance with relevant legislation, the non-complying aspect will be noted and the reasons for this situation appropriately documented.

Policy 5 ***Planning documents for or relevant to the Plantation***

All planning documents developed for the plantation or affecting the place should refer to this heritage management plan as a primary guide for the conservation of its heritage values. The direction given in those documents

and in this plan should be mutually compatible.

Policy 6 ***Expert heritage conservation advice***

People with relevant expertise and experience in the management or conservation of heritage properties will be engaged for the:

- provision of advice on the resolution of conservation issues; and
- for advice on the design and review of work affecting the significance of the plantation.

Implementation strategies

6.1 Given the nature of the place, a qualified arborist with expertise in the care and management of historic trees will be engaged for all key tasks associated with the plantation.

Policy 7 ***Decision making process for works or actions***

The NCA will ensure that it has an effective and consistent decision-making process for works or actions affecting the plantation, which takes full account of the heritage significance of the place. All such decisions will be suitably documented and these records kept for future reference.

Implementation Strategies

7.1 The process will involve:

- consultation with internal and external stakeholders relevant to the particular decision;
- an understanding of the plantation;
- documentation of the proposed use or operational requirements justifying the works or action; and
- identification of relevant statutory obligations and steps undertaken to ensure compliance.

7.2 The NCA will consider maintaining a log of decisions with cross-referencing to relevant documentation.

7.3 Where some work is not able to be undertaken because of resource constraints, work will be re-prioritised according to the following criteria to enable highest priority work to be undertaken within the available resources. Prioritising work will be decided on the basis of:

- the descending order of priority for work will be maintenance, restoration, reconstruction, adaptation, new work;
- work related to alleviating a high level of threat to significant aspects, or poor condition will be given the highest priority followed by work related to medium threat/moderate condition then low threat/good condition; and
- the level of threat/condition will be considered in conjunction with the degree of significance (for example aspects in poor condition and of moderate significance might be given a higher priority compared to aspects of moderate condition and high significance).

7.4 If a conflict arises between the achievement of different objectives, the process for resolving this conflict will involve:

- implementation of a decision-making process in accordance with Policy 7;
- compliance with the *Burra Charter*, in particular Articles 5.1 and 13;
- possibly involving heritage conservation experts in accordance with Policy 6;
- possibly seeking the advice of the Department of the Environment, Water, Heritage and the Arts; and
- possibly seeking a decision from the Minister under the EPBC Act.

In the last case, a decision under the EPBC Act may be necessary because of the nature of the action involved.

7.5 The implementation of this plan will be reviewed annually, and the priorities re-assessed depending on resources or any other relevant factors. The review will consider the degree to which policies and strategies have been met or completed in accordance with the timetable, as well as the actual condition of the place (Policy 14). The *Criteria for Prioritising Work* (Strategy 7.3) will be used if resource constraints do not allow the implementation of actions as programmed.

Policy 8 Review of the management plan

This management plan will be reviewed:

- once every five years in accordance with section 341X of the EPBC Act; and
- to take account of new information and ensure consistency with current management circumstances, again at least every five years; or
- whenever major changes to the place are proposed or occur by accident (such as fire or natural disaster); or
- when the management environment changes to the degree that policies are not appropriate to or adequate for changed management circumstances.

Implementation Strategies

8.1 The NCA will undertake a review of the management plan if it is found to be out of date with regards to significance assessment, management obligations or policy direction.

Liaison

Policy 9 Relationship with the Department of the Environment, Water, Heritage and the Arts

The NCA will maintain regular contact with DEWHA, and formally refer any action that potentially impacts on the heritage values of any place as required by the EPBC Act, and any amendments to this Act.

Commentary: The Parliament House Vista is an adjacent heritage place which may be affected by actions taken regarding the plantation.

Policy 10 Relationship with other stakeholders

The NCA will seek to liaise with all relevant stakeholders, including community and professional groups, on developments affecting the place.

Implementation Strategies

10.1 The NCA will maintain a list of relevant stakeholders and the scope of their interests.

Commentary: The list of stakeholders in Section 5.4 forms the basis for this list.

10.2 Periodically or as developments are proposed, the NCA will inform stakeholders of activities in a timely fashion and provide them with an opportunity to comment on developments.

Conservation of the Plantation

Refer also to the policy section on new development.

Policy 11 Conservation of the Plantation

The heritage significance of the York Park North Oak Plantation will be conserved. This will include conservation of the:

- Duke of York's Oak tree;
- other Oak trees in the plantation, in particular, live original plantings should be conserved where possible given their state of health;
- regular grid pattern;
- tree spacing (12.19 metres); and
- the enclosure and shelter provided by the Oaks.

The Oak trees should remain un-irrigated, except regarding replacement plantings (Strategy 11.1), and regarding occasional irrigation in times of drought (Strategy 11.6).

The mature Oak trees should not be fertilised however if needed, replacement plantings may be fertilised.

The NCA intends that missing original Oaks, and those in poor condition and unlikely to improve, will be replaced. A long-term tree strategy will be adopted (see Appendix G).

The first objective will be to replace the missing Oak trees and those identified as being in poor condition and unlikely to improve. If this is not possible for technical or scientific reasons, then the decision-making processes outlined at Policy 7, especially Strategy 7.4, will be followed.

Self-sown trees and shrubs within the plantation block will be carefully removed, taking every care to avoid or minimise damaging the roots of the Oaks. Chemicals shall not be used to control woody weeds (eg. applied to stumps) because of the possibility of root grafting between weeds and Oaks, leading to chemicals impacting on the Oaks.

The NCA will endeavour to maintain the understorey as a native grassland in the area which is predominantly native grassland (see Figure 28 for the location).

Commentary:
Replacement trees should be advanced specimens of *Quercus robur* suitable for the Canberra environment. For example, this may include locally harvested acorns grown in Canberra to become such specimens.

It is noted that management of the native understorey may conflict with other aspirations for the plantation, such as creating an environment for passive recreation. These various aspirations will be considered in the masterplanning for the plantation.

Implementation strategies

11.1 The NCA will implement the tree replacement strategy provided in Appendix G. This includes possible irrigation during the establishment period for replacement plantings. Replacement trees should be advanced specimens of *Quercus robur* suitable for the Canberra environment.

Commentary: This includes the possible replacement of 17 trees which display poor or very poor structure.

11.2 Special care will be taken to protect the root zone of the plantation including retaining existing soil levels, avoiding compaction or other root disturbing activities. Cars, trucks, tractors and similar size vehicles will not be permitted in the plantation.

Commentary: It is recognised that light-weight mowers will occasionally enter the plantation to slash the grass, and other light-weight vehicles will occasionally be needed when planting advanced stock or removing prunings.

11.3 Pruning will be limited to that necessary for:
- tree health; or
- occupational health and safety.

Pruning for OH&S reasons should not prejudice tree health. In such cases other methods should be used to overcome the OH&S issue, such as fencing or signage.

Limited pruning may be undertaken to facilitate pedestrian access along a few new paths but this should not prejudice tree health.

Commentary: The general preference is not to prune up the trees for aesthetic reasons or to improve pedestrian access or use throughout the entire plantation. Limited pruning for a few new pathways may be acceptable as noted. Some low branches are very large and their removal could adversely affect tree health. See Appendix G.

11.4 The trench in the northwest corner of the plantation will be carefully backfilled, with advice from and under the supervision of a qualified arborist.

11.5 The plantation will be protected during any construction activity through implementation of relevant guidelines such as those provided at Appendix J. This includes activity within or adjacent to the plantation, such as construction on the adjacent carpark.

Commentary: Note that the tree protection zone is defined as 12 metres from the centre of the tree. This zone is based on the existing crown radius of the largest trees at 10 metres, plus 2 metres clearance.

The southern boundary of the plantation block has been established to take account of the tree protection zone. Therefore, construction on the adjacent block will respect this protection zone.

11.6 In times of extended drought, trees in poor condition may be carefully irrigated to encourage better health. This will involve:

- guidance and monitoring by a qualified arborist;
- no vehicle incursions into the plantation itself; and
- no soil erosion or damage to the understorey.

Commentary: The effort to undertake supplementary watering in 2007 highlighted some difficulties with ensuring it was undertaken in the right way. Any future efforts will require careful management and oversight.

11.7 Mulching areas of understorey will be limited in the area where native vegetation predominates, to promote conservation of the native understorey (see Figure 30).

Commentary: Strategy 12.1 notes the possibility of mulching in areas used for seating.

Policy 12 Maintenance planning and works

The plantation will be well maintained and all maintenance work will respect the significance of the place. Maintenance will be based on a maintenance plan that is informed by:

- a sound knowledge of the trees and the overall plantation and their heritage significance;
- the setting for the place and any related impacts; and
- regular inspection/monitoring.

It will also include provision for timely preventive maintenance and prompt attention in the event of any damage or threat to the plantation.

Implementation strategies

12.1 The NCA will implement the maintenance plan provided at Appendix G which relates to matters including:

- pruning;

- removal of woody weeds and seedlings (see also Strategy 11.3); and
- mulching areas used for seating.

12.2 The NCA will ensure maintenance planning is periodically informed by a monitoring program (refer to Policy 14).

12.3 The understorey will be annually slashed in late summer, and the slashed material removed. Care will be taken to avoid damage to the tree trunks.

12.4 The understorey will be managed to remove weeds. Weed control will include ongoing removal of woody weeds (self-sown exotics such as *Cotoneaster, Sorbus, Ulmus, Crataegus, Pyracantha, Prunus*, also *Acacia mearnsii* and *A. baileyana*), and spot-spraying with appropriate herbicide of exotic perennial grasses (Chilean Needlegrass *Nassella neesiana*, Cocksfoot *Dactylis glomerata*, Tall Fescue *Festuca arundinacea*, Serrated Tussock *Nassella trichotoma*, Paspalum *Paspalum distichum*) and St Johns Wort *Hypericum perforatum*.

Commentary: Botanical expertise may be required to guide weed removal. Any herbicide used should target exotic perennial grasses and have no impact on trees. In any event, manual removal may prove necessary.

Policy 13 Fencing

The perimeter fencing/vehicle barrier may be upgraded though this should remain a simple and low-key element of the plantation environment.

The fencing should be extended to include the Duke of York's tree.

Commentary: The existing fencing and the concept of fencing the plantation are not issues of heritage significance, though the fence is a management issue. However, the design and location of any new fence or wall may be a heritage issue depending on what is proposed (eg. if the design of the fence physically impacts on the Oaks or detracts from an appreciation of the plantation).

Implementation strategies

13.1 The fence should be altered to include the Duke of York's tree, allowing a suitable buffer zone of 12 metres from the trunk.

13.2 The design of any replacement fencing or wall should be referred to DEWHA for approval.

13.3 The design of any replacement fencing or wall should avoid root compaction and changing the hydrology, and be guided by a professional arborist.

Policy 14 Condition monitoring

A program of monitoring the condition of the trees will be implemented. This program should be distinct from the maintenance program but will be linked to it for implementation. The information gained will inform maintenance

planning.

Implementation strategies

14.1 The NCA will develop and implement a regular monitoring program to identify changes in the condition of the plantation. Such monitoring will include appropriate recording (eg. photographic) and the records of monitoring will be suitably archived with records relating to the plantation. Monitoring will particularly consider:

- weed invasion/self sown trees;
- progress of ageing of trees;
- drainage in wet weather; and
- the impact of adjacent construction activity.

While construction and other substantial changes are taking place either in the plantation or adjacent, inspections shall be undertaken every 3 months. Once such activities have ended, inspections may be scheduled at a longer period though not greater than every 12 months.

Setting

The policies in this section apply to the area around the plantation block.

Policy 15 Protection of the Setting for the Plantation

Consistent with the *National Capital Plan*, the NCA will protect the setting for the plantation related to its heritage values, in particular the adjacent evergreen trees in Kings Avenue.

Commentary: It is noted the *National Capital Plan* masterplan for York Park will involve substantial new development adjacent to the plantation.

Use of the Place

Policy 16 Primary uses of the Plantation

The primary uses of the plantation will be for conservation of the plantation, and passive recreation to the extent compatible with conservation.

Policy 17 Other possible uses of the Plantation

Possible secondary uses of the plantation include:

- weddings;
- functions requiring no, minimal or low impact equipment; and
- picnics/seating associated with a possible café, although not a café itself within the plantation.

In all cases, such uses will not compromise the primary uses of the plantation.

Temporary shelters will not be permitted as part of such uses.

Commentary: Seating associated with a café or similar is discussed under new developments below.

Implementation Strategies

17.1 The NCA will consider developing simple guidelines for secondary uses of the plantation.

Policy 18 New uses compatible with significance

Any new use proposed for the plantation will be compatible with the significance of the place, and will be complimentary to the primary uses.

Policy 19 Control of leased areas/activities

Any lease or permit or other such arrangements for activities on or adjacent to the plantation will protect the heritage significance of the place.

Implementation Strategies

19.1 Lease or permit arrangements will:

- be compatible with the heritage significance of the place;
- stress the heritage significance of the place;
- provide clear guidelines about appropriate uses; and
- provide for a process of notification to and approval by the NCA of any activities/functions undertaken in the plantation.

19.2 The impact of lease or permit arrangements will be a specific component of monitoring the condition of the plantation.

New Development

Policy 20 New development

No new buildings, shelters, structures or large sculptures will be constructed inside the boundary formed by the outer edge of the tree protection zone for the perimeter trees of the plantation. A few small sculptures, some park seating and a few simple permanent picnic tables or barbecue facilities, carefully located, may be permitted inside this area. Limited new development may be possible outside this area, that is between this boundary and the actual block boundary.

Some temporary picnic/café tables may also be permitted inside the plantation but their impact on the plantation should be monitored.

Some footpaths may be constructed through the plantation subject to careful design and location.

The cumulative impact of new developments will be assessed by the NCA in the first instance.

Any new facilities servicing uses of the plantation will be located outside the plantation, and be carefully sited and designed to have no impact on the significance of the plantation.

No major services will be installed or pass through the plantation. Minor

services may be installed, related to permitted uses of the plantation. Where these involve ground-disturbing activities, such work will be guided by a professional arborist.

Commentary: The masterplanning project for the plantation will specifically consider the provision of a range of facilities as part of upgrading the plantation for conservation and passive recreation to the extent compatible with conservation.

The installation of major services may involve structures or trenching which is either inconsistent with the character of the plantation or might involve disturbing tree roots.

Implementation Strategies

20.1 Any proposed sculptures, park seating or picnic tables should be assessed for any impact on the heritage values in accordance with the EPBC Act.

20.2 If a larger area of the plantation is proposed for permanent use as café seating, then this should be designed to avoid root compaction and changing the hydrology, and be guided by a professional arborist.

Commentary: It may be desirable to define a maximum area for such seating. In any event, such an area should be a small proportion of the plantation to limit the impact on the Oaks.

20.3 Footpaths and café seating areas (or similar) will:

- be minimised in both number and extent;
- be guided by a professional arborist regarding design and location;
- preferably not involve ground-disturbing activities or, if they must, then be guided by a professional arborist;
- be designed to minimise any impact on the hydrology of the plantation; and
- will preferably be porous.

20.4 Any proposed new development will be reviewed in the light of the proposed Department of Finance and Deregulation access and egress study for the One State Circle development.

Interpretation

Policy 21 Interpretation of the significance of the Plantation

The significance of the place, including the Duke of York's tree, will be interpreted to visitors. The interpretation will include reference to the places associated with the plantation, especially the Bunya Pine on Kings Avenue.

Implementation Strategies

21.1 The NCA will develop and implement a simple interpretive strategy considering the range of possible messages, audiences and communication techniques.

Commentary: Options might include:

- simple plaques or interpretive panels at key points;
- a small display in an adjacent building;
- printed materials available in an adjacent building, at the National Capital Exhibition and other outlets; and/or
- presentation of information on the NCA or other websites.

Unforeseen Discoveries

Policy 22 Unforeseen discoveries or disturbance of heritage components

If the unforeseen discovery of new evidence or the unforeseen disturbance of heritage fabric requires major management or conservation decisions not envisaged by this heritage management plan, the plan will be reviewed and revised (see Policy 8).

If management action is required before the management plan can be revised, a heritage impact statement will be prepared that:

- assesses the likely impact of the proposed management action on the existing assessed significance of the plantation;
- assesses the impact on any additional significance revealed by the new discovery;
- considers feasible and prudent alternatives; and
- if there are no such alternatives, then considers ways to minimise the impact.

If action is required before a heritage impact statement can be developed, the NCA will seek relevant expert heritage advice before taking urgent action.

Urgent management actions shall not diminish the significance of the place unless there is no feasible and prudent alternative.

Commentary:
Unforeseen discoveries may be related to location of new documentary or physical evidence about the place or specific heritage values that are not known at the time of this report, and that might impact on the management and conservation of the place. Discovery of new heritage values, or the discovery of evidence casting doubt on existing assessed significance would be examples.

Discovery of potential threats to heritage values may also not be adequately canvassed in the existing policies. Potential threats might include the need to upgrade services or other operational infrastructure to meet current standards, the discovery of hazardous substances that require removal, or the physical deterioration of fabric.

Unforeseen disturbance might be related to accidental damage to fabric, or disastrous events such as fire or flood.

Such actions may be referable matters under the EPBC Act.

Keeping Records

Policy 23 Records of intervention and maintenance

The NCA will maintain records related to any substantial intervention or change in the place, including records about maintenance.

Implementation strategies

23.1 The NCA will retain records relating to decisions taken in accordance with Policy 7 - Decision making process for works or actions.

23.2 The NCA will retain copies of all maintenance plans prepared for the place, including superseded plans, and records about monitoring. (Refer to Policies 12 and 14)

23.3 A summary of substantial interventions, changes and maintenance will be included in the NCA heritage register entry for the place, including a reference to where further details may be found.

Further Research

Policy 24 Addressing the limitations of this management plan

Opportunities to address the limitations imposed on this study (see Section 1.4) should be taken if possible, and the results used to revise the management plan.

6.4 IMPLEMENTATION PLAN

Responsibility for Implementation

The person with overall responsibility for implementing this management plan is the person holding the position of Chief Executive, National Capital Authority.

Commitment to Best Practice

The NCA is committed to achieving best practice in heritage conservation, in accordance with its legislative responsibilities and Government policy, and in the context of its other specific and general obligations and responsibilities. This is reflected in the preparation of this management plan and in the adoption of:

- Policy 1 - Significance the basis for management, planning and work;
- Policy 2 - Adoption of Burra Charter; and
- Policy 6 - Expert heritage conservation advice.

Works Program

Refer to Strategy 3.1 and Table 6 in the preceding section.

In addition, any works necessary to protect and manage the heritage values of the plantation from pressures resulting from the development of One State Circle (eg. perimeter walling/fencing, etc) shall be implemented prior to the office development being occupied.

Criteria for Prioritising Work

See Strategy 7.3.

Resolving conflicting Objectives

See Strategy 7.4.

Annual Review

Refer to Strategy 7.5.

Resources for Implementation

The budget for maintenance of the plantation in 2007-08 is $100,000 and it is anticipated that similar funding will be available in forthcoming years. However, the maintenance budget is subject to normal budgetary processes which may include changes from year to year.

As noted in Section 5.4, the NCA has staff who undertake management of the maintenance contracts, interpretation planning, new works planning, functions management, and the NCA otherwise uses contractors to undertake actual maintenance. These staff and contractors will, to some extent, be involved in implementing aspects of the plan.

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APPENDIX A: COMMONWEALTH HERITAGE LIST, HISTORICAL AND OTHER INFORMATION

A.1 COMMONWEALTH HERITAGE LIST CITATION

York Park North Tree Plantation, Kings Avenue, Barton, ACT

List: Commonwealth Heritage List
Class: Historic
Legal Status: Listed place (22/06/2004)
Place ID: 105242
Place File No: 8/01/000/0487

Summary Statement of Significance:
The plantation is significant as the only one of the six plantations proposed for Canberra in the late 1920s-early 30s still remaining largely intact. (Criterion D.2) (Historic themes: 8.1.3. Developing public parks and gardens)

The inaugural planting was carried out by HRH the Duke of York on 10 May 1927 as part of the celebrations associated with the opening of the Provisional Parliament House. (Criterion A.4)

The formal arrangement of the oak plantation and the use of a large number of a single species in wide spacing is unusual. It demonstrates an historic aspect of the National Capital's early tree planting program. (Criterion B.2)

Official Values:

Criteria	Values
A Processes	The inaugural planting was carried out by HRH the Duke of York on 10 May 1927 as part of the celebrations associated with the opening of the Provisional Parliament House. Attributes All of the trees plus the grid spacing, plus the total size of the plantation. The specific tree planted by HRH the Duke of York is particularly significant.
B Rarity	The formal arrangement of the oak plantation and the use of a large number of a single species in wide spacing is unusual. It demonstrates an historic aspect of the National Capital's early tree planting program. Attributes The fact that the trees are all of the same species, namely English Oak, plus the grid spacing, plus the total size of the plantation.
D Characteristic values	The plantation is significant as the only one of the six plantations proposed for Canberra in the late 1920s-early 30s still remaining largely intact. Attributes The specific location, dimensions, tree spacing and tree species of the coppice.

History:
As part of the celebrations associated with the opening of the Provisional Parliament House an inaugural planting of trees was carried out by HRH the Duke of York on 10 May 1927 in Coppice Plot 5. The proposal for the plantation by the Federal Capital Commission, endorsed by Prime Minister S M Bruce, was based on the suggestion by the Superintendent of the Botanic Gardens, Sydney, E N Ward, that rather

than planting individual specimens a much bolder scheme would be to create a Royal or English vista comprising four coppices of English trees, for which the Duke of York would plant the initial trees. Symbolically the trees to commence the four coppices would be supplied from England, while the remainder of the trees would be raised at either of the government nurseries at Campbelltown or Canberra. The tree the Duke of York planted is an English oak, (QUERCUS ROBUR), brought to Australia as a live tree from the Royal Botanic Gardens, Kew, London. The Duke also planted an Australian bunya pine (ARAUCARIA BIDWILLII) at the same ceremony, located opposite the English oak on the northern side of Kings Avenue. (This tree is included in the Parliament House Vista listing in the Register of the National Estate.) The history and status of the oak tree was established in 1994.

The plantation consisted initially of at least seventy-eight trees which were widely spaced on a 40 ft x 40 ft grid. The plantation is significant as the only one of six coppice plantations established in Canberra in the last part of the 1920s-early 30s which still remain. The formal arrangement of the oak plantation and the use of a large number of a single species in wide spacing is unusual and reveals an historic aspect of the National Capital's early street planting. It differs from the style adopted by Thomas Charles Weston, Officer in Charge of Afforestation 1913-26, who, within the city, tended to plant in groups often with mixed species. An exception was the cork oak, (QUERCUS SUBER), plantation at Green Hills but this was intended to be a commercial plantation. The formality of the planting evident in the York Park plantation is unlikely to be repeated. The plantation is important for its size, design and position close to Capital Hill. It presents an interesting contrast in style and species to the informal plantings around Parliament House. It forms part of the Kings Avenue streetscape and relates closely to the landscape of the Parliamentary Zone.
The concept of planting English oaks as a link with Australia's British heritage is valued by the members of the community. The longevity of oaks is similarly valued by the community.

Physical Description:
The features intrinsic to the heritage significance of the place are the English Oak plantation containing 75 live trees and the English oak at the north western corner of the plantation.

The English Oak (QUERCUS ROBUR) plantation is located on the corner of State Circle and Kings Avenue, Barton. Originally there were six rows with thirteen plants in each row, a total of 78 plants. They are spaced on a 40 ft (approximately 12m x 12m) grid, which has allowed the trees to spread and some have a crown diameter of 18-20m. They tend to branch at a low height (1.5 - 3m) which is typical if this species is grown in an open situation in poor soils without additional watering. The tallest trees are about 12-14m tall and the trees in the outer rows have generally grown better than those within the plantation.

There are numerous oak seedlings beneath the canopies where shade has excluded native herbaceous species. Bird-dispersed exotic species of cotoneaster, hawthorn and rowan occur under the canopy and there are a few cootamundra wattle (Acacia baileyana) seedlings in open spaces. These may be self-sown seedlings from the remnants of a planting made in 1945 on the northern, southern, and western sides of York Park from the former Hotel Wellington to the Patents Office. Native grasses in the plantation have persisted in open spaces because the area has not been cultivated or mown.

History: Not Available

Condition and Integrity:
The plantation has received very little horticultural maintenance. Despite its prominent position bordering the Parliamentary Triangle there has been no supplementary watering. The survival of the trees under these conditions is a measure of the hardiness of the species. Despite the conditions many of the trees are healthy with the potential to grow for many years.
(1997)

Location:
About 1.75 ha, in Barton, comprising that area of Block 2, Section 1, between Windsor Walk, State Circle, Kings Avenue and a line parallel to Kings Avenue 100 metres to the south-south-east (ie extending from the formed kerb on the most southern side of Kings Avenue).

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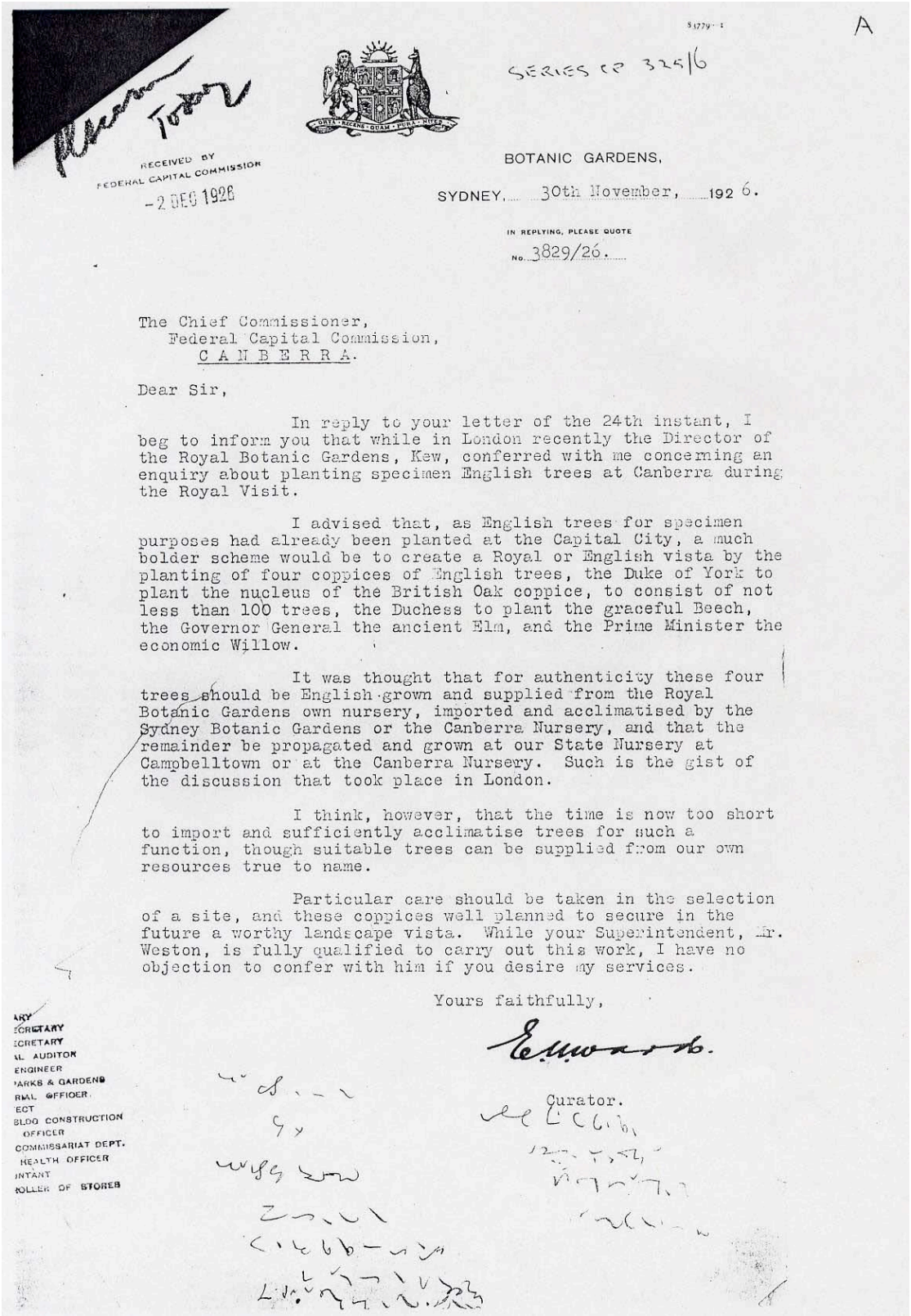
(Report Produced: Mon Feb 19 09:34:55 2007)

A.2 1926 LETTER FROM WARD TO FCC



RECEIVED BY FEDERAL CAPITAL COMMISSION
-2 DEC 1926

S1779 A

SERIES CP 325/6

BOTANIC GARDENS,
SYDNEY, 30th November, 1926.

IN REPLYING, PLEASE QUOTE
No. 3829/26.

The Chief Commissioner,
Federal Capital Commission,
CANBERRA.

Dear Sir,

In reply to your letter of the 24th instant, I beg to inform you that while in London recently the Director of the Royal Botanic Gardens, Kew, conferred with me concerning an enquiry about planting specimen English trees at Canberra during the Royal Visit.

I advised that, as English trees for specimen purposes had already been planted at the Capital City, a much bolder scheme would be to create a Royal or English vista by the planting of four coppices of English trees, the Duke of York to plant the nucleus of the British Oak coppice, to consist of not less than 100 trees, the Duchess to plant the graceful Beech, the Governor General the ancient Elm, and the Prime Minister the economic Willow.

It was thought that for authenticity these four trees should be English grown and supplied from the Royal Botanic Gardens own nursery, imported and acclimatised by the Sydney Botanic Gardens or the Canberra Nursery, and that the remainder be propagated and grown at our State Nursery at Campbelltown or at the Canberra Nursery. Such is the gist of the discussion that took place in London.

I think, however, that the time is now too short to import and sufficiently acclimatise trees for such a function, though suitable trees can be supplied from our own resources true to name.

Particular care should be taken in the selection of a site, and these coppices well planned to secure in the future a worthy landscape vista. While your Superintendent, Mr. Weston, is fully qualified to carry out this work, I have no objection to confer with him if you desire my services.

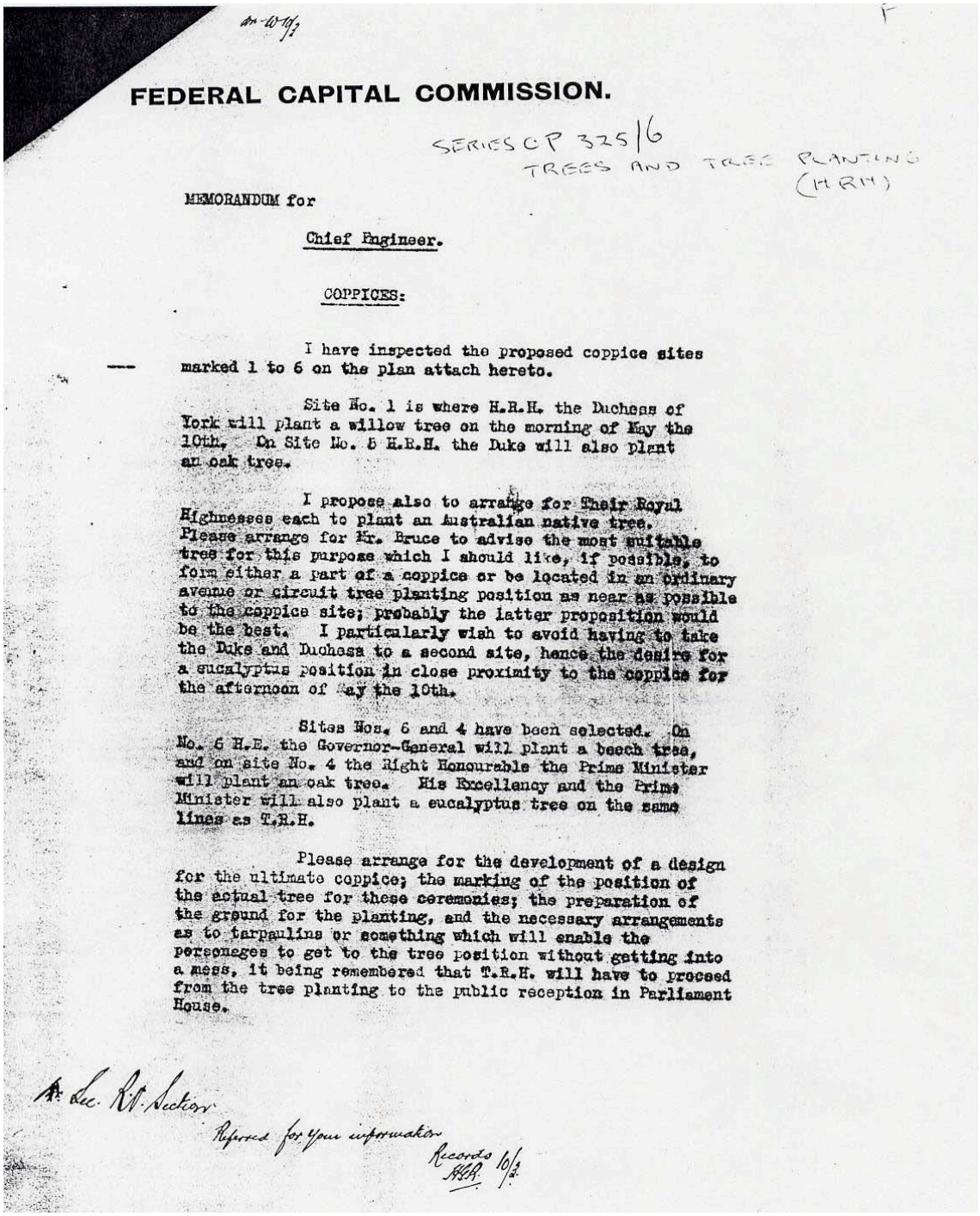
Yours faithfully,

E. Ward.

Curator.

ARY
SECRETARY
SECRETARY
AL AUDITOR
ENGINEER
PARKS & GARDENS
RNAL OFFICER
ECT
BLDG CONSTRUCTION OFFICER
COMMISSARIAT DEPT.
HEALTH OFFICER
ISTANT
ROLLER OF STORES

A.3 1927 MEMO FROM BUTTERS



FEDERAL CAPITAL COMMISSION.

SERIES CP 325/6
TREES AND TREE PLANTING
(H R M)

MEMORANDUM for

Chief Engineer.

COPPICES:

I have inspected the proposed coppice sites marked 1 to 6 on the plan attach hereto.

Site No. 1 is where H.R.H. the Duchess of York will plant a willow tree on the morning of May the 10th. On Site No. 5 H.R.H. the Duke will also plant an oak tree.

I propose also to arrange for Their Royal Highnesses each to plant an Australian native tree. Please arrange for Mr. Bruce to advise the most suitable tree for this purpose which I should like, if possible, to form either a part of a coppice or be located in an ordinary avenue or circuit tree planting position as near as possible to the coppice site; probably the latter proposition would be the best. I particularly wish to avoid having to take the Duke and Duchess to a second site, hence the desire for a eucalyptus position in close proximity to the coppice for the afternoon of May the 10th.

Sites Nos. 6 and 4 have been selected. On No. 6 H.E. the Governor-General will plant a beech tree, and on site No. 4 the Right Honourable the Prime Minister will plant an oak tree. His Excellency and the Prime Minister will also plant a eucalyptus tree on the same lines as T.R.H.

Please arrange for the development of a design for the ultimate coppice; the marking of the position of the actual tree for these ceremonies; the preparation of the ground for the planting, and the necessary arrangements as to tarpaulins or something which will enable the personages to get to the tree position without getting into a mess, it being remembered that T.R.H. will have to proceed from the tree planting to the public reception in Parliament House.

A. Lec. RV. Section

Referred for your information

Records HGA 10/2

FEDERAL CAPITAL COMMISSION.

Please develop the whole scheme in detail and have the sites completely marked and arrangements made for whatever protection is necessary for the trees that are planted after the ceremony.

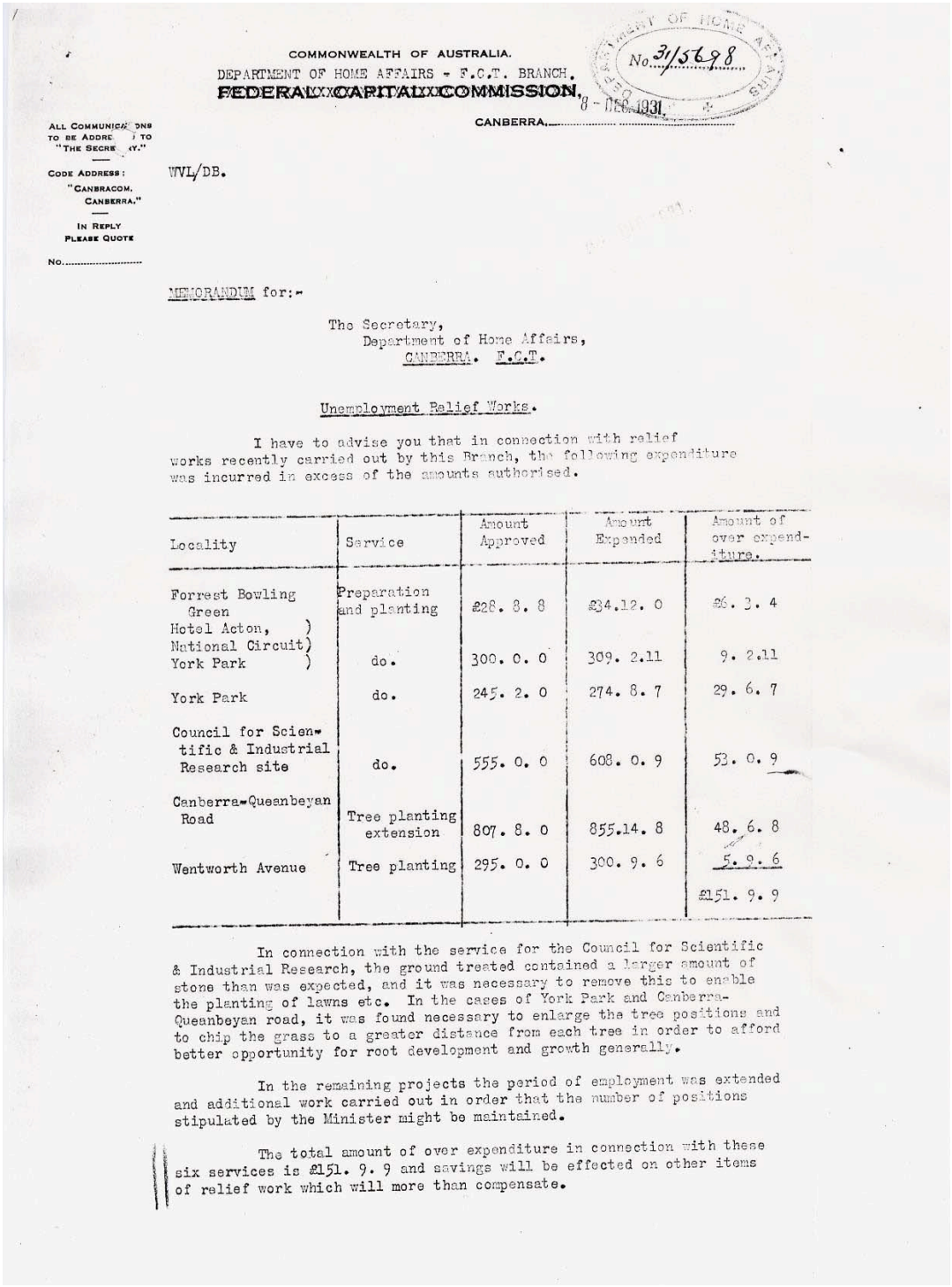
With regard to the two remaining sites, Nos. 2 and 3, please have these also developed in readiness for planting other trees which will be available and which may be required for ceremonial purposes.

I notice on reviewing what I have stated above that both sites Nos. 4 and 5 have been marked for Oaks; this is not in accordance with Mr. Bruce's selection as marked on the plan attached hereto. I should prefer No. 4 site to be planted with Elms, if this is possible, but I particularly want Site No. 4 at least because it is a much more convenient site in the afternoon itinerary. Please ask Mr. Bruce to give this matter some consideration.

Chief Commissioner.
4th March, 1927.

A.4 1931 DEPARTMENT OF HOME AFFAIRS LETTER

The following letter provides strong evidence that the plantation was planted in 1931. In addition, it indicates some rationale for the wide spacing of the trees.



COMMONWEALTH OF AUSTRALIA.
DEPARTMENT OF HOME AFFAIRS - F.C.T. BRANCH.
FEDERAL CAPITAL COMMISSION,
CANBERRA,

DEPARTMENT OF HOME AFFAIRS No. 31/5698 8 - DEC 1931

ALL COMMUNICATIONS TO BE ADDRESSED TO "THE SECRETARY."

CODE ADDRESS: "CANBRACOM, CANBERRA."

IN REPLY PLEASE QUOTE No.

WVL/DB.

MEMORANDUM for:-

The Secretary,
Department of Home Affairs,
CANBERRA. F.C.T.

Unemployment Relief Works.

I have to advise you that in connection with relief works recently carried out by this Branch, the following expenditure was incurred in excess of the amounts authorised.

Locality	Service	Amount Approved	Amount Expended	Amount of over expenditure.
Forrest Bowling Green	Preparation and planting	£28. 8. 8	£34.12. 0	£6. 3. 4
Hotel Acton, National Circuit) York Park)	do.	300. 0. 0	309. 2.11	9. 2.11
York Park	do.	245. 2. 0	274. 8. 7	29. 6. 7
Council for Scientific & Industrial Research site	do.	555. 0. 0	608. 0. 9	53. 0. 9
Canberra-Queanbeyan Road	Tree planting extension	807. 8. 0	855.14. 8	48. 6. 8
Wentworth Avenue	Tree planting	295. 0. 0	300. 9. 6	5. 9. 6
				£151. 9. 9

In connection with the service for the Council for Scientific & Industrial Research, the ground treated contained a larger amount of stone than was expected, and it was necessary to remove this to enable the planting of lawns etc. In the cases of York Park and Canberra-Queanbeyan road, it was found necessary to enlarge the tree positions and to chip the grass to a greater distance from each tree in order to afford better opportunity for root development and growth generally.

In the remaining projects the period of employment was extended and additional work carried out in order that the number of positions stipulated by the Minister might be maintained.

The total amount of over expenditure in connection with these six services is £151. 9. 9 and savings will be effected on other items of relief work which will more than compensate.

DEPARTMENT OF HOME AFFAIRS - F.C.T. BRANCH.
~~FEDERAL CAPITAL COMMISSION.~~

F.23/11.27—1238.

I shall be glad, therefore, if you will please obtain the necessary approval for this expenditure.

W. Lancaster

(W. V. Lancaster),
for Civic Administrator.

Recommended that the expenditure of £151-9-9 be approved.

10/12/31

APPENDIX B: AIR PHOTO STUDY OF TREE PERFORMANCE

This appendix was prepared by Dr Robert Boden.

Objective

To use historic aerial photographs to determine when losses of individual trees and changes in growth performance occurred.

Background

Although the plantation is close to Kings Avenue and State Circle and within a few hundred metres of the Parliament it was largely neglected and unmanaged for many years. Lindsay Pryor, the Director of Parks and Gardens from 1944-58 stated,

> "It was of poor quality and grew slowly for many years but just well enough to avoid being hoisted out in my time." (Fax from Pryor to Robert Boden, 31 May 1994)

Interest in the plantation was stimulated in the early 1990s by Commonwealth development proposals for York Park. A survey of the plantation recorded that three trees were missing. It also noted that some trees in the plantation had not grown as well as others. Trees on the edges of the plantation had grown better than trees within the plantation which is normal and known as 'the edge effect.'

Method

The ACT Planning and Land Management Authority has an extensive collection of aerial photographs of the Oak plantation for the period from 1950-2004. These were flown at a level which makes individual trees clearly visible using a 10x hand lens. These have been examined.

The National Library of Australia and Geoscience Australia hold some collections of aerial photographs of the Canberra region before 1950. These are variable in their coverage and are all black and white. One which has been obtained so far was taken from 17,000 feet on 16 December 1944. It is very difficult to study using a 10x lens and both prints of the same photo held by the Library and Geoscience Australia have been adversely affected by marks presumably on the negative.

Another source of aerial photographs is United Photo and Graphic Services (UPGS) of Melbourne. In 1997 Geoscience Australia's predecessor, AUSLIG signed a contract with UPGS for the outsourcing of all customer service operations, production and delivery of Geoscience Australia's aerial photography product range. Negotiations are continuing with UPGS to determine if any other pre 1950 aerial photographs exist at a useful scale to study the history of the plantation.

Results

The qualified study of the 1944 aerial photograph reveals the formal layout of the plantation. Three trees appear to be missing. These appear to be in the same positions as the trees which are missing now. There appear however to be additional trees which might

have been part of the plantation. This is a tentative conclusion and requires further study with other photographs if they exist and can be located.

The situation with the post-1950 photographs is clearer. Study of seven photographs taken in 1950, 1955, 1965, 1972, 1981, 1991, and 2004 shows the same three trees A3, B5 and D5 missing (see Table 4 and Figure 32 in Section 5.3).

Other trees such as B8, C11 and F6 presented as small trees in all photos. The Canopy ground survey of 23 January 2007 which could be considered a form of 'ground truthing' for the aerial photo interpretation rated B8 as poor condition and poor structure, C11 as poor condition and fair structure and F6 as fair condition and poor structure.

By contrast, Tree F13 appears much smaller than nearby trees in 1950 but by 1965 had nearly reached the size of its neighbours.

By 1968, when the plantation was about 37 years old, the edge effect where the perimeter trees were growing faster than the ones inside the plantation was evident. Canopy closure, where some crowns touched, started in the late 1960s and gradually continued becoming very obvious by 1990 in most of the edge trees and particularly among trees D11, D12, D13, E11, E12, E13, F11, F12 and F13. On the assumption that the feeding roots are congregated near the perpendicular drop of the crown, trees whose crowns touch are probably in root competition.

Observation of the 1944 photograph shows single line paths/tracks crisscrossing the plantation from the general direction of Forrest to East Block which was the main post office. These paths seem to have gone by 1965. This suggests the plantation did not have a secure fence.

Between the years 1950 and 1981 it appears that some young trees or shrubs may have been planted which were then later removed on the outskirts of the plantation on the Capital Circle (now State Circle) and Federation Avenue (now Kings Avenue) sides.

Conclusion

The conclusions which can be drawn from this study are limited by the observer's ability and the quality of the equipment and photographs. It is a continuing study.

However the following points are clear:

- the three missing trees have been missing for over fifty years;
- English oak is a long-lived hardy species under Canberra's natural conditions;
- variability in performance once evident may become persistent;
- it has taken about thirty five years for English oak trees planted at a spacing of 12.19 metres (40 feet) to establish crown closure; and
- a diagonal track through the plantation from the direction of Forrest to East Block was present in 1944 and until at least 1965.

Table 7. Air Photo Study - York Park Oak Plantation 1944-2004			
Date	**Size of Plantation**	**Missing Trees**	**Small Trees**
16 December 1944 (Note 1)	14 x 7 rows	A3, B5, D5	B3, C5, C11, E5
29 November 1950 (Note 2)	13 x 6 rows	A3, B5, D5	B3, B8, C11, F6, F13
7 December 1955	13 x 6 rows	A3, B5, D5	B8, C11, C12, F6, F13
January 1965	13 x 6 rows	A3, B5, D5	A7, B7, B8, C5, C11, C12, E5, E6, F6
February 1972	13 x 6 rows	A3, B5, D5	B8, C4, C5, C11, D3, D6, D7, E5 E6, F6
February 1981	13 x 6 rows	A3, B5, D5	A7, B2, B3, B7, C2, C3, C4, C5, C11, C12, D2, D3, D6, D7, E5, E6, F6
4 April 1991	13 x 6 rows	A3, B5, D5	A7, B7, B8, B10, C2, C4, C5, C11, D6, D7, E5, E6, F6
May 2004 (Note 3)	13 x 6 rows	A3, B5, D5	A7, B8, C2, C4, C5, C11, D6, E5, E6, F6

Notes:

1. 1944 Air photo (flown at 17,000 feet): There is an additional row of trees between what is now the most westerly row and State Circle. There are also two additional rows of trees between the current most northerly row and Kings Avenue. These additional rows are not evident in the 1950 photograph. It is not possible to identify the species in these additional rows (ie. whether they are oaks). However, the extra western row and the most northern row could be oaks, but the other northern row does not appear to be oaks.

2. 1950 Air photo: There appears to be a scattered planting of trees or shrubs in the position where there previously (in 1944) appeared to be rows of oaks, removed since 1944 (along the State Circle and Kings Avenue sides of the plantation).

3. 2004 Air photo: Tree B5, obscured, D7 obscured, B10 not clear, B2 not clear in photo. Shadow effect from competing trees makes it difficult to differentiate size of trees.

Figure 34. Detail of a 1945 Aerial Photo showing the Plantation
Source: Geoscience Australia image, Map 1537-4-77

APPENDIX C: VEGETATION SURVEY FORM

WRM ACT Lowland vegetation survey – species cover and abundance Revised: Oct 2004

Site name: York Park Oaks Polygon ID: plantation Surveyor(s): A. Rowell Date: 18 Jan 2007

Cover /abundance score: **5** > 75 % **4** 50 – 75 % **3** 25 – 50 % **2** 5 – 25 % **1** numerous/scattered < 5 % **+** few (appr. 4-15) <5% **r** solitary (appr. 1-3) <5% **p** patchy distribution

Species and page no.	
***Acetosella** vulgaris* **124**	
Aira sp. **46**	
Anagallis arvensis	
Arctotheca calendula **88**	
Avena sp.	+
***Briza** maxima/ minor* **46**	1
Bromus sp. **46** (3 species)	1
Carthamus lanatus (Saffron thistle)	
Celtis australis	
Centaurium sp. **122**	+
Cerastium sp.	
Chondrilla juncea	
Cirsium vulgare (Spear thistle)	
Conyza sp.	
Crepis capillaris/ foetida	
Cynodon dactylon **34**	
Cynosurus echinatus	
Cyperus eragrostis	
***Dactylis** glomerata* **44**	1
***Echium** plantagineum/ vulgare* **106**	
Eragrostis curvula **42**	
Erodium botrys/ bracy/ cicutar **104**	
***Festuca** elatior* **44**	+
***Galium** aparine/ divar/ murale*	
Gnaphalium americanum **130**	+
***Hirschfeldia** incana*	
Holcus lanatus **42**	
Hordeum (Critesion) sp. **46**	
Hypericum perforatum **72**	+
Hypochaeris glabra/ radicata **86**	1
***Juncus** acutus/ articulatus* **48**	
Juncus bufonius/ capitatus **48**	
***Lactuca** serriola*	
Ligustrum sp.	
Linaria arvensis/ pelisserana **104**	
Lolium perenn/ rigidum **44**	1
Lonicera japonica	
Lycium ferocissimum	
Malva sp.	
Marrubium vulgare	
Modiola caroliniana	
Moenchia erecta	
Myosotis discolor	
***Nassella** neesiana/ trichotoma* **40**	1/+
***Onopordum** acanthium* (Scotch)	
Orobanche minor	
***Parentucellia** latifolia* **122**	
Paronychia brasiliana	
Paspalum dilatatum	1

↳ B. hordeaceus, B. diandrus, B. catharticus

Species and page no.	
Petrorhagia nanteuilii **120**	
Phalaris aquatica **44**	
Plantago lanceolata **128**	1
Poa annua/ bulbosa **46**	
Polygonum aviculare	
Prunus sp.	
***Romulea** rosea* **58**	
Rosa rubiginosa	
Rubus fruticosus	
Rumex crispus	
Salix sp.	
Salvia verbenaca **106**	
Sanguisorba minor **136**	
Sherardia arvensis	
Silene gallica	
Sonchus sp. (Sow thistle)	
Spergularia rubra	
***Taraxacum** officinale*	
Tolpis umbellata **88**	
Tragopogon dubius/ porrifolius	
Trifolium sp. **116**	
***Verbascum** thapsus/ virgatum* **126**	
Vicia sp.	
Vulpia sp. **46**	1
***Acacia** baileyana/ buxifolia*	+
Acacia dawsonii/ dealbata / decurr	
Acacia genistifolia / gunnii	
Acacia implexa	
Acacia mearnsii / melanoxylon	r
Acacia parram/ pravis / pycn'tha	
Acacia rubida/ ulicifolia	
Acaena novae-zelandiae/ ovina **136**	1
Acrotriche serrulata	r
Agrostis avenacea	
Ajuga australis **106**	
Allocasuarina vert/ cunningh/ litt	
Alternanthera nana/ dentata	
Amyema sp.	
Aristida ramosa **34**	1
Arthropodium mille/ minus **58**	
Asperula conferta / scorparia **92**	1
Astroloma humifusum **140**	
Astrotricha ledifolia	
Austrodanthonia sp. **16** 4 species	3
Austrostipa bigeni/ densi/ scabra **14**	2
***Billardiera** scandens*	
Bossiaea buxifolia/ prostrata **142**	
Bothriochloa macra **24**	1
Brachychiton populneum	

↑ A. caespitosa, A. carphoides, A. laevis, A. auriculata

Species and page no.	
Brachycome het'donta/ rigidula **96**	
Brachyloma daphnoides **140**	
Bracteantha viscosa **84**	
Bulbine bulbosa/ glauca **62**	+
Bursaria lasiophylla	
***Caladenia** caerulea/ carnea/ cucull*	
Calocephalus citreus **76**	
Calotis anthemoides /lapp/ scab **98**	
Carex appressa / bichenoviana **52**	
Carex breviculmis/ inversa **52**	1
Cassinia longifol/ quin'faria/ acule	
Cassytha sp.	
Chamaesyce drummondii	
Cheilanthes aust'folia/ sieberi **138**	
Chloris truncata **34**	
Chrysocephalum apic/ semipap **74**	1
Clematis microphylla	
Comesperma ericinum/ volubile	
Convolvulus erubescens **120**	1
Craspedia variabilis **82**	
Crassula sieberana/ helmsii	
Cryptandra amara **140**	
Cullen (syn Psoralea) microce/tenax **114**	
Cymbonotus laws'us/ preissi'us **88**	
Cymbopogon refractus	
Cynoglossum australe/ suaveolens	
***Daucus** glochidiatus* **138**	
Daviesia geni / lept/ mimo/ ulic **142**	
Derwentia perfoliata /derwentiana	
Desmodium brachy/ varians **112**	1
Dianella longifolia / revoluta **56**	+
Dichelachne crin'ta/ micr'/ rara **26**	+
Dichondra repens **134**	
Dichopogon fimbriatus **58**	
Dillwynia sericea / phylicoides	
Discaria pubescens **142**	
Diuris chrs'psis(syn lanc)/ behrii **68**	
Diuris dendrobioides/ punctata **68**	
Diuris semilunulata/ sulphurea	
Dodonea viscosa	
Drosera peltata **92**	
***Einadia** nutans*	
Eleocharis acuta/ pusilla	
Elymus scaber **20**	1
Enneapogon nigricans **32**	
Epilobium billardierianum **120**	
Eragrostis brownii/ trachycarpa	
Eriochilus cucullatus **66**	
Erodium crinitum **104**	

Species and page no.	
Eryngium ovinum **108**	+
Eucalyptus blakelyi/ bridgesiana	
Eucalyptus dives	
Eucalyptus goniocalyx/ macro	
Eucalyptus mannif/ melliod	
Eucalyptus nortonii	
Eucalyptus pauciflora/ poly'themos	
Eucalyptus rossii/ rubida	
Eucalyptus viminalis	
Euchiton sp. *(native)* **130**	
Exocarpus cupressiformis	
***Galium** gaudichaudii* **92**	
Geranium antro./ solan./ retro. **118**	
Glossodia major	
Glycine clandestina/ tabacina **112**	+
Gompholobium huegelii	
Gonocarpus tetragynus **124**	
Goodenia hederacea/ pin'tifida **70**	1
Grevillea alpina/ lanig/ juniperina	
***Haloragis** heterophylla* **134**	
Hardenbergia violacea	
Helichrysum rutidolepis/ scorp'des	
Hibbertia obtusi./ ripar./ calyc. **144**	
Hovea heterophylla **114**	
Hydrocotyle laxiflora/ pedunc **134**	1
Hypericum gramineum **72**	
Hypoxis hygrometrica **62**	
***Indigofera** australis / adesmiifolia*	
Isoetopsis graminifolia **132**	
Isotoma fluviatilis **102**	
***Joycea** pallida* **18**	
Juncus australis **48**	
Juncus subsecundus/ filicaulis **48**	+
***Kunzea** ericoides/ parvifolia*	
***Lepidosperma** laterale*	
Leptorhynchos elong/ squam. **80**	
Leptospermum sp.	
Leucochrysum albicans **94**	
Leucopogon fletcheri/ virg/ micro.	
Linum marginale **104**	
Lissanthe strigosa **140**	
Lomandra bract/ fili / cori **54**	1
Lomandra longifolia / multiflora **54**	
Luzula densiflora **50**	
Lythrum hyssopifolia	
***Melichrus** urceolatus* **140**	
Mentha diemenica	
Microlaena stipoides **22**	1
Microseris lanceolata **86**	

Species and page no.	
Microtis unifolia **64**	
Mirbelia sp. **142**	
Monotoca scorparia	
***Opercularia** hispida*	
Ophioglossum lusitanicum **138**	
Oxalis perennans **116**	
***Panicum** effusum* **28**	
Persicaria decipiens/ prostrata	
Pimelia curvi/ glauca/ linifolia **90**	
Plantago gaudichaudii/ varia **128**	1
Poa labill/ meionec./ sieb. **12**	1/1
Podolepis hieracioides/ jaceoides	
Pomaderris sp.	
Poranthera microphylla	
Pseudognaphalium luteoalbum	
Pterostylis sp. **64**	
Pultenaea micro/ proc/ subspic **142**	
***Ranunculus** lapp/ papul/ sessil*	
Rubus parvifolius	
Rumex brownii / dumosus **124**	
Rutidosis leptorhynchoides **78**	
***Schoenus** apogon* **52**	
Scleranthus biflorus/ diander **132**	
Senecio hisp'lus/ quadridentatus	
Solanum cinereum/ linearifolium	
Solenogyne dominii/ gunnii **130**	
Sorghum leiocladum **38**	
Stackhousia monogyna **90**	
Stellaria pungens	
Stylidium graminifolium **122**	
Stypandra glauca	
Styphelia triflora	
Swainsona mont/ rectal sericea **110**	
***Thelymitra** pauciflora/ ixiodes* **66**	
Themeda triandra **10**	2
Thysanotus patersonii/ tubero **56**	
Tricoryne elatior **62**	1
Triptilodiscus pygmeaus **80**	
Typha sp.	
***Velleia** paradoxa* **70**	
Veronica calycina/ gracilis	
Viola betonicifolia/ hederacea **100**	
Vittadinia cuneata/muelleri/gracilis	1
***Wahl'bergia** com/ grac/ lut/ stri*	1/+/+
Wurmbea dioica **60**	+
Cotoneaster, Ulmus,	+
Sorbus, Crataegus	1/+
Pyracantha, Prunus	+
Quercus, Acetosella	+

APPENDIX D: FRAMEWORK FOR ASSESSING HERITAGE SIGNIFICANCE

D.1 DEFINITION OF HERITAGE SIGNIFICANCE

For the purposes of this plan, the following definitions of heritage significance are used.

Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations.

Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.

Places may have a range of values for different individuals or groups. (Australia ICOMOS 2000, Article 1.2)

Natural heritage means:

- natural features consisting of physical and biological formations or groups of such formations, which demonstrate natural significance;
- geological and physiographical formations and precisely delineated areas that constitute the habitat of indigenous species of animals and plants, which demonstrate natural significance; and/or
- natural sites or precisely-delineated natural areas which demonstrate natural significance from the point of view of science, conservation or natural beauty. (*Australian Natural Heritage Charter* 2002, p. 8)

The heritage value of a place includes the place's natural and cultural environment having aesthetic, historic, scientific or social significance, or other significance, for current and future generations of Australians. (Subsection 3(2) of the *Australian Heritage Council Act 2003*; Section 528 of the *Environment Protection and Biodiversity Conservation Act 1999*)

D.2 COMMONWEALTH HERITAGE CRITERIA

The Commonwealth Heritage criteria for a place are any or all of the following:

(a) the place has significant heritage value because of the place's importance in the course, or pattern, of Australia's natural or cultural history;

(b) the place has significant heritage value because of the place's possession of uncommon, rare or endangered aspects of Australia's natural or cultural history;

(c) the place has significant heritage value because of the place's potential to yield information that will contribute to an understanding of Australia's natural or cultural history;

(d) the place has significant heritage value because of the place's importance in demonstrating the principal characteristics of:
   (i) a class of Australia's natural or cultural places; or
   (ii) a class of Australia's natural or cultural environments;

(e) the place has significant heritage value because of the place's importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;

(f) the place has significant heritage value because of the place's importance in demonstrating a high degree of creative or technical achievement at a particular

period;

(g) the place has significant heritage value because of the place's strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;

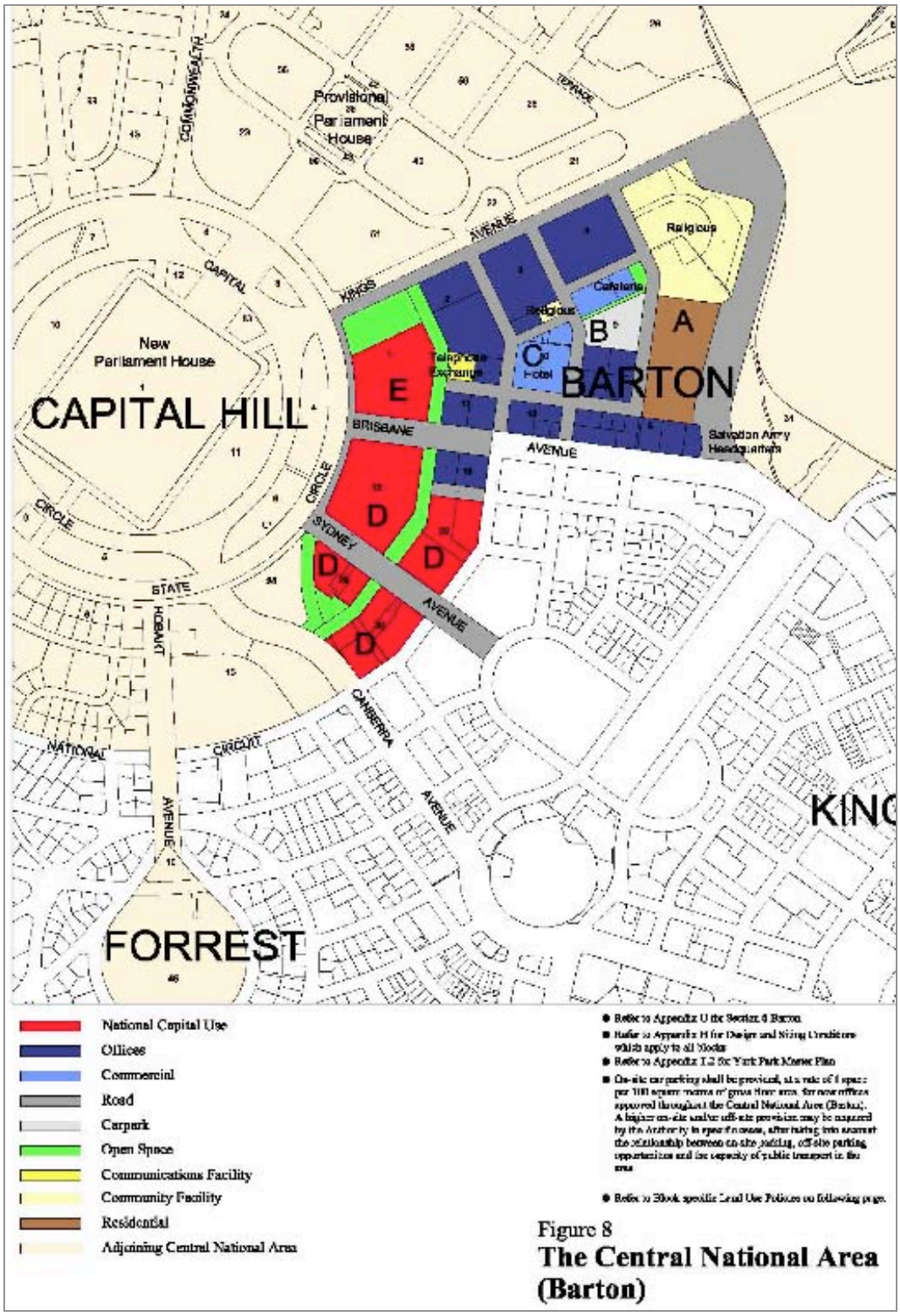
(h) the place has significant heritage value because of the place's special association with the life or works of a person, or group of persons, of importance in Australia's natural or cultural history;

(i) the place has significant heritage value because of the place's importance as part of indigenous tradition.

The *cultural* aspect of a criterion means the indigenous cultural aspect, the non-indigenous cultural aspect, or both. (*Environment Protection and Biodiversity Conservation Amendment Regulations 2003 (No. 1)*: Section 10.03A)

APPENDIX E: NATIONAL CAPITAL PLAN EXTRACT

Figure 35. Land use plan for the area including the plantation
Source: NCA 2005



APPENDIX F: PLANTATION SOIL ANALYSIS

This appendix was prepared by Peter Fogarty, Soil & Land Conservation Consulting.

Objective

This appendix details soil properties across the site in order to assess whether the decline in tree condition can be related to soil factors.

Procedure

The soils have been logged at five profiles augered by hand to a depth of 1m. The location of the soil profiles is shown in Figure 36 below. Three of the sites were located adjacent to healthy oaks while two of the sites were located in the strip containing the unhealthy oaks.

The soil profiles were divided into horizons, that is topsoil (A1 horizon), subsurface (A2 horizon) and subsoil (Bhorizon), and for each horizon, the properties of texture, colour, structure, consistence and coarse fragments were detailed.

Three sites were sampled at two or three depth intervals for laboratory determination of a range of macro and micro elements. The samples were analysed at the Ecowise Environmental laboratory at Fyshwick.

Results

Table 8 presents the soil profile descriptions in terms of morphological properties. Table 9 presents soil chemical determinations.

The soils at all but site 5 are brown dermosols, and are characterised by an organic enriched loam textured topsoil overlying a clay loam grading to light clay subsoil. Soil structure grade increases with depth, but is not strongly developed. There are no gravels present in the profile, and it is likely that significant gravel would be encountered at depth, based on exposures in building sites nearby. The lack of bleaching in the subsurface layer, and the absence of subsoil mottles is a strong indication that the soil is free draining and not subject to seasonally high, or perched water tables. Available soil moisture estimated using the procedure of Moore (1998) is around 110 mm/m, which is in the moderate range. Site 5 (healthy oaks) contrasts strongly with the other four sites in that it comprises a relatively shallow gravely profile, with shale bedrock occurring at a depth of 70 cm. It would appear that this represents a narrow band of bedrock running along the lower end of the site. The relatively shallow depth, and presence of 20-30% gravel reduces available soil moisture to approximately 60 mm/m, which is relatively low.

The laboratory data shows the following general properties.

- Extractable phosphorous is very low in all samples, reflecting poor nutrient status. Total nitrogen is higher within the oaks in good condition, but this would reflect the larger organic component in the soil at this site, compared to the oaks in poor condition.
- The soils are neutral in pH and are non saline through the profile, at all sites.

- The cation exchange capacity is low through the profile, increasing slightly as clay content increases with depth.
- Exchangeable cations are dominated in the upper half of the profile by calcium, with magnesium dominating in the lower part of the profile. Levels of calcium and magnesium overall are low, and the balance of Ca:Mg is relatively even.
- The upper soil horizons contains minimal sodium, while the lower part of the profile has moderate levels.
- Trace elements copper, zinc and manganese are present at moderate levels, typical of most soils in the region.
- Molybdenum and boron are present at very low levels, as is typical of all soils in the region.

Discussion

The soil data does not shed any light on the decline of the condition of the oaks in the centre of the site. The two profiles in the area of poor oak condition vary little from the profiles in the area where the oaks are in good condition. There are no impeding layers for plant roots, and no features which would significantly impact on soil moisture availability. Indeed, profile 5 which was relatively shallow and gravely, and would have much lower moisture holding capacity is in an area where the oaks are in good condition.

Likewise, it is not possible to draw any distinction between sites in terms of the analytical data. Overall, the soil chemistry indicates a low nutrient status, in terms of both phosphorous and nitrogen, but exchangeable cations and trace elements are generally favourable for plant growth. It is not possible from the data to isolate any chemical properties which contribute to tree decline.

Figure 36. Location of soil profiles
Source: Base drawing by Earth Tech

Table 8. Soil morphological properties at five profiles, York Park Oaks

Site and soil type	Profile properties
1 deep brown dermosol	A1 0-4 cm dark grey brown loam, abundant fine roots and organic debris, moderate crumb structure, dry firm consistence, no coarse fragments, field pH 5.5, sharp boundary to B2 4-60 cm reddish brown clay loam, whole coloured, few fine and coarse roots, weak coarse blocky structure, dry very firm consistence, field pH 5.0, gradual boundary to B3 60-100 cm yellow brown light clay, whole coloured, moderate coarse blocky structure

Table 8. Soil morphological properties at five profiles, York Park Oaks	
Site and soil type	**Profile properties**
	breaking into strong fine subangular blocky aggregates, dry very firm consistence, pH 5.0. Profile continues.
2 deep brown dermosol	A1 0-5 cm dark brown loam, abundant fine roots, weak crumb structure, dry firm consistence, no coarse fragments, field pH 5.5, sharp boundary to B1 5-45 cm light reddish brown light clay loam, whole coloured, common fine and coarse roots, weak coarse blocky structure, dry very firm consistence, field pH 5.5, gradual boundary to B2 45-75 cm yellow brown clay loam, whole coloured, weak coarse blocky structure, dry very firm consistence, pH 6.0; sharp boundary to B3 75-100 cm yellow brown light clay, 20% faint red brown mottles, moderate coarse blocky structure breaking into strong fine subangular blocky aggregates, dry tough consistence, pH 6.0. Profile continues.
3 deep brown dermosol	A1 0-2 cm brown loam, abundant fine roots, massive structure, dry very firm consistence, no coarse fragments, field pH 5.0, clear boundary to B1 2-40 cm light reddish brown light clay loam, whole coloured, common fine and coarse roots, weak coarse blocky structure, dry very firm consistence, field pH 5.0, gradual boundary to B2 40-70 cm yellow brown clay loam, whole coloured, weak coarse blocky structure, dry very firm consistence, pH 6.0; sharp boundary to B3 70-100 cm yellow brown light clay, 20% faint red brown mottles, few hard ironstone nodules, moderate coarse blocky structure breaking into strong fine subangular blocky aggregates, dry tough consistence, pH 6.0. Profile continues.
4 deep brown dermosol	A1 0-6 cm dark brown loam, abundant fine roots and organic debris, moderate crumb structure, dry firm consistence, no coarse fragments, field pH 5.0, clear boundary to B1 6-50 cm light reddish brown light clay loam, whole coloured, common fine and coarse roots, weak coarse blocky structure, dry very firm consistence, field pH 5.0, gradual boundary to B2 50-100 cm yellow brown clay loam, whole coloured, weak coarse blocky structure, dry very firm consistence, pH 6.0; Profile continues.
5 moderately deep gravely brown dermosol	A1 0-8 cm dark grey brown light clay loam, abundant fine roots and organic debris, strong crumb structure, dry moderately firm consistence, no coarse fragments, field pH 5.5, clear boundary to B2 6-70 cm brown light clay loam, whole coloured, few fine and coarse roots, weak medium blocky structure, dry very firm consistence, 30% (volumetric) shale gravel, field pH 5.0, gradual boundary to C 70 cm hard weathered shale

Table 9. Analytical data for representative soil samples										
Test	**Unit**	**1 0-5 cm**	**1 30-60 cm**	**1 80-90 cm**	**2 0-5 cm**	**2 30-45 cm**	**2 80-90 cm**	**3 0-5 cm**	**3 20-40 cm**	**3 80-90 cm**
Bray ext. phosphorous	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Nitrogen	mg/kg	2400			840			1100		
Electrical conductivity		0.07	0.01	0.03	0.02	<0.01	0.04	0.02	0.01	0.06
pH (1:5 water)		6.3	6.0	6.8	5.2	6.1	6.7	5.6	6.0	7.6
Cation exchange capacity	cmol/kg	7	3	10	3	3	12	3	3	13
Exchangeable Ca	cmol/kg	4.6	1.1	2.1	1.0	1.6	2.1	1.6	1.2	2.3
Exchangeable Mg	cmol/kg	2.1	1.7	6.1	0.7	1.1	7.7	1.0	1.4	8.6
Exchangeable K	cmol/kg	0.7	0.2	0.2	0.3	0.1	0.2	0.4	0.2	0.2
Exchangeable Na	cmol/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Exchangeable Al	cmol/kg	0.7	0.2	<0.1	0.5	<0.1	<0.1	<0.1	0.2	<0.1
DPTA boron	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
DPTA copper	mg/kg	1.6	1.9	1.05	1.1	2.0	0.72	2.3	1.5	0.95
DPTA zinc	mg/kg	5.2	0.74	0.47	2.5	0.71	0.36	2.5	0.49	0.30
DPTA manganese	mg/kg	53	2.7	1.7	34	4.1	0.56	37	6.5	4.5
DPTA molybdenum	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

APPENDIX G: PLANTATION MAINTENANCE PLAN

This maintenance plan has been modified from the one prepared by Canopy Pty Ltd in 2003.

Maintenance to enhance the current Plantation

The maintenance of the current plantation will include the following tasks which should be undertaken as soon as possible.

Pruning
Pruning to remove deadwood, see *Deadwood* in the tree condition report (Section 5.3). The pruning of some trees to limit the effect of dieback of their central leaders, where this is possible.

Large dead branches are approximately over 30 mm in diameter and should be removed as a matter of safety for pedestrians in the park. Small dead branches are approximately between 15 mm and 30 mm and should be removed as a matter of safety if more extensive use is to be made of the park. Branches that are smaller than 15 mm are not likely to cause injury and would be expensive to prune out.

Woody Weeds
The removal of the woody weeds including seedling and mature *Eucalyptus blakelyi* and seedling *Ulmus parvifolia* to enable views along the rows of the of the plantation.

Quercus robur Seedlings
The removal of *Quercus robur* seedlings as they would detract from the straight-line nature of the plantation.

Barriers
The maintenance of the current or equivalent barriers to prevent vehicle movement into the area.

Diners
Table and chairs are sited under the trees at the eastern edge of the plantation and, consequently compaction of tree root zones is occurring. The monitoring, and management, of this use of the plantation by diners from the car park diner, with the view of preventing any compaction of the root zones, is recommended. The spreading of mulch in the areas most used is the minimum recommendation, but if this use is envisaged as continuing indefinitely, then other changes should be made which avoid root compaction and changing the hydrology.

Drainage
The site should be reviewed in wetter times to gauge any drainage requirements.

Tree Removals
The removal of any trees listed as 'Poor' or 'Very Poor' of structure and ideally their replacement, with the same species, subject to the possible extent of development proposals and probable use of the park (See *Tree Structure* in the tree condition report at

Section 5.3).

Tree Replacement

In replacement of trees that are removed, care should be taken to:

- plant in line with the existing trees;
- address the drainage problems of the site should any become apparent;
- provide local irrigation and adequate horticultural care during any establishment period; and
- no fertiliser should be used in the maintenance of the plantation except, if needed, replacement plantings may be fertilised.

Tree replacement will occur in a variety of circumstances. In all cases, the replacement trees will be the same species as is currently found in the plantation (*Quercus robur*) and these will be located to maintain the plantation layout. Tree replacement should be undertaken as follows. No trees should be removed and replaced until advanced specimens are available, unless there are safety issues.

Replacement trees should be advanced specimens of *Quercus robur* suitable for the Canberra environment. For example, this may include locally harvested acorns grown in Canberra to become such specimens.

Table 10. Tree Replacement Strategy

Situation	**Strategy**
Existing individual trees which die, display ongoing poor condition or are severely damaged	These trees should be replaced as such circumstances arise. If possible, mature specimens (3 metre trees) should be used..
Duke of York's Tree	Should this tree die, display ongoing poor condition or be severely damaged, it should be replaced. However: • the replacement tree should be a seedling raised from the existing tree • the tree should be planted by a dignitary affiliated with Britain, ideally a member of the Royal Family, and ideally also the current Duke of York • ideally the replacement planting should take place on a 10th of May • the new tree should be located in the same position as the existing tree, noting and accepting this is not exactly in accordance with the overall grid pattern • the replacement planting should be noted in interpretive material Depending on the cause of death, this may require soil replacement.
Long term replacement of trees diseased beyond recovery, in rapid decline or dead	It is expected this situation may arise in another 70 years or so, or sooner should some disease take hold. Every effort should be made to treat disease rather than remove trees. In circumstances where the trees are diseased beyond recovery, in rapid decline or dead, they should be replaced. Due regard should be given to the overall plantation form of uniform aged trees, and the desirability of conserving this quality. Accordingly, if a high proportion of trees display rapid decline, consideration should be given to replacing all trees at the same time. In the case of disease, all diseased trees should be removed. If this constitutes a high proportion of the (remnant) plantation, consideration should be given to replacing all trees including healthy mature trees unaffected by disease. This action will allow a uniform age plantation to be

Table 10. Tree Replacement Strategy	
Situation	**Strategy**
	re-planted. In both cases mentioned above, should total replacement be contemplated and the Duke of York's tree remains healthy, this tree should be allowed to remain. Replacement trees should be advanced specimens. A special effort should be made to undertake stakeholder/community consultation if tree replacement arises in this category.

Management of the Plantation During Any Construction Adjacent to the Site

Construction around existing trees can cause serious long-term damage to trees. For this reason, procedures are needed to protect the trees during the planning and design, construction, landscaping and re-establishment of a site. The detailed procedures contained in Protection of Trees on Construction Sites (PROTOCS) (Hartley & Wright [2004?]) will be adhered to (see Appendix J). The salient points in these procedures are as follows.

Pre planning
Accurate information on the existing trees to be collected and used in the planning of the project.

Design
The design of the building should be such that it does not impact on the Tree Protection Zone of any trees that are to be retained. If this is not possible then any closer approach to the trunk of the trees should be done only with the guidance of a suitably qualified arborist.

During the construction
The Tree Protection Zone is to be suitably fenced in order to prevent any interference to the soil and roots within and should not be entered, except for the purpose of tree maintenance, during the period of construction. No materials or chemicals should enter the fenced area. Service connections is to be designed to avoid this zone. The site is to be inspected regularly, by a suitably qualified person, to ensure that the integrity of the root zones is maintained. The condition of the trees is to be monitored, by a suitably qualified arborist, at least every 4 weeks, in order to ensure adequate tree maintenance is carried out.

After construction
Any deadwood occurring within the trees' canopies is to be pruned out. A suitably qualified arborist is to evaluate the need for any treatments or ongoing maintenance to ensure the trees satisfactory acclimatisation to the new environment.

During construction it may be necessary to temporarily irrigate some of the trees particularly those that have their uphill water catchment access removed due to construction activities. These are only temporary measures and would be stopped/removed when the construction period is completed.

Ongoing Management of the Plantation After Construction

The procedures outlined for the maintenance of the current plantation above apply equally to the maintenance of any part of the plantation which is retained, and is to be carried out prior to construction beginning. The maintenance works is to be undertaken at 12 month intervals at least. This maintenance will involve:

- pruning to remove deadwood;
- the removal of woody weeds;
- the removal of *Quercus robur* seedlings;
- the maintenance of the current or equivalent barriers to prevent vehicle movement into the area;
- the monitoring of the use of the plantation by diners from the car park diner (so long as this continues), that has provided tables under the trees, with the view of preventing any compaction of the root zones; and
- the reviewing of the site in wetter times to gauge any drainage requirements.

APPENDIX H: BURRA CHARTER

The Burra Charter

The Australia ICOMOS Charter for Places of Cultural Significance

Preamble

Considering the International Charter for the Conservation and Restoration of Monuments and Sites (Venice 1964), and the Resolutions of the 5th General Assembly of the International Council on Monuments and Sites (ICOMOS) (Moscow 1978), the Burra Charter was adopted by Australia ICOMOS (the Australian National Committee of ICOMOS) on 19 August 1979 at Burra, South Australia. Revisions were adopted on 23 February 1981, 23 April 1988 and 26 November 1999.

The Burra Charter provides guidance for the conservation and management of places of cultural significance (cultural heritage places), and is based on the knowledge and experience of Australia ICOMOS members.

Conservation is an integral part of the management of places of cultural significance and is an ongoing responsibility.

Who is the Charter for?

The Charter sets a standard of practice for those who provide advice, make decisions about, or undertake works to places of cultural significance, including owners, managers and custodians.

Using the Charter

The Charter should be read as a whole. Many articles are interdependent. Articles in the Conservation Principles section are often further developed in the Conservation Processes and Conservation Practice sections. Headings have been included for ease of reading but do not form part of the Charter.

The Charter is self-contained, but aspects of its use and application are further explained in the following Australia ICOMOS documents:

- Guidelines to the Burra Charter: Cultural Significance;
- Guidelines to the Burra Charter: Conservation Policy;
- Guidelines to the Burra Charter: Procedures for Undertaking Studies and Reports;
- Code on the Ethics of Coexistence in Conserving Significant Places.

What places does the Charter apply to?

The Charter can be applied to all types of places of cultural significance including natural, indigenous and historic places with cultural values.

The standards of other organisations may also be relevant. These include the Australian Natural Heritage Charter and the Draft Guidelines for the Protection, Management and Use of Aboriginal and Torres Strait Islander Cultural Heritage Places.

Why conserve?

Places of cultural significance enrich people's lives, often providing a deep and inspirational sense of connection to community and landscape, to the past and to lived experiences. They are historical records, that are important as tangible expressions of Australian identity and experience. Places of cultural significance reflect the diversity of our communities, telling us about who we are and the past that has formed us and the Australian landscape. They are irreplaceable and precious.

These places of cultural significance must be conserved for present and future generations.

The Burra Charter advocates a cautious approach to change: do as much as necessary to care for the place and to make it useable, but otherwise change it as little as possible so that its cultural significance is retained.

Articles	Explanatory Notes
Article 1. Definitions For the purposes of this Charter:	
1.1 *Place* means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views.	The concept of place should be broadly interpreted. The elements described in Article 1.1 may include memorials, trees, gardens, parks, places of historical events, urban areas, towns, industrial places, archaeological sites and spiritual and religious places.
1.2 *Cultural significance* means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the *place* itself, its *fabric*, *setting*, *use*, *associations*, *meanings*, records, *related places* and *related objects*. Places may have a range of values for different individuals or groups.	The term cultural significance is synonymous with heritage significance and cultural heritage value. Cultural significance may change as a result of the continuing history of the place. Understanding of cultural significance may change as a result of new information.
1.3 *Fabric* means all the physical material of the *place* including components, fixtures, contents, and objects.	Fabric includes building interiors and sub-surface remains, as well as excavated material. Fabric may define spaces and these may be important elements of the significance of the place.
1.4 *Conservation* means all the processes of looking after a *place* so as to retain its *cultural significance*.	
1.5 *Maintenance* means the continuous protective care of the *fabric* and *setting* of a *place*, and is to be distinguished from repair. Repair involves *restoration* or *reconstruction*.	The distinctions referred to, for example in relation to roof gutters, are: • maintenance — regular inspection and cleaning of gutters; • repair involving restoration — returning of dislodged gutters; • repair involving reconstruction — replacing decayed gutters.
1.6 *Preservation* means maintaining the *fabric* of a *place* in its existing state and retarding deterioration.	It is recognised that all places and their components change over time at varying rates.

Articles	Explanatory Notes
1.7 *Restoration* means returning the existing *fabric* of a *place* to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material.	
1.8 *Reconstruction* means returning a *place* to a known earlier state and is distinguished from *restoration* by the introduction of new material into the *fabric*.	New material may include recycled material salvaged from other places. This should not be to the detriment of any place of cultural significance.
1.9 *Adaptation* means modifying a *place* to suit the existing *use* or a proposed use.	
1.10 *Use* means the functions of a place, as well as the activities and practices that may occur at the place.	
1.11 *Compatible use* means a *use* which respects the *cultural significance* of a *place*. Such a use involves no, or minimal, impact on cultural significance.	
1.12 *Setting* means the area around a *place*, which may include the visual catchment.	
1.13 *Related place* means a *place* that contributes to the *cultural significance* of another place.	
1.14 *Related object* means an object that contributes to the *cultural significance* of a *place* but is not at the place.	
1.15 *Associations* mean the special connections that exist between people and a *place*.	Associations may include social or spiritual values and cultural responsibilities for a place.
1.16 *Meanings* denote what a *place* signifies, indicates, evokes or expresses.	Meanings generally relate to intangible aspects such as symbolic qualities and memories.
1.17 *Interpretation* means all the ways of presenting the *cultural significance* of a *place*.	Interpretation may be a combination of the treatment of the fabric (e.g. maintenance, restoration, reconstruction); the use of and activities at the place; and the use of introduced explanatory material.

Conservation Principles

Article 2. Conservation and management

2.1 *Places* of *cultural significance* should be conserved.

2.2 The aim of *conservation* is to retain the *cultural significance* of a *place*.

2.3 *Conservation* is an integral part of good management of *places* of *cultural significance*.

2.4 *Places* of *cultural significance* should be safeguarded and not put at risk or left in a vulnerable state.

Article 3. Cautious approach

3.1 *Conservation* is based on a respect for the existing *fabric*, *use*, *associations* and *meanings*. It requires a cautious approach of changing as much as necessary but as little as possible.

The traces of additions, alterations and earlier treatments to the fabric of a place are evidence of its history and uses which may be part of its significance. Conservation action should assist and not impede their understanding.

Articles	Explanatory Notes
3.2 Changes to a *place* should not distort the physical or other evidence it provides, nor be based on conjecture.	
Article 4. Knowledge, skills and techniques	
4.1 *Conservation* should make use of all the knowledge, skills and disciplines which can contribute to the study and care of the *place*.	
4.2 Traditional techniques and materials are preferred for the *conservation* of significant *fabric*. In some circumstances modern techniques and materials which offer substantial conservation benefits may be appropriate.	The use of modern materials and techniques must be supported by firm scientific evidence or by a body of experience.
Article 5. Values	
5.1 *Conservation* of a *place* should identify and take into consideration all aspects of cultural and natural significance without unwarranted emphasis on any one value at the expense of others.	Conservation of places with natural significance is explained in the Australian Natural Heritage Charter. This Charter defines natural significance to mean the importance of ecosystems, biological diversity and geodiversity for their existence value, or for present or future generations in terms of their scientific, social, aesthetic and life-support value.
5.2 Relative degrees of *cultural significance* may lead to different *conservation* actions at a place.	A cautious approach is needed, as understanding of cultural significance may change. This article should not be used to justify actions which do not retain cultural significance.
Article 6. Burra Charter Process	
6.1 The *cultural significance* of a *place* and other issues affecting its future are best understood by a sequence of collecting and analysing information before making decisions. Understanding cultural significance comes first, then development of policy and finally management of the place in accordance with the policy.	The Burra Charter process, or sequence of investigations, decisions and actions, is illustrated in the accompanying flowchart.
6.2 The policy for managing a *place* must be based on an understanding of its *cultural significance*.	
6.3 Policy development should also include consideration of other factors affecting the future of a *place* such as the owner's needs, resources, external constraints and its physical condition.	
Article 7. Use	
7.1 Where the *use* of a *place* is of *cultural significance* it should be retained.	
7.2 A *place* should have a *compatible use*.	The policy should identify a use or combination of uses or constraints on uses that retain the cultural significance of the place. New use of a place should involve minimal change, to significant fabric and use; should respect associations and meanings; and where appropriate should provide for continuation of practices which contribute to the cultural significance of the place.

Articles	Explanatory Notes
Article 8. Setting *Conservation* requires the retention of an appropriate visual *setting* and other relationships that contribute to the *cultural significance* of the *place*. New construction, demolition, intrusions or other changes which would adversely affect the setting or relationships are not appropriate.	Aspects of the visual setting may include use, siting, bulk, form, scale, character, colour, texture and materials. Other relationships, such as historical connections, may contribute to interpretation, appreciation, enjoyment or experience of the place.
Article 9. Location **9.1** The physical location of a *place* is part of its *cultural significance*. A building, work or other component of a place should remain in its historical location. Relocation is generally unacceptable unless this is the sole practical means of ensuring its survival. **9.2** Some buildings, works or other components of *places* were designed to be readily removable or already have a history of relocation. Provided such buildings, works or other components do not have significant links with their present location, removal may be appropriate. **9.3** If any building, work or other component is moved, it should be moved to an appropriate location and given an appropriate *use*. Such action should not be to the detriment of any *place* of *cultural significance*.	
Article 10. Contents Contents, fixtures and objects which contribute to the *cultural significance* of a *place* should be retained at that place. Their removal is unacceptable unless it is: the sole means of ensuring their security and *preservation*; on a temporary basis for treatment or exhibition; for cultural reasons; for health and safety; or to protect the place. Such contents, fixtures and objects should be returned where circumstances permit and it is culturally appropriate.	
Article 11. Related places and objects The contribution which *related places* and *related objects* make to the *cultural significance* of the *place* should be retained.	
Article 12. Participation *Conservation, interpretation* and management of a *place* should provide for the participation of people for whom the place has special *associations* and *meanings*, or who have social, spiritual or other cultural responsibilities for the place.	
Article 13. Co-existence of cultural values Co-existence of cultural values should be recognised, respected and encouraged, especially in cases where they conflict.	For some places, conflicting cultural values may affect policy development and management decisions. In this article, the term cultural values refers to those beliefs which are important to a cultural group, including but not limited to political, religious, spiritual and moral beliefs. This is broader than values associated with cultural significance.

Articles	Explanatory Notes

Conservation Processes

Article 14. Conservation processes

Conservation may, according to circumstance, include the processes of: retention or reintroduction of a *use*; retention of *associations* and *meanings*; *maintenance, preservation*, *restoration*, *reconstruction, adaptation* and *interpretation*; and will commonly include a combination of more than one of these.

There may be circumstances where no action is required to achieve conservation.

Article 15. Change

15.1 Change may be necessary to retain *cultural significance*, but is undesirable where it reduces cultural significance. The amount of change to a *place* should be guided by the *cultural significance* of the place and its appropriate *interpretation*.

When change is being considered, a range of options should be explored to seek the option which minimises the reduction of cultural significance.

15.2 Changes which reduce *cultural significance* should be reversible, and be reversed when circumstances permit.

Reversible changes should be considered temporary. Non-reversible change should only be used as a last resort and should not prevent future conservation action.

15.3 Demolition of significant *fabric* of a *place* is generally not acceptable. However, in some cases minor demolition may be appropriate as part of *conservation*. Removed significant fabric should be reinstated when circumstances permit.

15.4 The contributions of all aspects of *cultural significance* of a *place* should be respected. If a place includes *fabric*, *uses*, *associations* or *meanings* of different periods, or different aspects of cultural significance, emphasising or interpreting one period or aspect at the expense of another can only be justified when what is left out, removed or diminished is of slight cultural significance and that which is emphasised or interpreted is of much greater cultural significance.

Article 16. Maintenance

Maintenance is fundamental to *conservation* and should be undertaken where *fabric* is of *cultural significance* and its *maintenance* is necessary to retain that *cultural significance*.

Article 17. Preservation

Preservation is appropriate where the existing *fabric* or its condition constitutes evidence of *cultural significance,* or where insufficient evidence is available to allow other *conservation* processes to be carried out.

Preservation protects fabric without obscuring the evidence of its construction and use. The process should always be applied:

- where the evidence of the fabric is of such significance that it should not be altered;
- where insufficient investigation has been carried out to permit policy decisions to be taken in accord with Articles 26 to 28.

New work (e.g. stabilisation) may be carried out in association with preservation when its purpose is the physical protection of the fabric and

Articles	Explanatory Notes
	when it is consistent with Article 22.
Article 18. Restoration and reconstruction *Restoration* and *reconstruction* should reveal culturally significant aspects of the *place*.	
Article 19. Restoration *Restoration* is appropriate only if there is sufficient evidence of an earlier state of the *fabric*.	
Article 20. Reconstruction **20.1** *Reconstruction* is appropriate only where a *place* is incomplete through damage or alteration, and only where there is sufficient evidence to reproduce an earlier state of the *fabric*. In rare cases, reconstruction may also be appropriate as part of a *use* or practice that retains the *cultural significance* of the place. **20.2** *Reconstruction* should be identifiable on close inspection or through additional *interpretation*.	
Article 21. Adaptation **21.1** *Adaptation* is acceptable only where the adaptation has minimal impact on the *cultural significance* of the *place*. **21.2** *Adaptation* should involve minimal change to significant fabric, achieved only after considering alternatives.	Adaptation may involve the introduction of new services, or a new use, or changes to safeguard the place.
Article 22. New work **22.1** New work such as additions to the *place* may be acceptable where it does not distort or obscure the *cultural significance* of the place, or detract from its *interpretation* and appreciation. **22.2** New work should be readily identifiable as such.	New work may be sympathetic if its siting, bulk, form, scale, character, colour, texture and material are similar to the existing fabric, but imitation should be avoided.
Article 23. Conserving use Continuing, modifying or reinstating a significant *use* may be appropriate and preferred forms of *conservation*.	These may require changes to significant *fabric* but they should be minimised. In some cases, continuing a significant use or practice may involve substantial new work.
Article 24. Retaining associations and meanings **24.1** Significant *associations* between people and a *place* should be respected, retained and not obscured. Opportunities for the *interpretation*, commemoration and celebration of these associations should be investigated and implemented. **24.2** Significant *meanings*, including spiritual values, of a *place* should be respected. Opportunities for the continuation or revival of these meanings should be investigated and implemented.	For many places associations will be linked to use.
Article 25. Interpretation The *cultural significance* of many *places* is not readily apparent, and should be explained by *interpretation*. Interpretation should enhance understanding and enjoyment,	

and be culturally appropriate.

Conservation Practice

Article 26. Applying the Burra Charter process

26.1 Work on a *place* should be preceded by studies to understand the place which should include analysis of physical, documentary, oral and other evidence, drawing on appropriate knowledge, skills and disciplines.

The results of studies should be up to date, regularly reviewed and revised as necessary.

26.2 Written statements of *cultural significance* and policy for the *place* should be prepared, justified and accompanied by supporting evidence. The statements of significance and policy should be incorporated into a management plan for the place.

Statements of significance and policy should be kept up to date by regular review and revision as necessary. The management plan may deal with other matters related to the management of the place.

26.3 Groups and individuals with *associations* with a *place* as well as those involved in its management should be provided with opportunities to contribute to and participate in understanding the *cultural significance* of the place. Where appropriate they should also have opportunities to participate in its *conservation* and management.

Article 27. Managing change

27.1 The impact of proposed changes on the *cultural significance* of a *place* should be analysed with reference to the statement of significance and the policy for managing the place. It may be necessary to modify proposed changes following analysis to better retain cultural significance.

27.2 Existing *fabric, use, associations* and *meanings* should be adequately recorded before any changes are made to the *place*.

Article 28. Disturbance of fabric

28.1 Disturbance of significant *fabric* for study, or to obtain evidence, should be minimised. Study of a *place* by any disturbance of the fabric, including archaeological excavation, should only be undertaken to provide data essential for decisions on the *conservation* of the place, or to obtain important evidence about to be lost or made inaccessible.

28.2 Investigation of a *place* which requires disturbance of the *fabric*, apart from that necessary to make decisions, may be appropriate provided that it is consistent with the policy for the place. Such investigation should be based on important research questions which have potential to substantially add to knowledge, which cannot be answered in other ways and which minimises disturbance of significant fabric.

Article 29. Responsibility for decisions

The organisations and individuals responsible for management decisions should be named and specific responsibility taken for each such decision.

Article 30. Direction, supervision and implementation

Competent direction and supervision should be maintained at

all stages, and any changes should be implemented by people with appropriate knowledge and skills.

Article 31. Documenting evidence and decisions

A log of new evidence and additional decisions should be kept.

Article 32. Records

32.1 The records associated with the *conservation* of a *place* should be placed in a permanent archive and made publicly available, subject to requirements of security and privacy, and where this is culturally appropriate.

32.2 Records about the history of a *place* should be protected and made publicly available, subject to requirements of security and privacy, and where this is culturally appropriate.

Article 33. Removed fabric

Significant *fabric* which has been removed from a *place* including contents, fixtures and objects, should be catalogued, and protected in accordance with its *cultural significance*.

Where possible and culturally appropriate, removed significant fabric including contents, fixtures and objects, should be kept at the place.

Article 34. Resources

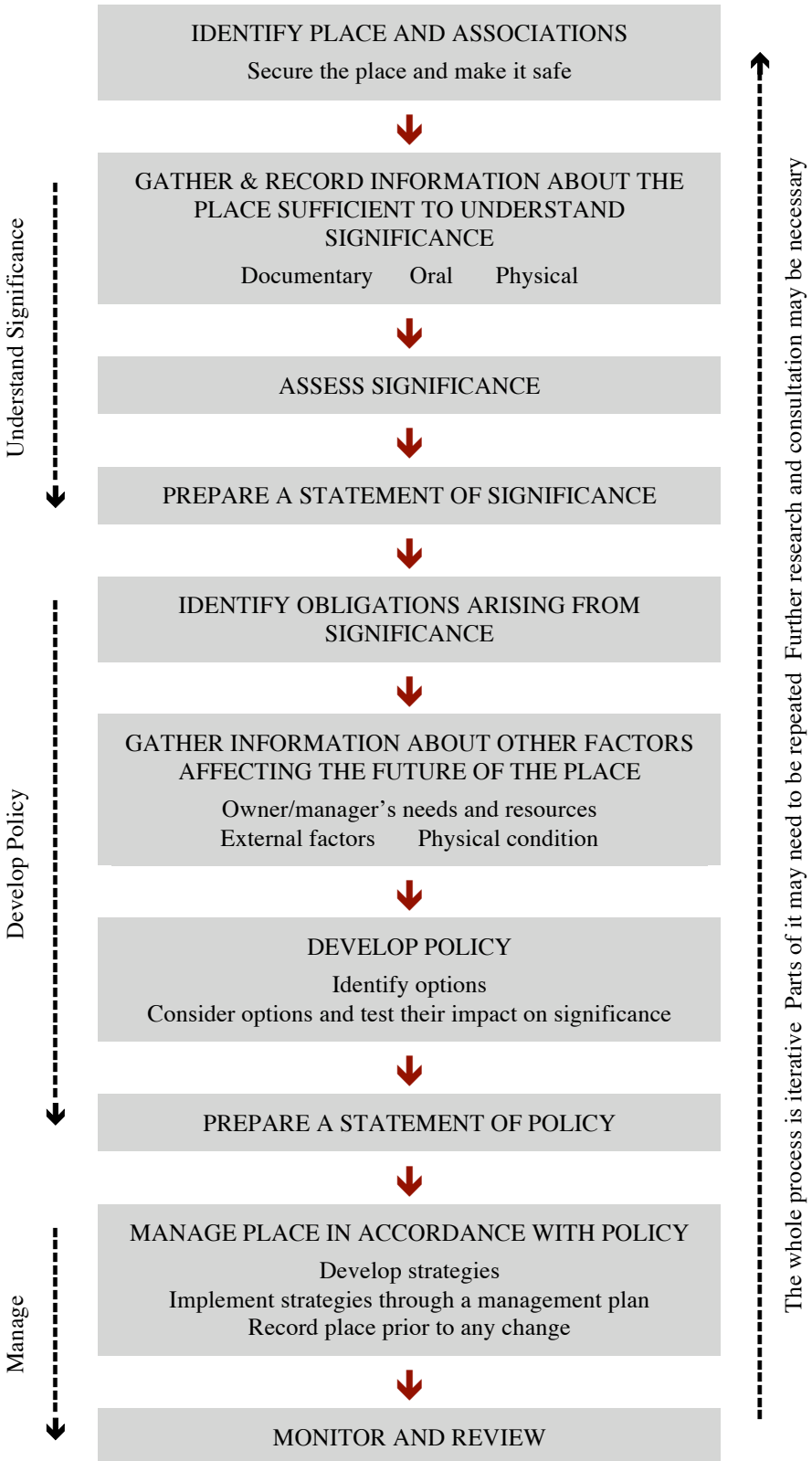
Adequate resources should be provided for *conservation*.

The best conservation often involves the least work and can be inexpensive.

Words in italics are defined in Article 1.

The Burra Charter Process

Sequence of investigations, decisions and actions



APPENDIX I: COMPLIANCE WITH COMMONWEALTH HERITAGE MANAGEMENT PRINCIPLES AND REQUIREMENTS FOR MANAGEMENT PLANS UNDER THE EPBC REGULATIONS

The regulations under the *EPBC Act 1999* provide a list of Commonwealth Heritage Management Principles as well as requirements for (conservation) management plans for Commonwealth Heritage places (*Environment Protection and Biodiversity Conservation Amendment Regulations 2003 (No. 1)*: Schedules 7A and 7B). The following tables provide a summary of compliance with these requirements.

Table 11. Commonwealth Heritage Management Principles

No.	Requirement (Schedule 7B)	Compliance Comment
1.	The objective in managing Commonwealth Heritage places is to identify, protect, conserve, present and transmit, to all generations, their Commonwealth Heritage values.	Partial compliance: Section 6.1. The HMP effectively adopts this as the objective for the development of the conservation policy and implementation strategies.
2.	The management of Commonwealth Heritage places should use the best available knowledge, skills and standards for those places, and include ongoing technical and community input to decisions and actions that may have a significant impact on their Commonwealth Heritage values.	Complies: Chapter 6 - Policies 2, 6, 8, 10
3.	The management of Commonwealth Heritage places should respect all heritage values of the place and seek to integrate, where appropriate, any Commonwealth, State, Territory and local government responsibilities for those places.	Complies: Chapter 6 – Policies 1, 4
4.	The management of Commonwealth Heritage places should ensure that their use and presentation is consistent with the conservation of their Commonwealth Heritage values.	Complies: Chapter 6 – Policies 16-19, 21
5.	The management of Commonwealth Heritage places should make timely and appropriate provision for community involvement, especially by people who: (a) have a particular interest in, or associations with, the place; and (b) may be affected by the management of the place;	Complies: Chapter 6 – Policy 10
6.	Indigenous people are the primary source of information on the value of their heritage and that the active participation of indigenous people in identification, assessment and management is integral to the effective protection of indigenous heritage values.	Not an issue.
7.	The management of Commonwealth Heritage places should provide for regular monitoring, review and reporting on the conservation of Commonwealth Heritage values.	Complies: Chapter 6 – Policies 7, 8, 14

Table 12. Management Plan Requirements		
No.	**Requirement (Schedule 7A)**	**Compliance Comments**
(a)	establish objectives for the identification, protection, conservation, presentation and transmission of the Commonwealth Heritage values of the place; and	Generally complies through the provision of policies addressing an overall objective in Chapter 6. There is no identification objective or policy as such, as this matter is substantially addressed in Chapters 2-4.
(b)	provide a management framework that includes reference to any statutory requirements and agency mechanisms for the protection of the Commonwealth Heritage values of the place; and	Complies: Chapter 6
(c)	provide a comprehensive description of the place, including information about its location, physical features, condition, historical context and current uses; and	Complies: Chapter 2
(d)	provide a description of the Commonwealth Heritage values and any other heritage values of the place; and	Complies: Chapter 4
(e)	describe the condition of the Commonwealth Heritage values of the place; and	Complies: Sections 2.2 and 5.3
(f)	describe the method used to assess the Commonwealth Heritage values of the place; and	Complies: Chapter 3 and Appendix D
(g)	describe the current management requirements and goals, including proposals for change and any potential pressures on the Commonwealth Heritage values of the place; and	Complies: Section 5.5
(h)	have policies to manage the Commonwealth Heritage values of a place, and include in those policies, guidance in relation to the following:	See below
(i)	the management and conservation processes to be used;	Complies: Chapter 6
(ii)	the access and security arrangements, including access to the area for indigenous people to maintain cultural traditions;	Complies with regard to general access: Chapter 6 – Policies 16-17. No security or Indigenous access issues.
(iii)	the stakeholder and community consultation and liaison arrangements;	Complies: Chapter 6 – Policy 10
(iv)	the policies and protocols to ensure that indigenous people participate in the management process;	Not an issue.
(v)	the protocols for the management of sensitive information;	Not an issue.
(vi)	the planning and management of works, development, adaptive reuse and property divestment proposals;	Complies: Chapter 6 – especially Policies 7, 12, 20
(vii)	how unforeseen discoveries or disturbance of heritage are to be managed;	Complies: Chapter 6 – including Policy 22
(viii)	how, and under what circumstances, heritage advice is to be obtained;	Complies: Chapter 6 – Policy 6
(ix)	how the condition of Commonwealth Heritage values is to be monitored and reported;	Complies: Chapter 6 – Policies 8, 14
(x)	how records of intervention and maintenance of a heritage places register are kept;	Complies: Chapter 6 – Policy 23
(xi)	the research, training and resources needed to improve management;	Complies: Chapter 6 – including Policy 24
(xii)	how heritage values are to be interpreted and promoted; and	Complies: Chapter 6 – Policy 21
(i)	include an implementation plan; and	Complies: Section 6.4
(j)	show how the implementation of policies will be monitored; and	Complies: Chapter 6 – Policy 7
(k)	show how the management plan will be reviewed.	Complies: Chapter 6 – Policy 8

APPENDIX J: GUIDELINES FOR THE PROTECTION OF TREES ON CONSTRUCTION SITES

Note: The tree protection zone to be applied is 12 metres from the centre of the tree.

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Protection of Trees on Construction Sites

Mark Hartley
&
Bruno Wright

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INTRODUCTION

Construction activities usually have an adverse or detrimental affects on trees. Well meaning individuals usually cause serious damage to trees during construction. This can sometimes result in death, severe short and long term decline or physical failure of the tree.

Frequently the damage is not apparent until after construction has been completed and the typical defects liability period of 12 months is over. Often the damage only becomes apparent several years
later.

The desire to retain trees but the failure to obtain advise from an Arborist and to make adequate allowance for their retention is also another common cause for problems with Protection of Trees on Construction Sites.

In almost all cases the problem with trees on construction sites arises from:

- A lack of understanding of trees and how they function.
- A lack of knowledge regarding the value and benefit of trees.
- A failure to obtain proper advice from an Arborist during the planning stage.
- The lack of a systematic approach to prevent damage by the use of active protection techniques and maintenance (eg. fencing and irrigation).
- The failure to seek sufficient expertise and intervention over the long term.

The involvement of an Arborist is an essential component to successfully managing trees.

The purpose of this document is to provide consistent and uniform standards and minimum guidelines for the retention, protection and care of trees on construction sites. Whilst it will provide a valuable reference for builders and developers it is not a "self help" book and will require active and ongoing involvement of a qualified Arborist

A developer, architects, engineers, building inspectors, town planners/builder, landscape architect or planner will however be able to clearly define and quantify the level of professional advice and tree protection that will be required.

1 SCOPE

This document describes the stages and role of an arborist in the Protection of Trees on Construction Sites and the methods and materials required as a minimum to protect trees on construction sites. It also gives valuable guidelines to the activities that should and should not be carried out adjacent to tree(s).

2 AIM

To provide documentation and an action plan for the process of protecting trees on construction sites.

3 APPLICATION

These guidelines apply to the protection of all woody plants and trees on construction sites. They cover issues to be addressed during the design process right through to post construction maintenance. It is intended for use by those who are involved in the design, planning approval stage, construction industries and by the arborists responsible for the protection of the trees.

4 DEFINITIONS

The terms listed below are incomplete. They are to be supplemented wherever required by Australian Standard AS 4373-1996 Pruning of Amenity Trees, and NATSPEC Guide to "Purchasing Landscape Trees"

4.1 Arborist: one who is formally qualified or certified in Arboriculture with at least 3 years documented experience in Arboriculture.

4.2 Arboriculture: The care of trees and wood trees in the urban environment.

4.3 Barricade: A temporary structure usually made from star pickets and barricading tapes or rolls.

4.4 EC meter: A device measuring the level of dissolved salts used to indicate levels of fertilizers etc

4.5 Drip line: The area under the canopy of a tree.

4.6 D.B.H: Diameter of the tree at Breast height (i.e. 1.2 meters.)

4.7 Fence (rigid): A solid structure that prevents free access by people and machinery.

4.8 Field Capacity: The maximum water storage capacity of soil after free gravity drainage has occurred.

4.9 Mulch: a layer of organic or inorganic matter placed on the surface of the soil intended to reduce soil moisture loss and weed growth and on occasions limit soil compaction.

4.10 Mycorrhizae: A beneficial root-fungi association where the fungi aids in the absorption of water and minerals by the roots in exchange for carbohydrates.

4.11 Nitrogen drawdown: the rapid uptake of nitrogen by micro-organisms during the sudden rapid initial decay of undecomposed organic material in an aerobic environment (usually at or near the surface).

4.12 Non Woody Root: A tee root that contains little to no lignin and no corky outer bark

that is responsible for the uptake of water and dissolved elements. These are usually less than 1 mm in diameter and never any thicker than several millimeters.

4.13 Palm: A woody perennial monocotyledon with one or more stems from the order arecacae.

4.14 Palm Roots: Unlike tree roots, these branch less, do not grow in thickness with age and have no bark or meristematic zone surrounding the root.

4.15 Penetrometer: A device used to measure the destiny / compaction of soil.

4.16 Root zone. The area where tree roots can be found.

4.17 Tensiometer: A device that gives a quantitative reading of the amount of available water in the soil.

4.18 Tree: A woody , perennial, dicotyledon, with one or several stems which potentially grows to a height of more than 3 meters.

4.19 Trunk flare: the zone at the base of a tree trunk where it rapidly becomes wider and enters the ground as well as the area up to approximately 2m from the trunk where large structural roots are close to the ground surface.

4.20 Turgor: The rigidity of plant cells, organs and parts resulting from hydrostatic pressure exerted on the cell wall.

4.21 Wilt Point: The level of soil moisture at which no free moisture is available for uptake by the tree. This results in wilting and or other stresses and strain.

4.22 Woody Root: A root that has high amounts of lignin and a corky outer bark. These roots are important for energy storage, conduction of water and dissolved elements and structural support of the tree.

5 THE TREE AS A SYSTEM

Trees are, in themselves, complex organisms. Equally, they have developed complex associations with many other organisms.

Put simply, trees are woody plants with two main absorptive parts (leaves and non woody roots) at either end of a conductive system (branches stems and woody roots). Surprisingly there are usually far more absorptive tips below ground than there is above ground i.e. there are more roots than leaves. Those absorptive parts above ground are called leaves, needles or fronds and the portion below ground are the roots.

Damage one part of the tree and you damage the system as a whole.

The leaves absorb carbon dioxide and sunlight and through a process called photosynthesis produce carbohydrates, the energy required for growth and respiration. Non-woody roots, on the other hand, absorb water and all the dissolved elements also required by the tree for healthy growth.

The conductive parts are woody. They include branches, trunks and woody roots. Wood is a highly ordered arrangement of cells that are living, dying or dead. These cells have walls of cellulose, hemicelluloses, and lignin.

Wood is the part of the tree used for storage and in particular the storage of energy reserves. Woody roots store more energy than branches. Woody roots are also responsible

for providing anchoring and support of the tree.

All the living cells in the tree utilize (or metabolize) carbohydrates. To do this they require not just carbohydrates but also OXYGEN in a process known as 'respiration'. All living parts of the tree need to respire and will SUFFOCATE if the levels of oxygen falls below a critical level. It can sometimes take months or even years for this damage to manifest itself.

The association that trees have are complex but vitally important. The vast majority of these occur under ground in the area around the roots. This area, called the Rhizosphere, is both complex and vital to the survival of the tree. It is in this zone that we find mycorrhizae. Mycorrhiza is an interdependent relationship between a fungus and a non woody root that acts as a single organ of the tree. There are also important bacteria, decay fungi and microflora.

So much important activity of trees occurs underground from roots to the Rhizoshpere. Construction frequently involves extensive changes at and below ground. Because of this, construction can have both short and long term adverse affects on a tree.

6 PRE PLANNING & PLANNING

6.1 Prior to site planning, existing trees on the site should be inspected by a consulting arborist as to their health, vigour and structural integrity assessed.

6.2 A tree list and survey shall be supplied indicating genus and species, where possible along with DBH, height and spread of canopy. Also any important observations such as health and structural problems or special considerations as well as any recommended works i.e. pruning, removal, soil amelioration should be noted.

6.3 Any information supplied by an Arborist must satisfy local council requirements.

6.4 Tree Survey

6.5 Tree Valuation

6.6 Consideration of Removal

6.7 Drainage

6.8 Transplanting

7 PRE CONSTRUCTION

Prior to the commencement of construction the consulting arborist will issue a report outlining the following:

7.1 The trees that have been protected, the maintenance activities (if any) for each tree, the size of the protection zone for each tree and type of protective fencing installed.

7.2 A statement that the physical protection (items 7 and 8) of the trees has been performed to the above standards or if not any nonconformance and why. e.g. the fencing around tree 3 is incomplete due to the presence of a boundary fence.

8 TREE PROTECTION ZONES

[Note: The tree protection zone to be applied is 12 metres from the centre of the tree.]

The protection zone can be divided into 5 basic classes.

8.1 The Critical Root Zone (CRZ): This is the most critical root area. It can be defined as the area 10 times the diameter of the trunk. It is the base area that should be designed to remain unaltered by cut, fill, trenching or liquid chemical overland flow throughout the construction phase.

8.2 The Primary Root Zone (PRZ): This is the area to the dripline or outer edges of the canopy or a circle the radius of the height of the tree whichever is greater. Activity in this area should be limited. The area can be altered with the guidance of an arborist in conjunction with these standards.

8.3 The Auxiliary Root Zone (ARZ): The Auxiliary Root Zone is the area one and a half times the canopy or a radius one and a half times the height of the tree whichever is greater. Activities in this area have less affect on the tree. There are still some activities that are not permitted in this area.

8.4 The Root Graft Zone (RGZ): This is an area 5 times the height of the tree or 5 times the canopy of the tree which ever is greater. The zone only exists if another tree of the same Genus falls within this zone. The use of systematic herbicides in this zone on trees which have a specimen of the same genus which is to be retained in this zone is prohibited.

8.5 Palm Protection Area (PPA): This is an area not less than 8 square meters and having a minimum soil volume of 8 cubic meters.

9 MAINTENANCE ACTIVITIES

9.1 Maintenance Activities

9.1 Maintenance activities: These include but are not limited to irrigation, soil amelioration, mulching, weed control, soil aeration and crown cleaning in accordance with AS 4373 - 1996 - Pruning of Amenity Trees, removal of trees by sectional felling and stump grinding.

9.2 Timing: Maintenance activities may be performed at any time during the construction process by qualified Arborists. Maintenance should be performed at regular intervals.

9.3 Controlled activities: These activities should occur only after approval and specifications have been provided by an Arborist and include, trenching, root severance, soil truncation, soil build up, vehicular and pedestrian traffic access, and pruning other than crown cleaning.

9.2 Irrigation

It should be noted that during construction it may be necessary to temporarily irrigate those trees that have their uphill water catchment access removed due to construction activities. This is only a temporary measure and would be stopped/removed when the construction period is completed. The only other irrigation to be used relates to transplanting Oaks,

dealt with elsewhere. No other general irrigation is to be provided.

9.2.1 Soil moisture during construction shall be maintained at not less than 50% of field capacity.

9.2.2 Irrigation may be applied by hand, automatic or manual irrigation system, or by fine spray from a water tanker located outside the tree protection zone. Water is to be applied at a volume and frequency required to maintain turgor and leaf retention and encourage healthy root development.

9.2.3 On each and every visit the consulting arborist shall check the soil moisture and manually check the irrigation system, if installed.

9.2.4 Soil moisture levels should be checked by physical touch (the pinch test - see *) or with a tensiometer.

9.3 Soil amelioration

9.3.1 The use of appropriate bio-stimulants such as rooting hormones, humic acids, soil microflora and mycorrhizae should only be applied by an arborist in accordance with the manufacturers instructions.

9.3.2 The use of chemical fertilizers should only be performed after laboratory testing, of either the soil or the soil and the foliage, and in accordance with those test results

9.3.3 The use of nitrogenous fertilizers must not be used where Phytophora is suspected or has been diagnosed.

9.3.4 The use of high phosphorous fertilizers should be avoided around natives, particularly Proteacae.

9.4 Mulching

9.4.1 Mulch, when applied, will be free of weeds and shall be applied at no greater thickness than 100 mm and will be well composted or modified to avoid "Nitrogen draw down".

9.5 Weed Control

9.5.1 Weed control shall be by hand pulling, wiping or spraying with a glyphosate based herbicide.

9.5.2 Weed control shall never be performed by mechanical cultivation or by scraping or back burning.

9.6 Aeration

9.6.1 The use of soil decompaction equipment should be performed by the Arborist only after testing with a penetrometer or similar system indicates it is necessary.

9.6.2 The Arborist performing decompaction activities should carefully evaluate the soil structure and the pattern of root activity prior to choosing and implementing a decompaction program.

9.7 Crown cleaning

9.7.1 Crown cleaning (AS4373-1996, Pruning of Amenity Trees) shall be performed in accordance with the standard by an arborist and in compliance with the appropriate occupational health and safety regulations.

9.7.2 Any concerns about health or safety that are observed by the arborist on the site should be reported in writing within 7 days to the superintendent/principal/client and/or head contractor.

9.7.3 The use of spurs on live trees and internodal cutting is strictly prohibited.

9.8 Tree removal and stump grinding

9.8.1 Trees that are to be removed shall be removed by sectional felling and stump grinding. Care shall be taken not to damage any adjacent trees that are to remain.

9.8.2 The extent and depth of grinding of stumps shall be determined and agreed upon by the arborist and the contractor prior to grinding. Consideration shall be given to the location of trees that are to remain and the pattern and location of their roots. The ground out stump is to be filled with planting soil to finish flush with the adjacent ground levels.

10 FENCING

10.1 The tree protection zone (Primary root zone at minimum) should be determined by an arborist and fenced prior to the commencement of ANY work, including demolition and land clearing by earth moving machinery but may be erected after maintenance activities (see 6 above). [Note: The tree protection zone is defined as 12 metres from the centre of the tree.]

10.2 The fencing surrounding the CRZ and PRZ must be a rigid fence not less than 1.8m high.

10.3 If the protection zone extends into the ARZ or further, the portion of fence protecting this zone may be barricading.

11 OTHER PROTECTION TECHNIQUES

11.1 Temporary Roadways

11.2 Service Installation

11.3 Siltation and Water Inundation

11.4 Compaction/Aeration

11.5 Piering and Suspended Slabs

11.6 Canter levering

12 SIGNS

12.1 At least every 5 meters attached to all tree protection fencing there will be a sign, a

minimum of 600 mm x 600 mm, bearing the following phrase in red letters on white background at least 50 mm in height:

TREE PROTECTION ZONE - KEEP OUT.

12.2 On the same sign above or on a separate sign attached adjacent, in red lettering on white background not less than 25 mm in height is to be the following

PROHIBITED ACTIVITIES:

followed by the list below in letters not less than 15 mm

Prohibited Activities:

a) entry of machinery or people.

b) storage of building materials.

c) parking of any kind.

d) erection or placement of site facilities.

e) removal or stockpiling of soil or site debris.

f) disposal of liquid waste including paint and concrete wash.

g) excavation or trenching of any kind (including irrigation or electrical connections).

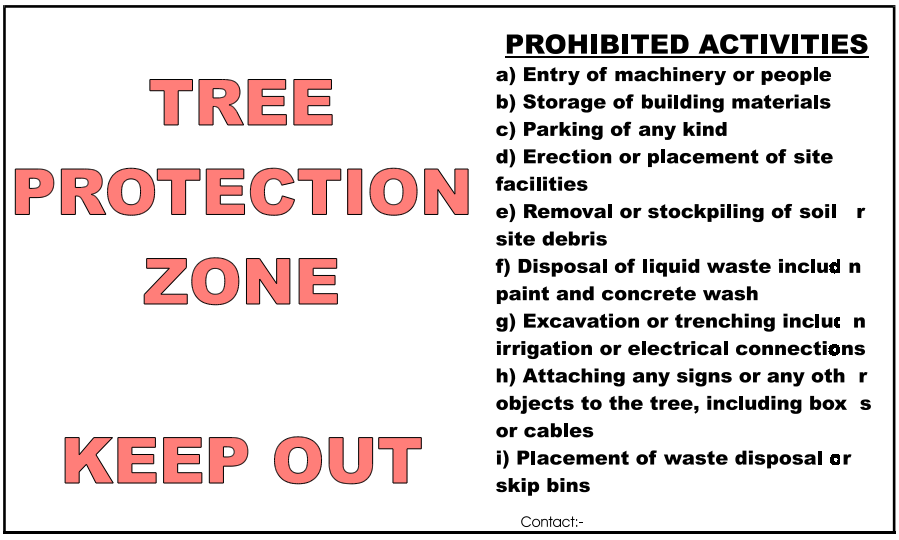
h) attaching any signs or any other objects to the tree.

i) placement of waste disposal or skip bins.

j) pruning and removal of branches, except by a qualified Arborist.

12.3 In letters not less than 25 mm in height on the above sign should be the name of the supervising Arborist or Arboricultural company and a contact phone number.

12.4



13 ROOT SEVERANCE

13.1 All roots greater than 25 mm in diameter that are required to be removed shall be cleanly cut and kept moist at all times and shall not be left exposed to the air. (see appendix D - Root curtains)

14 MAINTENANCE REPORTS

14.0.1 Inspection period. Where the trees on a site and their primary root zone are retained, a monthly inspection and report by an arborist is required.

14.0.1 Where construction activity is to occur within the primary root zone, weekly inspections and monthly reports shall be provided until the end of construction.

14.0.2 Where construction activity is to occur within the critical root zone, a consulting arborist shall be on site during the performance of such work and shall document and report on that work along with performing weekly inspections and monthly reports until the completion of construction activities on site.

14 Site Log

14.2.1 A site log shall be maintained and include the date of each inspection, the person who performed the inspection, the items inspected or tested, the maintenance activities performed, any repairs undertaken or required to be undertaken, and any substantial breaches or nonconformances.

14.2.2 The entries in the log book shall be signed by the arborist performing the inspection.

14.2.3 The log shall be maintained on site or alternative copies of the log entries for the month shall be submitted each month with the monthly report.

15 NON CONFORMANCE REPORTS

15.0.1 The removal of all or part of any protective fence.

15.0.2 The performing of any activity noted as prohibited on protection zone signage (SEE 8.21)

15.0.3 The failure to maintain adequate soil moisture (SEE 6.21 and 6.24) or the faulty of the irrigation system.

15.0.4 Mechanical damage to the trunk, stems, branches or retained roots.

15.0.5 The sudden and abnormal or premature shedding or decline of the tree.

15.0.6 Substantial breaches and non conformances

15.0.7 Any breach or nonconformance of the tree protection zone, by any party, shall be notified in writing within 2 working days of it being first observed.

15.0.8 Notification may be made to the following as directed in the contract. The Arborist , builder, contractor / subcontractor or person responsible for the breach. Any council officer required as a condition of the DA or BA, any other parties required

by the contract.

16 LANDSCAPE CONSIDERATIONS

Hard Surfaces (Hardscaping)

Soft Surfaces (Softscaping)

PROTECTION OF TREES
ON CONSTRUCTION SITES

(POTOCS)

Mark Hartley
The Tree Doctor
Bruno Wright
CANOPY, Tree Experts