Aboriginal and non-Aboriginal Archaeological & Cultural Heritage Assessment

Horsley Drive Business Park

The Horsley Drive & Cowpasture Road, Horsley Park, NSW

Report to

Western Sydney Parklands Trust

Dominic Steele Consulting Archaeology

23 June 2012

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Executive Summary

The Site at Horsley Park

The *Western Sydney Parklands Trust* (Trust) proposes to develop a new business park on an approximately 21.4 hectare site within 'Precinct 9' of the Parklands that is located on The Horsley Drive and Cowpasture Road at Horsley Park, New South Wales. To be known as the *Horsley Drive Business Park* (HDBP), the development is to be undertaken in accordance with the Trust's functions under the *Western Sydney Parklands Act 2006* and the *Western Sydney Parklands Plan of Management 2020*.

The development proposal is to be assessed as a State Significant Development under Part 4 of the *Environmental Planning & Assessment Act 1979*. The Minister for Planning is the approval authority for the proposal

This *Aboriginal and non-Aboriginal* (European) *Archaeological & Cultural Heritage Assessment* has been prepared on behalf of the Trust and addresses the key heritage issues that form a part of *NSW Department of Planning & Infrastructure's Director-General's Requirements* that have been issued for the project.

Project Objectives

The objectives of this study have been to identify potential Aboriginal and European archaeological and cultural heritage constraints that may exist for the proposal, and to guide how future development of the land can be appropriately managed to avoid adversely impacting upon the Aboriginal and European heritage values of the place.

Heritage Assessment Methods

This assessment has included a review of previous heritage investigations relevant to the HDBP site, and presents the results of a program of Aboriginal community consultation, field inspection, and new research that has been completed for the project. On this basis of these, an Aboriginal and European archaeological heritage assessment and management recommendation framework has been developed to guide the proposed subdivision and future development of the land.

Principal Findings and Conclusions

The report to follow explains how and why it is assessed that the HDBP proposal is unlikely to have an adverse impact upon the Aboriginal and European archaeological and cultural heritage values of the land chosen for development. The principal findings, conclusions and recommendations that are documented here are summarised below.

Aboriginal Archaeological Heritage

The proposed HDBP site contains *no previously* documented Aboriginal sites or objects, or any *specific* areas of *potential* Aboriginal archaeological sensitivity as evaluated in the course of preparing this report.

It is expected that any as yet undetected evidence for past Aboriginal visitation and use of the land will consist of either isolated items or low-density distributions of flaked stone artefacts that will be encountered in highly disturbed contexts.

The *potential* Aboriginal archaeological resource is assessed to be of low (scientific) archaeological significance due to the highly disturbed nature of the site, and that any finds that may be exposed in the future will be largely unexceptional in nature with minimal archaeological research potential.

A statement that has been prepared by the *Deerubbin Local Aboriginal Land Council* for the project to accompany this report is appended.

European Archaeological Heritage

Neither the land that comprises the proposed HDBP site itself, nor any of the existing elements that are contained within it (either built or archaeological), are listed on any State or Local European heritage register or schedule, including the State Heritage Register and the Fairfield Local Environmental Plan (FLEP) 1994 (and Draft LEP 2011).

A planted Bunya Pine that has historical associations with the State heritage listed Horsley Homestead complex is located on the intersection of The Horsley Drive and Cowpasture Road and occurs close to (but outside of) the proposed south-eastern HDBP property boundary. The tree is currently listed as a heritage item of Regional significance on the FLEP 1994 and Draft LEP 2011. The Trust proposes to include the tree in the SEPP (Western Sydney Parklands) 2009 as an item of local heritage significance.

This tree is now largely disconnected from its original landscape association with the Homestead complex that is located approximately 2km to the west. While this item will not be directly affected by the HDB proposal, this report identifies the types of *potential* threats that the proposal may have on the significance values of the item tree and its setting in the future, and presents an overview of the kinds of heritage management considerations that should be used to guide the long-term protection and conservation of this tree.

While the proposed HDBP site as a whole has some local historical associations with one of the earliest Crown land grants that were made in the area in 1805, there is no historical evidence for any

nineteenth century improvements to the land until 1930. It appears the land was utilised prior to that time for stock grazing, and that for much of the early twentieth century at least the site comprised a large open and largely cleared 'paddock'.

All of the existing built structures on the site (including farm houses, dams, market garden allotments, and other associated landscape elements such as plantings) relate to the period following the subdivision of the Horsley Estate and its release for sale in 1925 The farm buildings and their allotments have been used continuously for intensive market gardening activities for over 80 years and are unremarkable. There is no evidence to suggest that the use and occupation of the study area differs in any significant way with how other contemporary farm holdings that continue to operate for small-scale market gardening in the local district have been used and developed over the second half of the twentieth century.

There are also no visible (surface) features on the site today that indicate the presence of buried archaeological remains of any earlier farm buildings (or associated evidence for significant landuse activities) that are likely to predate the sale and use of the farm lots from the mid 1920s onwards.

The site is assessed on the basis of its landuse history as a place that retains low archaeological potential. This evaluation is based on the conclusions that the land has been considerably impacted upon by ongoing agricultural use and is unlikely to yield a significant sample of archaeological material of sufficient integrity that is likely to provide substantial new information that may not be able to be sourced from other documentary-based avenues of research.

Heritage Management Recommendations

I Based on the conclusion that the development proposal will not directly impact upon any *identified* Aboriginal archaeological sites or objects, and also that the *potential* for undetected Aboriginal archaeological items to occur within the property that may be affected by future uses is assessed to be *low*, it is therefore recommended that there are no Aboriginal archaeological constraints to the HDBP proposal proceeding as planned intended and that no further Aboriginal archaeological heritage input is warranted.

II In the (largely) unexpected circumstance that any Aboriginal objects are unearthed as a result of construction works in the future, it is recommended that activities should temporarily cease within the immediate vicinity of the find locality, be relocated to other areas of the site and the OEH be contacted to advise on the course of action to allow the identified item(s) to be appropriately managed.

III The property is assessed to be a place of minimal archaeological potential of low Local significance. It is it is therefore concluded that there are no identified European archaeological constraints to the subdivision and future development proposal proceeding as planned.

1.0 Introduction

1.1 Background

The *Western Sydney Parklands Trust* (the Trust) proposes to develop a new business park on an approximately 21.4 hectare site located adjacent to the Smithfield-Wetherill Park Industrial Area at Horsley Park, NSW. To be known as the *Horsley Drive Business Park* (HDBP), the development is to be undertaken in accordance with the Trust's functions under the *Western Sydney Parklands Act 2006* and the *Western Sydney Parklands Plan of Management* (PoM) *2020*.

The development proposal is to be assessed as a State Significant Development (SSD Application No 5169) under Part 4 (Division 4.1) of the *Environmental Planning & Assessment Act 1979*. The Minister for Planning is the approval authority for the proposal

The *Western Sydney Parklands* (the Parklands) comprises an approximately 27 kilometre long corridor of land that stretches from Quakers Hills to the north to Leppington to the south. The HDBP is proposed to be developed on a parcel of the Parklands that is situated on the corner of The Horsley Drive and Cowpasture Road, at Horsley Park, as indicated in **Figures 1.1**. As illustrated in **Figure 1.2**, the proposed development site is located within 'Precinct 9 – Horsley Park' of the Parklands under its definition according to the PoM 2020. The recent aerial images presented here as **Figures 1.3** and **1.4** illustrate the current condition of the subject site and its surrounding commercial, residential, and landscape contexts.

This report addresses the key Aboriginal and non-Aboriginal (hereafter European) archaeological and cultural heritage issues that form a part of *NSW Department of Planning & Infrastructure's Director-General's Requirements* (DGR's) that have been issued for the project (as dated 16 March 2012).

The objectives of this study have been to identify potential Aboriginal and European archaeological and cultural heritage constraints that may exist for the HDBP proposal, and to guide how future development of the land can be appropriately managed to avoid adversely impacting upon the Aboriginal and European heritage values of the place.

1.2 The HDBP Development Proposal

The proposed HDBP site is contained wholly within the Fairfield Local Government Area (LGA). It presently comprises 18 separate land parcels. These consist of Lots 23 (part), 24 (part), 25, 28B, 30, 30A & B, 32 and 32A in DP13961, Lots 1 to 5 in DP 1098128, Lot 100 in DP 879680, Lot 1 in DP 1036933, Lot 10 in DP 879209; and Lot C in DP 103755. All of the landholdings are owned by the Trust, with the exception of Lot 10 in DP 879209, which is still privately-owned. The Trust is currently in discussion with the landowner regarding the possible acquisition of this parcel of land.

The Trust proposes to develop the HDBP consistent with the vision, principles and strategic directions of the Parklands PoM 2020. Preliminary concept designs that have been developed for the HDBP proposal are presented here as **Figures 1.5** to **1.8**. As illustrated, the principal components of the proposed development include subdivision of the land, demolition and remediation, bulk and detailed earthworks, construction of estate infrastructure, and landscaping.

The proposal does not involve the development of the industrial facilities themselves, which would be subject to separate approvals. In this regard, the Trust is planning to lease the proposed development lots to end-users on long term leases with the planning for the future creation of the following:

- The subdivision of the land to create eleven (11) development lots, including an estate road and a service lot (stormwater). The lots may be subdivided further in accordance with end user requirements, subject to separate approval.
- The development of the lots for predominately industrial warehousing distribution facilities with ancillary offices.
- The demolition of existing site structures, which include 2 private residences and their ancillary buildings, fencing, two farm dams, and associated structures and services
- The remediation of any existing site contamination, including identified contamination on Lot 10 in DP 879209 where site assessments have identified localised hydrocarbon-related contamination associated with the former fuel storage depot use of that lot.
- Bulk and detailed earthworks across the site (comprising approximately 400,000m3), and some retaining structures, to create level building pads for the future development.

1.3 The Project DGRs for Heritage

The project DGRs were issued on 16 March 2012 according to Schedule 2 of the *Environmental Planning and Assessment Regulation 2000.* The key heritage requirements that are addressed in this report are as follows:

- *15. Heritage*

  A Statement of Significance and an assessment of the impact on the heritage significance of any items and/or conservation areas should be undertaken in accordance with the guidelines in the NSW Heritage Manual.

- *16. Aboriginal Heritage*

  Address Aboriginal Heritage in a accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation 2005 and

Aboriginal Consultation Requirements for Proponents 2010. Any impacts to Aboriginal cultural heritage as a result of the proposal must be adequately mitigated.

- *17. Archaeological Impacts*

  If relevant, an archaeological study is to be carried out on the site to identify any European and/or Aboriginal archaeological impacts associated with the proposal.

1.4 Statutory Heritage Context and Controls

1.4.1 Commonwealth Legislation

Environment Protection and Biodiversity Act (1999)

The *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) took effect in 2000. Under Part 9 of the Act, any action that is likely to have a significant impact on a matter of National Environmental Significance (known as a controlled action under the Act) may only progress with approval of the Commonwealth Minister of the *Department of Environment, Water, Heritage and the Arts*. An action is defined under the Act as a project, development, undertaking, activity (or series of activities), or alteration. An action will also require approval if:

- It is undertaken on Commonwealth land and will have or is likely to have a significant impact.
- It is undertaken outside Commonwealth land and will have or is likely to have a significant impact on the environment on Commonwealth land.
- It is undertaken by the Commonwealth and will have or is likely to have a significant impact.

The Act defines 'environment' as both natural and cultural environments, and therefore includes the consideration of Aboriginal and historic cultural heritage sites and items. Under the Act, protected heritage items are listed on the National Heritage List (items of significance to the nation) or the Commonwealth Heritage List (items belonging to the Commonwealth or its agencies). These two lists have replaced the Register of the National Estate (RNE). While the RNE has been suspended and is no longer a statutory instrument, Section 391A of the Act requires the Minister to consider RNE listing if a referral is made. This requirement expires in 2012, by which time all RNE listings are to be transferred to a relevant heritage register. Items on the RNE can have a variety of statuses, including Registered (if it is inscribed on the Register) and Indicative (if it is on the database, but no formal nomination has been received or an assessment has not been completed).

The heritage registers that are mandated by the EPBC Act have been consulted for the current project and this search indicates that there are no Aboriginal or European heritage sites or items identified within the study area.

The Native Title Act 1993

The *Native Title Act 1993* establishes the principles and mechanisms for the preservation of Native Title for Aboriginal people. Native title claimants can negotiate about some proposed developments over land and waters (known as 'Future Acts'), if they have the right to negotiate. Claimants gain the right to negotiate if their native title claimant application satisfies the registration test conditions.

A search of the National Native Title Register, the Register of Native Title Claims, and the Register of Indigenous Land Use Agreements has been completed for the project.

There are no lands determined to have native title, no registered native title claims, or indigenous land use agreements that apply to the subject site or its immediate vicinity.

1.4.2 State Legislation and Heritage Controls

Statutory Protection for Aboriginal Cultural Heritage in NSW

Two principal pieces of legislation provide statutory protection for Aboriginal heritage and the requirements for its management in New South Wales. Both pieces of legislation have been amended in recent years. This legislation comprises:

- The *National Parks and Wildlife Act 1974* (as amended); and
- The *Environmental Planning and Assessment Act 1979* (as amended).

National Parks and Wildlife Act (1974)

The *Office of Environment and Heritage* (OEH) is the principal government agency with responsibility for the protection and management of Aboriginal archaeological sites and Aboriginal cultural heritage values. It comprises an administrative branch of the *NSW Department of Premier and Cabinet*.

The NPW Act was amended through the *National Parks and Wildlife Amendment Act 2010*. The majority of the Aboriginal heritage management objectives and protection provisions of the NPW Act remain largely the same as they were originally established in 1974. However, a number of the amendments and administration functions of the NPW Act that have implications for the current project are summarised below:

- The Director-General (DG) of the OEH is responsible for the protection and conservation of Aboriginal objects and declared Aboriginal places in NSW.
- Part 6 of the NPW Act provides specific protection for Aboriginal objects and declared Aboriginal places by establishing offences of harm.
- Harm is defined under the Act to mean destroying, defacing, damaging or moving an Aboriginal object from the land.

- Under Section 86 of the NPW Act, it is an offence to knowingly, or cause or permit harm to an Aboriginal object (or Aboriginal place) without prior written consent from the DG of the OEH.[1]
- There are a number of defences and exemptions to the offence of harm under the NPW Act. One of these is that harm is carried out under the terms and conditions of an approved Aboriginal Heritage Impact Permit (AHIP).
- Section 87 of the NPW Act also provides for defences to harm done to an Aboriginal object if *due diligence* has determined that no Aboriginal object would be harmed, compliance with *regulations* or an approved *code of practice* was followed, and if it is shown as a *low impact act* and/or an (unintended) omission
- The NPW Act establishes the DG of the OEH as the decision-maker for AHIP applications.
- The OEH requires effective consultation with Aboriginal people as a fundamental component of the AHIP assessment process.
- AHIPs are issued under Section 87 and Section 90 of the NPW Act. Recent amendments to the administration of the NPW Act allow for the issuance of approvals that combine Sections 87 and 90 submissions in certain circumstances to streamline and make more effective the implementation of the NPW Act.
- Section 5 of the NPW Act defines an Aboriginal object as: '*any deposit, object or material evidence (not being a handicraft for sale) relating to Indigenous and non-European habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains*'.
- A declared Aboriginal place is a statutory concept, meaning that it is any place (land, landscape element, or building etc) that is declared to be an Aboriginal place (under Section 84 of the Act) by the Minister administering the NPW Act because the Minister is of the opinion that the place is or was of special significance with respect to Aboriginal culture.
- A declared Aboriginal Place may or may not contain Aboriginal objects.
- The protection provided to Aboriginal objects and places applies irrespective of the level of their significance or issues of land tenure.
- Section 89A of the NPW Act requires that the DG be notified of the location of any newly identified Aboriginal site or object which is then registered with the OEH *Aboriginal Heritage Information Management Service* (AHIMS) database.
- AHIMS has replaced the previous *NPWS Aboriginal Sites Register*.

[1] Part 6 of the NPW Act also details and explains the DG's right to issue stop-work orders, interim protection orders, and remediation directions in certain circumstances.

In summary, the NPW Act:

- Is the primary legislation for the protection of Aboriginal cultural heritage in NSW and gives the DG the responsibility for the proper care, preservation and protection of Aboriginal objects and places.
- Part 6 of the NPW Act provides specific protection for Aboriginal objects and places by making it an offence to harm them. An AHIP is required if impacts to Aboriginal objects and/or places cannot be avoided. An AHIP is a defence to a prosecution for harming Aboriginal objects and places if the harm was authorised by the AHIP and the conditions of that AHIP were not contravened.
- The Act includes a 'strict liability' offence for harm to Aboriginal objects and places, but does not require someone to know that it is an Aboriginal object or place they are causing harm to in order to be prosecuted. Defences from prosecution include a low impact activity or demonstration of due diligence conducted in accordance with the OEH Due Diligence Code of Practice.
- However, if an Aboriginal object is encountered in the course of an activity (where an AHIP has not been approved) work must cease and an application must be made to the DG for an AHIP. An AHIP application must be accompanied by an assessment completed in accordance with the OEH Code of Practice.
- Consultation with Aboriginal communities is required under Part 8A of the NPW Regulation 2009 and is to be conducted in accordance with the OEH Aboriginal Heritage Consultation Requirements for Proponents 2010 where AHIPs are sought.

Where development proposals are classified as SSD's according to EP&A Act, the Minister for Planning is the approval authority. In these circumstances, the Minister will require an acceptable level of heritage due diligence and performance to be achieved that will include both the recognition and application of the principal Aboriginal heritage management objectives and protection provisions of the NPW Act as they are outlined above.

NSW Heritage Act (1977)

The *NSW Heritage Act 1977* (as amended) is the principal legislation that provides statutory protection for non-Indigenous (European) heritage and the requirements for its management in NSW. The administration of the Act is overseen by the *NSW Heritage Branch* and is guided by the *NSW Heritage Council* in their regulatory role as part of the *NSW Department of Planning and Infrastructure*.

The primary purpose of the Act is to protect, conserve and manage the environmental heritage of the State. Environmental heritage is broadly defined under Section 4 of the Act as:

> *'those places, buildings, works, relics, moveable objects, and precincts, of State or Local heritage significance'.*

Amendments to the Act made in 2009 have changed the definition of an archaeological 'relic' whereby a relic is now referred as an archaeological deposit, artefact, object or material evidence that:

a) Relates to the settlement of the area that comprises NSW, not being Aboriginal settlement; and
b) Is of State or Local heritage significance.

The new definition is no longer based primarily on age. Previously, a 'relic' was described as comprising any item older than 50 years of age.

This significance based approach to identifying 'relics' is consistent with the way other heritage items such as buildings, works, precincts and landscapes are identified and managed in NSW.

While a number of the archaeological provisions of the Act have been streamlined, the Act nevertheless retains the core principals and objectives that require anyone proposing to disturb land to obtain a permit from the *Heritage Council of NSW* (under Section 140 or Section 60 of the Act) if it is known or suspected that 'relics' of significance may be disturbed, moved, or destroyed by future land alterations and/or use.

Section 139 of the Act stipulates that:

a) 'A person must not disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed unless the disturbance or excavation is carried out in accordance with an excavation permit.

b) A person must not disturb or excavate any land on which the person has discovered or exposed a relic except in accordance with an excavation permit'.

If the site is the subject of an order under Section 130 of the Act, an Interim Heritage Order, or is listed on the SHR, approval for an excavation permit is required under Section 60 of the Act.

If the site is not the subject of an order under the Act and is not listed on the SHR, an excavation permit may be required, in accordance with Section 140 of the Act, subject to what significance the

site/place has been assessed to possess. Excavation permit exceptions under Section 139(4) of the Act include:

- An archaeological assessment (zoning plan or management plan etc) has been prepared which indicates that any relics in the land are unlikely to have State or Local heritage significance (1A).
- The excavation or disturbance of land will have a minor impact on archaeological relics (1B).
- The proposed excavation demonstrates that evidence relating to the history or nature of the site, such as its level of disturbance, indicates that the site has little or no archaeological research potential (1C).

Section 146 of the Act requires that the accidental discovery of relics should be reported to the '*Heritage Council of NSW (in any circumstances, and whether or not the person has been issued with an excavation permit),* and *within a reasonable time'.*

1.5 Heritage Assessment and Reporting Methodology

1.5.1 Introduction

This report has been prepared in accordance with the following heritage recording, assessment and reporting guidelines and standards:

- Australia ICOMOS. 2002 (Revised). The Burra Charter. The Australia ICOMOS Charter for Places of Cultural Significance. Australia ICOMOS Inc.[2]
- NSW Department of Environment, Climate Change & Water. (DECCW) 2010a (September). Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales. DECCW. Sydney.
- NSW Department of Environment, Climate Change & Water. (DECCW) 2010b (September). Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales. DECCW. Sydney.[3]
- NSW Department of Environment, Climate Change & Water. (DECCW) 2010c (April). Aboriginal Cultural Heritage Consultation Requirements for Proponents. Part 6 National Parks and Wildlife Act 1974. DECCW. Sydney.
- NSW Heritage Office. 1996. NSW Heritage Manual. NSW Heritage Office and the Department of Urban Affairs and Planning. Sydney (revised 2002).

[2] The Burra Charter establishes nationally accepted principles for the conservation of places of cultural significance.

[3] A flow chart explaining how to follow the OEH due diligence process is appended to this report (**Appendix 1**). The principles and objectives of this best-practice assessment and action approach underpin the Aboriginal heritage component of this report.

- NSW Heritage Office. 2001. Assessing Heritage Significance. A NSW Heritage Manual Update. NSW Heritage Office. Sydney.
- NSW Heritage Office. 2005. Historical Archaeology Code of Practice. NSW Department of Planning. Sydney.
- NSW Heritage Council.2008a. Levels of Heritage Significance. Assessing Heritage Significance Supplement. NSW Heritage Council. Sydney.
- NSW Heritage Council. 2008b. Levels of Heritage Significance. Assessing Heritage Significance Supplement. NSW Heritage Council. Sydney.
- NSW Heritage Office. 2009a. Levels of Heritage Significance. NSW Heritage Office, NSW Department of Planning. Sydney.
- NSW Heritage Branch. 2009b. Assessing Significance for Historical Archaeological Sites and 'Relics'. NSW Heritage Branch, NSW Department of Planning. Sydney.
- NSW Heritage Branch. 2009. Guidelines for the Preparation of Archaeological Management Plans. NSW Heritage Branch, NSW Department of Planning. Sydney.

1.5.2 Aboriginal Community Consultation

The following Aboriginal community consultation has been completed for the project. Further details of what this consultation has entailed are provided in sections of this report to follow:

- The initiation of consultation with the local Aboriginal community with regards to the proposed subdivision and future development of the HDBP.
- The incorporation of the views and management recommendations that have been provided by the local Aboriginal community to inform this study.

1.5.3 Background Research & Evaluation

The following Aboriginal and European heritage registers, lists, and schedules have been reviewed for the project.

- NSW Office of Environment & Heritage (OEH) Aboriginal Heritage Information Management System (AHIMS) Sites Register.
- NSW Heritage Council – State Heritage Register (SHR) & State Heritage Inventory (SHI).
- National Heritage List (NHL).
- National Trust of Australia (NT).
- Fairfield Local Environmental Plan (LEP) 1994 and Draft LEP 2011.
- NSW Roads & Maritime Services Heritage & Conservation Register.
- Sydney Water Heritage & Conservation Register.

1.5.4 Literature Review

A document review has been completed for the current report that synthesises previous information available for the land and addresses knowledge gaps where they exist for the site according to the following:

- Background research into the location and nature of any previously recorded Aboriginal archaeological sites (and/or areas of potential Aboriginal cultural heritage sensitivity) known to be present either within the boundaries of the study area or in immediately adjacent areas.
- On the basis of the above Aboriginal archaeological and cultural heritage review, the provision of a predictive model that outlines the potential Aboriginal archaeological sensitivity of the subject land and an evaluation of the possibility for as yet any unrecorded Aboriginal archaeological sites (and/or areas of likely sensitivity) to occur within the study area.
- A review of relevant reports that describe and explain the location and nature of any previously recorded European archaeological sites or items recorded (or suspected) to be present within the boundaries of the study area.

1.5.5 Site Inspection & Recording

This report provides the following:

- The rationale and methods that have been employed to support the recently completed site inspections and recording of the property.
- A summary of the observations recorded during the site inspections, and an evaluation of the results of the fieldwork.

1.5.6 Analysis, Evaluation and Report

This report presents the following:

- A combined *Aboriginal and European Archaeological & Cultural Heritage Assessment* that includes the outcomes of consultation undertaken with the local Aboriginal community for the project, an evaluation of the results of the site inspections, and a discussion of the Aboriginal and European archaeological and cultural heritage management conclusions that have been developed for the project.
- Aboriginal and European cultural heritage management options and recommendations that establish a framework for the protection of any documented and/or potential Aboriginal and

European archaeological sites (or areas of potential cultural heritage sensitivity) relative to the proposed HDBP development.

1.6 Aboriginal Community Consultation

As the administrator of the NPW Act, the OEH has developed guidelines outlining the preferred structure for archaeological investigations and reporting. The OEH have also released guidelines for AHIP Applicants under Part 6 of the NPW Act 1974 and Sub-clause 80C.of the *National Parks & Wildlife Regulation 2009*.

In accordance with these guidelines, and to identify, notify, and register Aboriginal people who may hold cultural knowledge relevant to determining the cultural significance of the property reported here, a Public Notice was placed with the *Fairfield Advance* on the 25th of April 2012.

Concurrent with the Public Notice, the following organisations were also notified (as dated 25 April 2012) of the project:

- Deerubbin Local Aboriginal Land Council (DLALC).
- Gandangara Local Aboriginal Land Council (DLALC).
- Darug Custodian Aboriginal Corporation (DCAC).
- Darug Tribal Aboriginal Corporation (DTAC).
- Darug Aboriginal Cultural Heritage Assessments (DACHA).
- Darug Aboriginal Land Care Incorporated (DALCI).
- Gunjeewong Cultural Heritage Aboriginal Corporation.
- Darug Land Observations (DLO).
- Yarrawalk.
- NSW Office of Environment and Heritage (OEH).
- Fairfield City Council (FCC).
- Office of the Registrar (Aboriginal Land Rights Act 1983 [NSW]).
- Registrar – NTS Corp Limited.
- NSW Heritage Branch

The OEH responded (as dated 1st of May 2012) with the same list of Aboriginal stakeholders (excluding the GLALC) known to the OEH that may have an interest in the project:

The Office of the Registrar (Aboriginal Land Rights Act 1983 [NSW]) responded (as dated 3 May 2012) that:

I have searched the Register of Aboriginal Owners and the project area described does not have Registered Aboriginal Owners pursuant to Division 3 of the Aboriginal Land Rights Act 1983 (NSW).

No response was received from the *NSW Heritage Branch,* NTS Corp, or FCC.

The DLALC and the DACHA responded to the 25 April 2012 written notification and indicated their interest in the project. No additional Aboriginal community correspondence has been received by the Trust.

The DLALC have inspected the site and have prepared an Aboriginal Cultural Heritage Statement to in inform the HDBP proposal. A copy of this is appended to this report.

The DACHA has inspected the property and will forward an Aboriginal Cultural Heritage Statement for the project to the Trust when completed.

1.7 Report Outline

This *Aboriginal and non-Aboriginal Archaeological & Cultural Heritage Assessment* present the following:

- An introduction to the project (**Section 1.0**).
- A review of the environmental context of the site including its geology, topography, hydrology, vegetation and soils. This section also considers the types of resources that are likely to have been available to Aboriginal people in the past, and includes a brief landuse history of the property illustrating how existing landscape conditions can assist in the development of Aboriginal archaeological/cultural heritage sensitivity predictive models that can be used as a management tool in development planning (**Section 2.0**).
- A background Aboriginal archaeological heritage context for the project (**Section 3.0**).
- A discussion of the known European history of the study area. This section also includes a review of European sites and items currently heritage listed that may occur on the property, and those that may potentially have archaeological heritage significance but have not been listed on any heritage register of schedule to date (**Section 4.0**).
- The methods employed to record the subject site, and the results of the archaeological investigations (**Section 5.0**).
- An assessment of the significance of identified Aboriginal and European archaeological and cultural heritage sites found to occur on the property; and a discussion of the statutory heritage frameworks that are applicable to establish how these documented and/or potential

sites should be managed relative to the proposed future development of the study area (**Section 6.0**).

- Heritage management recommendations (**Section 7.0**).
- References cited in this report (**Section 8.0**).
- Supporting documentation (**Appendices**).

1.8 Authorship & Acknowledgements

This report has been written by Dominic Steele of *Dominic Steele Consulting* Archaeology (DSCA). The background historical review presented in **Section 4.0** has been adapted from research prepared for the site by Mr Nick Jackson (DSCA Associate). The site images provided in this report have been recorded by Mr Adrian Dreyer (DSCA Associate).

DSCA would like to acknowledge the advice and assistance provided by the following people during the course of preparing this report:

Mr Tim Colless	Western Sydney Parklands Trust
Mr Steve Randall	Deerubbin Local Aboriginal Land Council
Mr Gordon Moreton	Darug Aboriginal Cultural Heritage Assessments

Figure 1.1: Location of the Proposed HDBP Site at Horsley Park (Source: WSP Trust 2012)

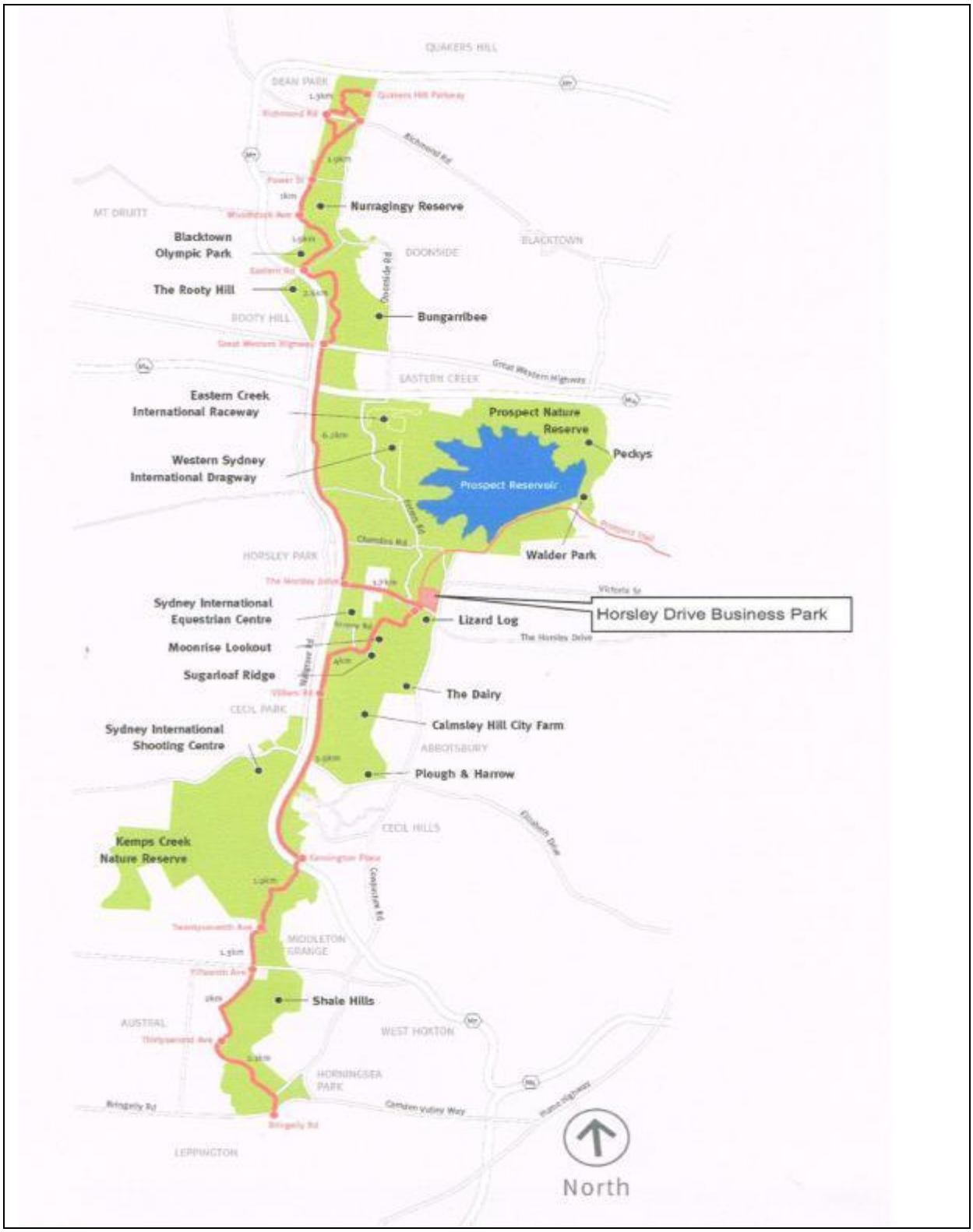


Figure 1.2: Location of the Proposed HDBP in Precinct 9 of the Parklands (Source: WSP Trust 2012)

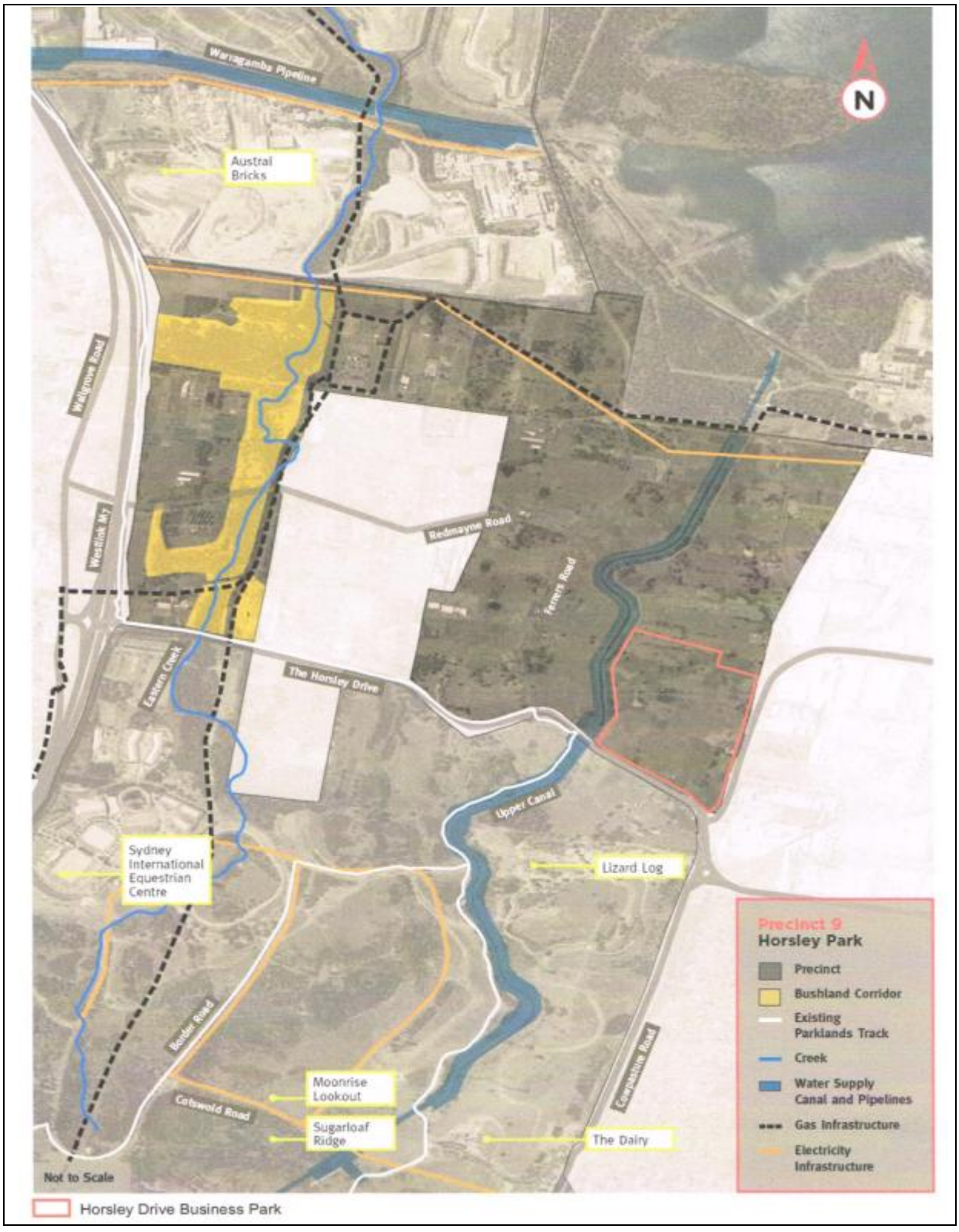


Figure 1.3: Layout and Context of the Site at Horsley Park (Source: WSP Trust 2012)

Figure 1.4: Existing Condition of the Proposed HDBP Site (Source: Google Maps 2012)

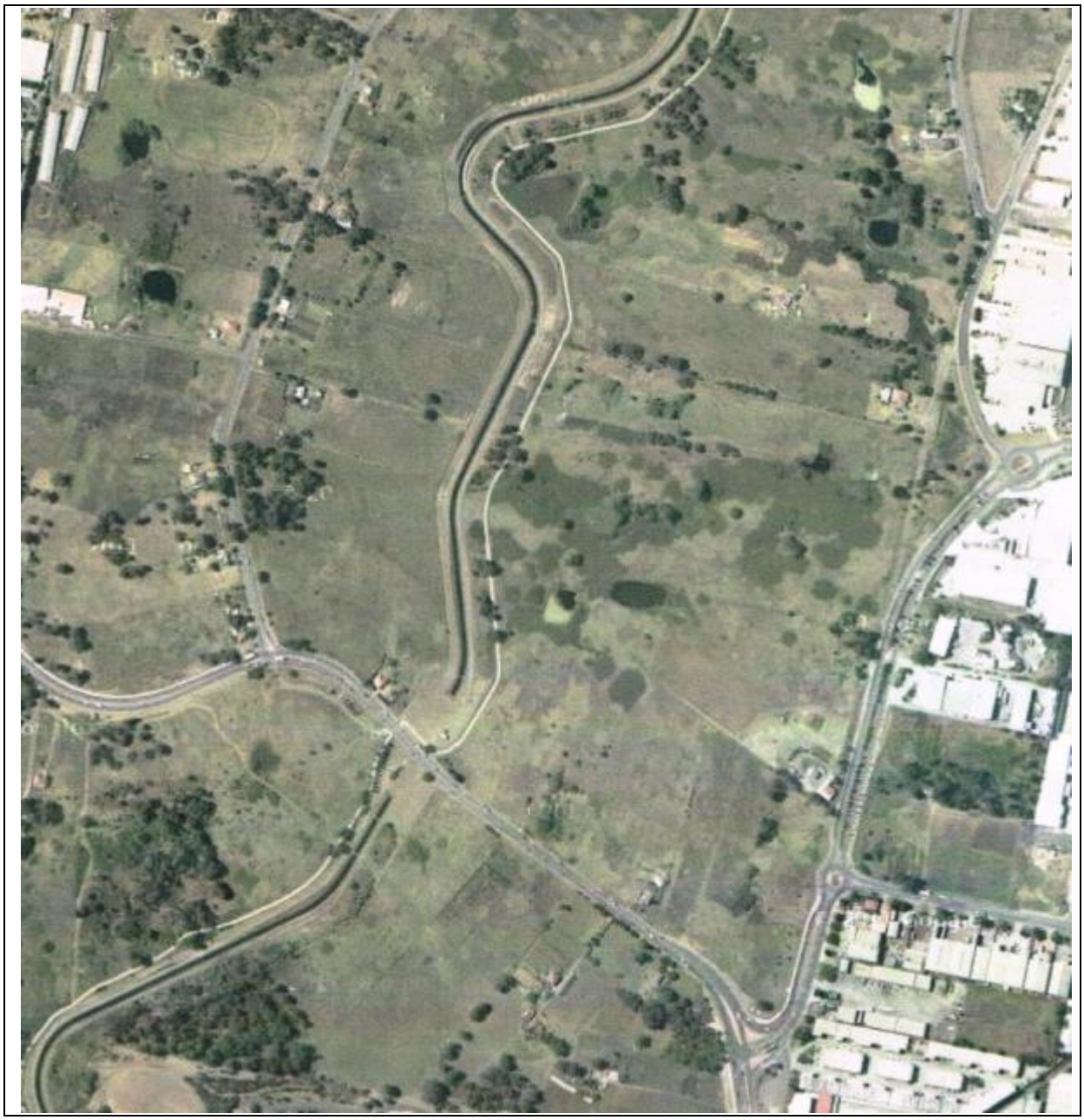


Figure 1.5: Proposed HDBP Subdivision Layout (Source: WSP Trust 2012).

Figure 1.6: Indicative Lot Layout of the Proposed HDBP (Source: WSP Trust 2012).

Figure 1.7: Proposed Staging of the HDBP Subdivision and Development (Source: WSP Trust 2012).

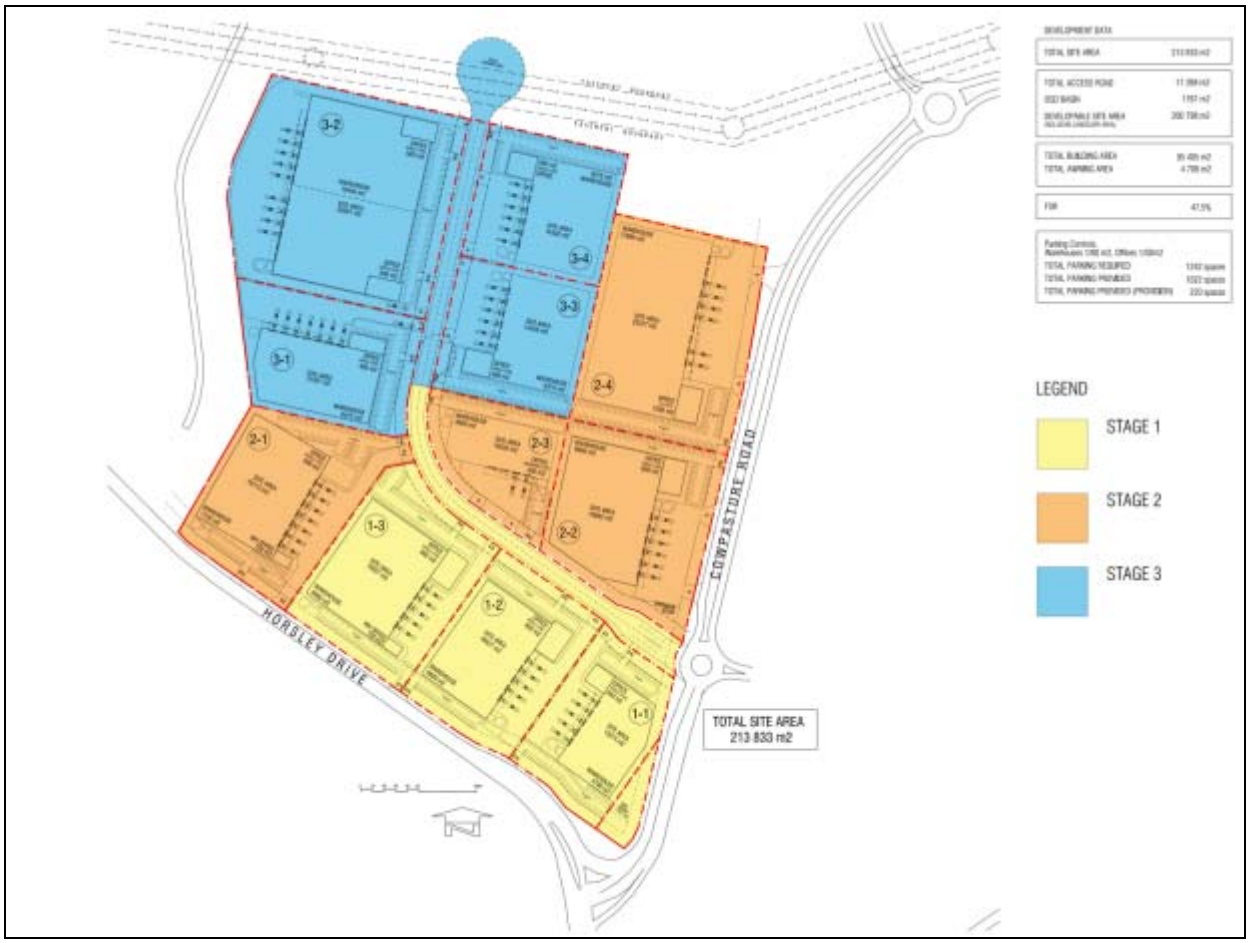
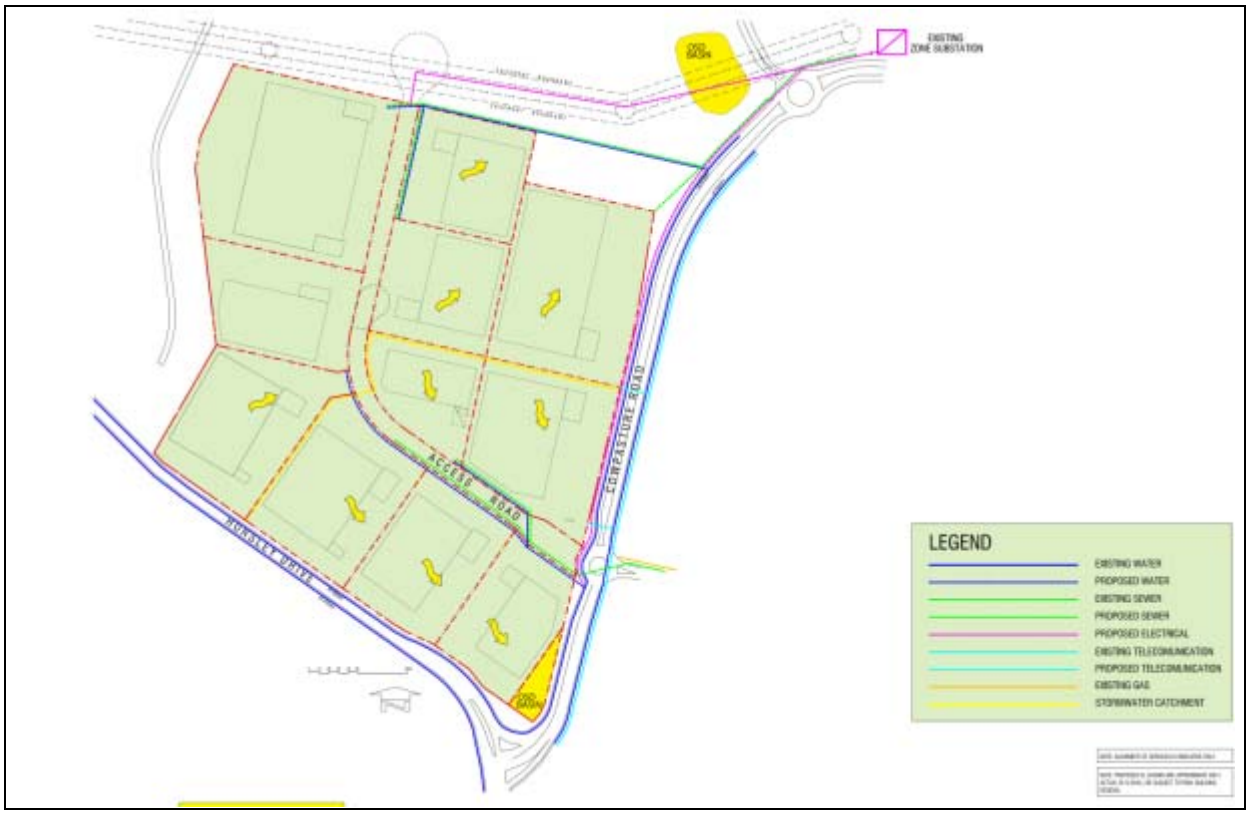


Figure 1.8: Indicative HDBP Service Infrastructure Plan (Source: WSP Trust 2012).



2.0 Environmental Context of the Proposed HDBP Study Area

2.1 Introduction

The pre-Contact environment influenced both the availability of resources to Aboriginal people in the past, and strongly determines what types of archaeological sites are likely to be located (and/or will survive) when land is inspected to assess potential Aboriginal archaeological sensitivity in contemporary subdivision and development circumstances. Namely:

- The distribution and availability of resources (such as drinking water, plant and animal foods, stone materials used for artefact manufacture, and wood and vegetable fibres used for other tool production and maintenance needs) were influenced by the nature of soils, the composition of vegetation cover, and other climactic characteristics including temperature and rainfall.
- The location of different types of archaeological sites (such as open campsites, scarred trees, axe grinding grooves and rock engravings etc) are also influenced by the above factors, along with a range of other associated features which are specific to different land-systems and bedrock geologies.
- The nature and extent to which land has been subject to impacts as a consequence of post-Contact land use practices will define what types of Aboriginal archaeological evidence is likely to survive.

The same type of general principles as these also apply to understanding how and why Europeans first settled and used the landscape, and what traces of this historic use may survive in the archaeological record.

Assessing the environmental context of a study area is therefore an important procedure necessary for understanding past human landuse practices and/or predicting Aboriginal archaeological site distribution patterns, in particular, in the absence of documentary records that can be used as a reference and guide. The information presented below is considered relevant to the assessment of Aboriginal and European archaeological potential, site visibility, and likely levels of disturbance within the context of the current study.

2.2 Topography

The topography of the local landscape includes steep low hills (90-300m), usually with a southerly aspect, and with gradients of >20%. These landforms include undulating to rolling low hills (50-80m) with slopes of 5-20%, and flat to gently sloping alluvial plains with local relief up to 10m and slopes of up to 5% (see Bannerman & Hazleton 1990).

The proposed HDBP site itself has an undulating topography, with a dominant east-west ridge running through the land. This ridge effectively divides the site into two (2) catchments, with drainage generally running to the south-east in areas south of the ridge, and to the north-east in areas north of the ridge. The nature of the landforms contained within the site is described and illustrated in **Section 5.0** of this report.

2.3 Hydrology

The Fairfield LGA forms a part of the Cumberland Plain, which is a relatively shallow basin, and dissected by a network of creeks (and some rivers) in the local landscape which flow to the southeast and drain into the Georges River. Three principal creek lines originating in the LGA flow to the west and north and eventually into the Hawkesbury River. These are Ropes Creek which drains into the Hawkesbury River via South Creek at Llandilo, Reedy which is a tributary of Eastern Creek, and Eastern Creek itself.

Five other creeks flow to the south and the east. These comprise Cabramatta Creek which marks the border with the Liverpool LGA and ultimately flows into Chipping Norton Lake and the Georges River, Prospect Creek which marks the border with Holroyd Council, and Orphan School Creek and its tributaries, Clear Paddock and Green Creeks.

The proposed HDBP site itself contains a tributary of Orphan School Creek that runs through (from east to west) through the northern half of the property. This watercourse is now largely obscured as a result of a long history of farming activity. However, two moderately sized farm dams are located in the south western third of the study area, with a third located in the north western corner of the property. Each of these water retention dams were created post-1930 and prior to 1961.

A (formed) regional cycleway is located immediately to the west of the site, and *Sydney Water's* Upper Canal is located to the west of the cycleway, and approximately 35 metres from the proposed HDBP site boundary. The alignment of Eastern Creek is located approximately 1.3 km to the west of the study area. This watercourse is a second order perennial stream, runs from south to north, and is fed by several first and second order tributaries. A channel of Prospect Creek (a major tributary of the Georges River) is located a similar distance to the northeast of the site and below (to the south) of Prospect Reservoir.

2.4 Geology

The underlying geology of the study area consists largely of shales of the Wianamatta Group (Ashfield, Bringelly and some Minchinbury), which overlies Hawkesbury Sandstone. Quaternary

alluvial deposits consisting of fine-grained sand, silt and clay are associated with parts of the larger creek systems in the Fairfield LGA.

Sources of stone raw materials suitable for flaked and ground stone Aboriginal artefact production (such as silcrete, indurated mudstone/tuff, and quartzite) that would have been available to people in the past from a number of geological formations across the Cumberland Plain include the St Marys, Rickabys Creek, Cranebrook, and Agnes Bank formations (see for example Corkill 1999). Most of these known sources occur at considerable distances to the west of the study area.

2.5 Soils

Two Soil Landscapes characterise the study area. These comprise the Luddenham (erosional) and Blacktown (residual) soil formations (Bannerman & Hazleton 1990). The former predominates.

The A1 and A2 horizons of the Luddenham soil landscape comprise friable loams and hard-setting clay loams respectively, ranging from slight to strong acidity. Topsoil depths vary according to the landform element on which they occur, and erodibility is classed as moderate (Bannerman & Hazleton 1990:63-66). The topsoils (A and A2 horizons) of the Blacktown soil landscape are strongly acidic loams, clay loams and silty clay loams. These soils are shallow to moderately deep (<100cm) with a high fine sand and silt content; and high to moderate organic content. They can be hard setting and have moderate erodibility (Bannerman & Hazleton 1990:28-31).

2.6 Vegetation

The proposed HDBP site is predominately cleared of vegetation and is presently covered with pasture grasses reflective of the long agricultural landuse history of the place as detailed in the following sections of this report. Little of the original vegetation on the site remains due to historic European landuse practices, and the property is today characterised by some timber regrowth, and a significantly degraded understorey groundcover that is inter-mixed with introduced weed species such as lantana and blackberry.

What we know of the vegetation of the local landscape at Contact is based on historical descriptions and images, aerial photographs dating from the 1930s onwards, ecological inference from present distribution patterns, and some archaeological evidence. Authors such as Benson & Howell (1990) provide the most widely cited historical vegetation reconstructions for much of the Sydney landscape and that apply to the subject site.

Prior to European settlement, much of the local landscape appears to have been dominated by Shale Plain Woodland, a sub-community of Cumberland Plain Woodland (see Tozer 2003). At Contact, the site (at least on Luddenham soil profiles) is likely to have been characterised by tall open-forest (dry

sclerophyll forest) with dominant tree species including spotted gum (*E. maculata*) and grey box (*E. moluccana*). On soils of the Blacktown soil landscape (originally open-forest and open woodland) forest red gum (*E. tereticornis*), narrow-leaved iron bark (*E. crebra*), grey box, and spotted gum would have dominated the original vegetation regime.

2.7 Resources Available to Aboriginal People in the Past

2.7.1 The People

Over thirty named Aboriginal groups are recorded to have occupied the Sydney region at Contact. Attenbrow (2010) provides a review of what we know of these people at this time. Most of the earliest observations derive from the coastal strip around the settlement at Sydney Cove. Many records however also come from inland areas around Eastern and South Creeks during the first years, and some of the key points detailed in Attenbrow's review include:

- Groups appear to have comprised multiple extended families ranging in size from 30 to 70 people or more, through which they appear to have had connections to specific areas of land.
- Groups are documented to have been organised around complex social, economic, spiritual and land-use inter-clan relationships that operated in 1788.
- It appears that individual groups/clans had specific primary access rights to resource zones provided by the coast, river, and inland areas, but would have routinely interacted with each neighbouring clan/group as day by day needs dictated.
- It appears that several dialect or language boundaries existed at Contact around the Sydney region between the coastal or 'saltwater' people and the inland or 'woods' groups, and that Sydney (coastal and hinterland) clans were bi-or multi–lingual.
- It is estimated that approximately 1,500 (or more) Aboriginal people occupied the inland zone away from the coast between Broken Bay and Botany Bay to the Blue Mountains at Contact (Kohen & Lampert 1988:345).

2.7.2 Tools and Equipment

The early European diarists recorded a wide variety of tools and weapons used by Aboriginal people in obtaining food and raw materials, for carrying items, and for making and maintaining equipment at Contact and in the years thereafter.

These included fishing and hunting spears tipped with bone, stone and shell barbs, shell and bone fish hooks and vegetable and animal sinew 'string' fishing lines (on the coast at least), timber/bark shields, clubs, canoes and digging sticks, baskets and net bags and a variety of flaked and ground stone artefacts inclusive of axe/hatchet heads, points, blades, scrapers, awls and pounders. Animal skins,

bones and sinews are also recorded to have been used for a variety of purposes including cloaks, carrying bags and decorative items.

As discussed in the following section of this report, a wide variety of stone raw materials (frequently imported from outside sources) were either ground to produce adze, axe and chisel blades or were flaked using often complex reduction strategies to produce a variety of cutting and scraping implements along with points suitable for use as spear barbs (see below). Many observations also report that coastal people used shell rather than stone as cutting implements, for the production of fish hooks by grinding *Turbo* shell with sandstone files and for hafted barbed points (Bradley 1969:92, Collins 1975:320).

The Aboriginal people (in Port Jackson in particular) were frequently reported fishing in the harbour from canoes made from bark (often sourced from She Oak, Bangalay, and Stringybark etc), and their fishing lines and spears were often found left on the shores. Canoe bark was removed with stone axes, and later in the post-Contact period, with metal axes. Generally, it appears canoes were from between 2.5m and 6m long, and propelled with wooden paddles. Small fires were often observed to have been kept alight on clay beds in the centre of the canoes to provide light and warmth and to cook food. These serviceable but perhaps flimsy craft were occasionally observed to have been kept operational through patching using resin from the Grass Tree and lined with Cabbage Tree Palm leaves.

These types of observations, although less frequent inland, are still likely have encapsulated how in general terms people made and used canoes for transport and communication at Contact along the larger river and creek corridors of the Cumberland Plain.

Other early references comment on the use of tree-bark and the form of Aboriginal shelters. These are described to have ranged from pieces of bark laid together in the form of a low oven, open at one end and of a length sufficient to cover the full length of an adult to pieces of bark cut from a single tree and bent in the middle and placed on the ground on its two ends '*exactly resembling two cards, set up to form an acute angle*' (Tench 1979:154).

Some huts are recorded to have been large enough to accommodate six to eight people, and to have been occasionally grouped together in large numbers (Barrington 1810:20). Some early observers also comment on the presence of '*villages'* situated on the coast between Botany Bay and Pittwater where upwards of 300 people were reported (see Tench 1979).

Although historical records emphasise the importance of the waters and water edge (both on the coast and along rivers) for camping and subsistence, there some indications of the importance of camping in

a 'set back' area (ERM 2004:122). Attenbrow (2002a:47) cites an observation from W.R. Govett written after a trip to the Berowra-Cowan area sometime between 1829 and 1834 suggesting that the valley bottoms were a strategic nexus between the marine and estuarine resources of the water, and the terrestrial plant and animal resources of the 'bush':

> *'The bottom of the ravines, especially where the creeks widen and open to the river, were much frequented by the coastal natives; for the wooded sides of the ridges in this neighbourhood, abound with various animals, and the waters below afford a plentiful supply of oysters and other shells'.*

2.7.3 Use of Stone by Aboriginal People

As noted above, early colonial observations of Aboriginal life in the Sydney region suggest that coastal groups used stone implements less often that hinterland and inland groups (such as in the Cumberland Plain) and that materials of bone and shell was used in its place for the manufacture of such items as spear barbs, adzes and scrapers (see for example Collins 1975:488, Hunter 1968:519).

This picture presents something of a paradox. While little is recorded in the early records of the use of stone by Aboriginal people (at least along the coastal strip and immediate hinterland), stone tool artefacts represent the most common type of archaeological evidence excavated from sub-surface sites (excluding sheltered habitation areas such as beneath rock overhangs etc) and observed on surface archaeological sites. This is largely the product of differential survival where less durable remains of animal bone, shell and vegetable materials representing food debris and items used for the manufacture and maintenance of equipment have not survived the processes of weathering and decay over time.

2.7.4 Use of Plants

A variety of edible or otherwise useful plants are likely to have been present within the immediate vicinity of the study area in the past. These may have included the flowers, nectar, fruits and leaf-bases of many plants and shrubs (including varieties of *Melaleuca, Banksia, Grevillia* and *Hakea)* that are edible when collected at certain times of the year and/or when they are suitably processed.

Fibres for string bags and fishing lines procured from the inner bark of various shrubs and trees including Kurrajong (*Brachychiton populenus*) and Grass Tree (*Xanthorrhoea Sp.*) are also likely to have been exploited by Aboriginal people. The latter species is known to have been used for gum extraction and adhesive, and the fabrication of spear shafts from the dried stem. *Melaleuca* (tea tree) bark is recorded to have been used to make containers, used as 'blanket' in which a newborn baby was wrapped and as a torch (Collins 1975:369).

Tench also noted that when fish were not readily available:

> *'their principle support is derived from small animals which they kill and some roots which they dig out of the earth'.*

The 'roots' described by Tench are generally believed to be yams which formed a significant component of the Aboriginal vegetable diet. Hunter (1968:150) recorded following a visit to the Hawkesbury by boat in 1789 that:

> *'they appear to live chiefly on the roots which they dig up from the ground; for these low banks appear to have been ploughed up, as if a herd of swine had been living on them. We put ashore, and examined the plants which had been dug and found a wild yam in considerable quantities, but in general very small, not larger than a walnut; they appear to be greatest plenty on the banks of the river'.*

Yams are the bulbs of a variety of creepers and vines. Some can be eaten directly after being dug up, while others are poisonous and require 'detoxifying' (leaching through water etc) prior to use. The use of yams by Aboriginal people appears to have related to seasonality with few of the species growing all the year round (Attenbrow 2002:78).

2.7.5 Hunting and Trapping Land Animals

There are few detailed accounts of the nature of Aboriginal exploitation of the larger terrestrial animals which are like to have been present in the local landscape around Contact. However, it is reasonable to assume that kangaroos and wallabies, along with a range of smaller mammals (such as possums, potoroos, bandicoots, flying foxes etc) and reptiles (snakes and lizards) would have been exploited by Aboriginal groups where and when these food resources were available.

A number of early diarists make mention of Aboriginal people catching and eating other types of foods shortly after settlement (Hunter 1968:60-61, Tench 1979:51). Bradley (1969:133-134) recorded in Port Jackson in October 1788:

> *'For a considerable time after our arrival it was suspected they the food of the natives was entirely Fish, but the winter convinced us, that if they had not had some other resource great numbers of them must perish, as it they are very hard put to it when the Fish is scarce:.....There is no doubt they lay wait for the Kanguroo & Birds, many of the trees are notch'd that has not had a Canoe taken from them from which I suppose they get into these Trees to seek or wait for anything that may come their way'.*

Most accounts of hunting derive from Sydney's west and highlight communal techniques and the use of fire as provided by Francis Barrallier (surveyor and explorer) below (AHMS Pty Ltd 2007:23):

> *'they form a circle which contains an area of 1 or two miles, according to the number of natives assembled. They usually stand about 30 paces apart, armed with spears and tomahawks. When the circle is formed, each one of them holding a handful of lighted bark, they at a set signal set fire to the grass and brush in front of them. In proportion as the fire progresses they advance forward with their spear in readiness, narrowing the circle and making as much noise as possible, with deafening shouts, until, through the fire closing in more and more, they are so close as to touch one another. The kangaroos try to escape in various directions, and the native frightening them with their shouts throw spears at the one passing nearest them. By this means not one can escape'.*

There are some suggestions in the historical records (Hunter 1968:469 for example) that these types of hunting activities were seasonally influenced to an extent, where in winter and early spring, particularly during dry weather, that (seemingly the men in particular) the grass was burnt to catch such land animals, while women continued to fish (Attenbrow 2011:471).

2.7.6 The Use of Birds

The extent to which Aboriginal people used birds as a food resource is not fully understood, particularly in areas outside of the immediate coastal strip. The only types of birds reported as eaten were crows, hawks, and parrots ('*parroquets'*) etc (Collins 1975:455 for example). It is probable however, that both migratory and resident sea and water-birds would have been sought along the adjacent creek-lines, ponds and 'swamps' that occur within proximity to the study area.

A number of accounts (and painted images) from inland areas of New South Wales in particular (including the Hunter) provide details of people using a variety of techniques to harvest birds including nets, spears, pit-traps and hand-caught methods using baits to ensnare birds.

3.0 Aboriginal Archaeological Heritage Context

3.1 Regional Aboriginal Archaeological Overview

Aboriginal people have inhabited the Sydney region for at least 30,000 years. A Pleistocene sand body on the Parramatta River has been identified to underlie parts of the City, and an area of this old landform at the eastern edge of the CBD has been archaeologically excavated in three different locations in recent years. One of these sites on George Street (RTA-G1) has returned possibly the oldest date for the first Aboriginal use and occupation of the region (see McDonald 2007:36-37). A site at Cranebrook Terrace has produced a date of c.41,000 BP (Nanson et al 1987), but the precise association of the deposits from which this date has been obtained and Aboriginal artefacts is subject to some debate.

Dated sheltered occupation sites have been documented to occur in the Blue Mountains and its foothills (see for example Stockton & Holland 1974 and Kohen et al 1984). Two dates ranging from 10,000 to 12,000 years before present have also been reported for an open campsite at Regentville, while a rock shelter on Darling Mills Creek (DMSF 2) at West Pennant Hills has revealed a date of a little over 10,000 years for first occupation.

The earliest dated coastal sites are located at Burrill Lake that shows evidence for first occupation approximately 20,000 years ago (see Lampert 1971), and at Bass Point which is dated to some 17,000 years ago (see Bowdler 1970). Both of these sites would have been occupied at a time when the sea level was much lower and the present coastline would have formed part of an inland environment drained by a series of rivers and streams. There are no other coastal Aboriginal sites of comparable age known at present.

Three further sites dated to around 12,000–8,500 years before present that consist of a shell midden at Kurnell (Doughboy Head 1 – Smith et al 1990) that has been dated to c.12,000 BP, an open occupation site that has been dated to approximately 9,300 BP at Discovery Point (close to Tempe House - McDonald CHM 2005:56), and a open campsite (containing a cooking hearth) identified at the Prince of Wales Hospital in Randwick that has returned a dated to c.8,400 BP (Godden Mackay Logan 1997:25-26) provide indications about how people may have lived around the time of sea level fluctuations and subsequent stabilisation along the eastern sea-board of New South Wales during this period (see for example Attenbrow 2010).

The majority of dated Aboriginal archaeological sites in the region are however within the last 2,500 to 3,000 years. Available evidence suggests that the early occupation of the Sydney landscape was not intensive nor included large groups of people, and that around 5,000-6,000 years ago (when the sea

levels had stabilized at the present levels) more intensive use of the landscape by Aboriginal people subsequently began. Many open sites situated away from the coast appear likely to have been first occupied in the last 1,500 years before Contact.

Material culture evidence excavated from the earliest of these archaeologists sites suggest a pattern of the exploitation of a diverse range of terrestrial and aquatic food resources by possibly highly mobile groups of Aboriginal people (Attenbrow 2010:152-54, McDonald 2008:39). The late Pleistocene and early Holocene stone artefacts recovered suggest a preference for silicified tuff that was probably sourced from secondary geological contexts such as from the Hawkesbury/Nepean River gravels (McDonald 2008). However, there are also some indications of the opportunistic exploitation of other raw material types such as silcrete, quartzite and quartz.

These early occupation sites have been largely found in stratified (layered) rock shelter deposits or within alluvial deposits, particularly on the margins of large river systems such as the Hawkesbury-Nepean and Parramatta Rivers. Some researchers (see McDonald 2007) have argued that early occupation of the Sydney Basin was focused on these primary river systems and was characterised by a high degree of 'residential mobility' (frequent movement between campsites). It has been counter-argued (AHMS Pty Ltd 2007:29) that:

> *'it is unclear whether these patterns are real or biased by the exceptional preservation conditions found in deep alluvial deposits created by the large rivers. More work is required to test McDonald's model, specifically identifying and investigating landforms and deposits with potential to contain intact Pleistocene evidence, particularly those further away from the primary river systems'.*

Miscellaneous retouched flakes generally dominant the retouched components of most of these assemblages. However, flaked pebble tools, 'dentated saws' and 'thumbnail scrapers' also occur in some cases. Flaked stone tools such as these will have been complemented by a range of other organic implements such as wooden digging sticks, spears and boomerangs, although these do not survive unless in exceptional preservation circumstances in the archaeological record (see for example Attenbrow 2010:154).

The archaeological evidence for the mid to late Holocene Aboriginal occupation of the Sydney region is both more abundant and, in many ways, seemingly reflecting the development of more complex social and economic systems (see for example Attenbrow 2010, McDonald 2008).

The available archaeological data suggest a marked increase in site usage and population density over time, as well as a growth in the size and complexity of social aggregation. Complex, long-

distance exchange networks are also suggested by the archaeological record, as are major developments in artistic and funerary activities. Developing economic specialisation is indicated by the emergence and subsequent proliferation of complex fishing and stone-working technologies (e.g. backed artefact manufacture), with changes in the composition of stone tool assemblages over time possibly being linked to the minimisation of subsistence risk (see Hiscock 1994, 2002). This in itself is no doubt closely associated with climatically-driven environmental changes (Attenbrow et al. 2009), and changing access to and/or availability of stone resources (Attenbrow 2010, McDonald 2008).

The most common and durable form of evidence that survives as a record of past Aboriginal occupation and use of the Sydney region consist of flaked and ground stone artefacts. Other items manufactured from organic materials in the past, the remains of discarded food refuse, and art people may have created have generally not survived over time.

Our understanding of how and when Aboriginal people occupied and used the Sydney landscape in the past is largely based upon changes that have been observed in the composition of stone tool assemblages and the use of certain types of stone materials used for tool manufacture that are apparent from the analysis of excavated archaeological assemblages undertaken in recent decades.

Over the 30,000 years of Aboriginal occupation of the region, and in particular the last 8,000 years, various temporal markers have been established in an attempt to distinguish the more significant changes in tool types and tool kit composition over time (see for example Attenbrow 1987 & 2004, 2010, Lampert 1971, McCarthy 1948 & 1976, Megaw 1965, and Hiscock & Attenbrow 2005 etc).

Terminology for the archaeological phases within what is known as the *Eastern Regional Sequence* (ERS) include the *Capertian* (or Pre-Bondaian), and the *Early*, *Middle* and Late *Bondaian*. This sequence is still being refined and continues to be clarified by ongoing archaeological work. The sequence is generally accepted and applied throughout most of the eastern sea-board of Australia.

- The *Capertian* (*Pre-Bondaian*) stone tool phase appears to have been essentially composed of large and quite heavy stone artefacts fashioned from fine grained siliceous cherts and silcrete materials. Tool types included uni-face pebble tools, core tools, denticulate stone saws, scrapers, hammer-stones, some bipolar cores and flakes, and burins.
- The change from the *Capertian* to the *Bondaian* appears to have taken place sometime after 8,000 years before present, and is defined by a noticeable shift in stone tool size, raw material use, and in the range of raw materials utilised by people for subsequent tool production. Features of the *Capertian* phase appear to have continued in many areas on the east coast of

Australia, but backed and edge ground implements appear to have been progressively introduced and widely used over this time period.

- The three phases which are recognised as belonging to the *Bondaian* sequence are largely based on the timing of the introduction, and subsequent decline, of backed stone implements, as well as the increased use of bi-polar flaking techniques. Other technological innovations which are evident during the *Bondaian* period include the introduction of ground edge implements (around 4,000 years before present), and the widespread use of shell fish hooks for fishing during the last 1,000 years. The three *Bondaian* phases are summarised below.
- The *Early Bondaian* phase (from approximately 8,000 to approximately 4,000 years ago) appears to have been dominated by the use of fine grained siliceous cherts and silcrete materials. While the use of the larger and heavier stone implements characterising the earlier *Capertian* period seems to have persisted, archaeological evidence suggests backed and edge ground implements were widely introduced and used over time.
- The *Middle Bondaian* phase (from approximately 4,000 years ago to approximately 1.000 y ears ago) appears to have been dominated by the use of fine grained siliceous cherts and silcrete materials and the manufacture and use of smaller backed implements. This phase is seemingly characterised by the increased manufacture of micro-blades such as Bondi Points and bi-polar artefacts, and the use of quartz as a ready source of a raw material for the production of flaked stone implements.
- The *Late Bondaian* phase (last 1,000 years) appears to have been dominated by the increased use of quartz (with the use of other raw materials of stone), common manufacture and use of edge ground implements, and the use of bone and shell implements (including shell fish-hooks) at some investigated Aboriginal archaeological sites.

3.2 Aboriginal Archaeology in the Cumberland Plain

3.2.1 Introduction

The last three decades or so have seen a dramatic increase in the number of archaeological investigations undertaken on the Cumberland Plain. The majority have been completed as part of larger environmental impact assessments that have been triggered by rapid urban expansion and the need for new land release. Our understanding of prehistoric Aboriginal occupation and use of the Plain and its resources has therefore increased over time, with thousands of archaeological sites now recorded. Although most of these sites remain undated (see below), a number of useful models for past Aboriginal landuse and site location across the Cumberland Plain have been developed and

refined over time as new information has become available (see for example Baker 2000, Dallas and Witter 1983, Haglund 1980, Kohen 1986, McDonald 1997). Each of these models link Aboriginal site distribution on the Plain to a variety of environmental factors, with proximity to water, stream order, landform and geology (including proximity to known stone sources) representing key determinants.

A number of large-scale archaeological excavations and analyses have been undertaken in the last decade or so that have provided sufficient information that has been useful to testing the veracity of some of the key assumptions identified in these predictive models. Three key investigations are summarised below that provide a characterisation of some aspects of past Aboriginal life in this portion of the Cumberland Plain as it is reflected in the archaeological; record.

3.2.2 Principal Archaeological Investigations

Rouse Hill Infrastructure Project (RHIP)

The Rouse Hill Development Area (RHDA) is one of the most intensively investigated portions of the Cumberland Plain. Aboriginal Archaeological mitigation work undertaken for the RHIP involved over a decade of systematic archaeological survey and excavation. The results that have developed from these investigations form the basis of one of the more influential predictive models for Aboriginal site location on the Plain that is widely used today.

Archaeological survey conducted as part of Stage 1 of the RHIP identified approximately 27 Aboriginal archaeological sites and 14 areas of Potential Archaeological Deposit (PAD)that were located in a variety of landscape/landform contexts. Flaked stone artefact scatters (surface) were the most common site type recorded during this first stage of the project.

As part of Stage 2 of the RHIP, JMCHM Pty Ltd undertook salvage excavations of six areas that had previously been identified during Stage 1 as archaeological sites on the basis of the presence of surface artefacts or areas of PAD (JMCHM Pty Ltd 2005c). A total of 482 square metres of soil (to varying depths) were subsequently excavated across these six sites. These investigations included three c.100 m² open area excavations (contiguous 1m by 1m squares etc). Combined, these excavations recovered over 30,000 flaked stone artefacts. This outcome is of some note given that surface artefacts were infrequent or absent from all of the sites prior to the commencement of the archaeological excavations.

Technological analysis of the excavated archaeological assemblages from these sites was consequently used to suggest that while some sites were most likely occupied by people in the past on a ‘casual’ basis as short-term ‘stop-over’ or ‘day-time’ campsites, others likely represented more permanent residential bases for people as they moved through the landscape. Intra and inter-site

differences in assemblage composition (raw material and tool type frequencies) found during the analyses were also linked to variability in site function and changes in patterns of raw material procurement, tool manufacture and use over time.

In the absence of precise dating, the bulk of the assemblage was interpreted (within the framework of the ERS) as belonging to the Middle Bondaian (c. 4,000-1,000 BP), with some limited evidence for Pre-Bondaian (*c*.30,000 BP-8,000 BP) activity at two sites also being noted. Broadly, the nature and extent of the archaeological evidence recovered was argued to correlate with the availability of permanent water. Sites located in landscapes with more permanent water were found to be extensive and complex, with evidence for repeated and overlapping behaviours/activities being reflected in the types and amount of flaked stone artefacts recovered. Sites with more ephemeral water supply, in contrast, were typically found to be sparser and contained evidence suggestive of more localised, 'one-off', behaviour/activity.

Mungerie Park Town Centre

Archaeological investigation work carried out as part of the planning process for the Mungerie Park Town Centre (now Rouse Hill Town Centre) at Rouse Hill involved both archaeological survey (AMBS 1998) and later test excavation (AMBS 2000). The test excavations for this project were conducted in the southern half of the 76 ha portion of the 128 ha Mungerie Park Town Centre precinct. This area was defined by (AMBS 1999) as the 'Western Slopes' and comprised the slopes above the 1:100 year flood level to the west of Caddies Creek.

The location of the excavation pits were selected according to a systematic random sampling approach, with the overall objective of the excavations being to identify and compare stone artefact frequencies between square and to locate any artefact concentrations. Test squares were placed at regular intervals along transects running both parallel and perpendicular to Caddies Creek. Three locations were also subjected to more detailed investigation through open area excavations. The latter were designed to 'capture' (hopefully) large contiguous samples of artefacts representing potentially complete archaeological features such as knapping floors to facilitate an assessment of their spatial relationships.

Together, the excavations identified complex intra-site patterning in the distribution of artefacts across the tested area. Stone artefacts were found up to 300m from Caddies Creek, with artefact densities generally highest within 100m of the creek. However, some concentrations of artefacts were also found up to 200m away the creek and occurred in the midst of a low-density background scatter of artefacts and incorporated several complete knapping floors. Beyond 200m away from the watercourse, archaeological evidence for past Aboriginal activity was found to be sparse.

A total of approximately 5,500 stone artefacts were recovered during the course of the excavations, with the majority of artefacts comprising knapping by-products such as flakes (complete and broken), ores and flaked pieces. Comparable with artefact assemblages of this size from the Cumberland Plain, the retouched component of the collection was dominated by complete and broken backed artefacts (Bondi points and geometric microliths).

Likewise, silcrete that is believed to have been sourced from the St Marys Formation gravels was also found to the dominant raw material for flaked stone artefact manufacture, accounting for 79% of the total assemblage. Tuff (12.5%) was the second most common raw material utilised, followed by items of quartz (7.9%). The remainder of the finds comprised an unidentified volcanic stone, petrified wood, and quartzite.

One of the findings that was most clearly expressed as a result of these investigations was that the spatial patterning in flaked stone artefact distributions can, in certain circumstances, be evaluated within a three-tiered model of 'Activity Overprint Zones' incorporating 'Complex', 'Dispersed', and 'Sparse' zones whereby:

- Complex zones will most likely exhibit overlapping knapping floors and high density concentrations of artefacts indicative of repeated, long-term occupation events.
- Dispersed zones may include knapping floors. However, these are typically spatially discrete due to less frequent occupation.
- Sparse zones will most likely exhibit consistently low frequencies/densities of artefacts. Artefact discard in these zones is likely to have resulted from discard in the context of use or loss rather than manufacture.
- Flaked stone artefact production and maintenance will generally leave a more obtrusive archaeological 'signature' than resource extraction (e.g. food collection and processing). These activities will also most likely occur closer to the residential core while resource extraction will typically occur away from it.

Colebee Release Area (Eastern Creek)

JMCHM Pty Ltd undertook a major archaeological salvage investigation of the Colebee Release Area (CRA) that incorporates parts of Plumpton Ridge (and is bordered on its eastern side by Eastern Creek) in 2006. Three broad landscapes were selected for salvage excavation that comprised the riverine corridor of Eastern Creek, the mid-range slopes between Eastern Creek and Plumpton Ridge, and the margins of Plumpton Ridge at approximately 50m AHD elevation.

A total of 687m² were {hand) excavated that produced an assemblage of over 80,000 stone artefacts, with silcrete sourced from Plumpton Ridge dominating. Other raw materials included silicified tuff, silicified wood, quartz, quartzite and hornfels.

Of the seven areas investigated (referred to SA23 which was located on an elevated hillslope adjacent to the Eastern Creek riparian corridor) produced over 45,000 artefacts recovered from 60 m² of open area excavation. Artefact densities here ranged from between 333 and 1,855/ m² which is one of the richest archaeological deposits currently known for the Cumberland Plain.

At a general level, technological analysis of the CRA stone assemblage suggests that most of the excavated material relates to Bondaian (*c*.8,000 BP to European contact) period occupation.

3.2.3 Dated Archaeological Sites in the Cumberland Plain

A small number of archaeological sites that have been excavated in the local landscape have been dated and indicate the presence of Aboriginal people in this area in the mid to late Holocene. These include Power Street Bridge 2 (5 957±74 14C BP)4, Rouse Hill RH/CD7 (4 690±80 14C BP), Parklea OWR7 (4060±90 14C BP), Quakers Hill 2 (3 450±60 14C BP), Plumpton Ridge (2 250±80 14C BP), Parklea PK.CD1+2 (1 070±60 14C BP), and Second Ponds Creek (650±100 14C BP).

3.2.4 A Summary of Aboriginal Archaeology in the Cumberland Plain

The brief review above illustrates that a number of key studies undertaken over the last twenty years or so have progressively refined our understanding of past Aboriginal landuse practices in the Cumberland Plain. In particular, this research has demonstrated that many earlier models (often based primarily on surface evidence) have been flawed in certain aspects in their attempts to accurately describe the characteristics of Aboriginal archaeological sites in the local landscape and predict site location distribution patterns and/or their relative variability.

A useful summary of these works are provided by JMCHM Pty Ltd (1999b), McDonald (2007), and White & McDonald (2010). These studies report on the importance of stream order provenance, landforms, distance from water, site aspect, geology, past vegetation landscapes, and how these interrelated factors are likely to have effected Aboriginal site complexity and composition that have been revealed through recent Aboriginal archaeological excavations.

The majority of these Aboriginal archaeological excavations have been undertaken in landscape contexts associated with Eastern and Caddies Creeks within the RHDA.

In summary (White & McDonald 2010:32-34) provide the following information that assists in the following sections of this report:

'Stream Order: Water supply is often thought to be a significant factor influencing peoples' land-use strategies. Large and/or permanent water supplies may have supported large numbers of people and/or long periods of occupation while small and/or ephemeral water supplies may have been able to support only small numbers of people and/or transient occupation.

The stream order method identifies the smallest tributary stream as 1st order, two 1st order streams to join to form a 2nd order streams, two 2nd order stream, two 2nd order streams join to form a 3rd order stream, two 3rd order streams join to form a 4th order stream and so on.

[Aboriginal] *artefact distributions varies significantly with stream order.*

Landform: 'Creek Flats' are flood plains with flat to gently inclined surfaces, adjacent to streams. 'Terraces' are former flood plains but no longer [are] *frequently flooded and occur at higher elevations than flats. 'Ridges' occur at the top of slopes, forming watersheds. 'Hillslopes' are roughly subdivided into lower, middle and upper to describe their relative position in valleys. Lower slopes comprise the lower third of slopes above valley floors, mid-slopes comprise the middle third of valley slopes between valley floors and ridge tops, and upper slopes comprise the upper third of slopes below ridge tops.*

Artefact distribution varies significantly with landform.

Distance From Water: Proximity to water was previously thought to be a primary determinant of site location on the Cumberland Plain. Distance from water is considered here in relation to stream order [as described below].

Previous studies on the Cumberland Plain indicated that 'sites' would be clustered within 50m of water.

Aspect: The orientation of open land surfaces may have influenced people's choices of artefact discard locations: north-facing slopes tend to be drier and provide shelter from colder southeast or southwest winds. Slopes facing northeast receive morning sun in winter and are sheltered from hot afternoon sun in summer.

Geology: Geology defines landforms and drainage, influences habitat formation and provides different resources such as sandstone suitable for grinding, and diversity of plant resources. Within the RHDA, the Wianamatta group of shales forms an undulating topography, and overlies Hawkesbury sandstone which is exposed on some lower slopes and along larger streams as platforms, low ledges, boulders and (rarely) rockshelters.

Distance to Silcrete Sources: Silcrete is the predominant artefact lithology in the RHDA, with silicified tuff predominant in only a few stratigraphically deeper [excavated] *assemblages which are technologically similar to late Pleistocene or early Holocene assemblages from Parramatta. Numerous studies have shown the effects of increasing distance from stone sources on attributes of lithic assemblages, as people used various strategies to conserve available lithic supplies when distant from quarries – 'distance-decay theory'. One conservation strategy could have been to discard fewer artefacts, therefore resulting in lower artefact densities with increasing distance from known lithic sources'.*

3.3 Local Aboriginal Archaeological Context and Overview

3.3.1 OEH AHIMS Site Search

A search of the OEH AHIMS Sites Register (Search #68284) was undertaken prior to the commencement of the Aboriginal archaeological survey and assessment program reported here. This search covered an area of approximately 1km by 1km that was centred on the subject land.

This AHIMS search indicates that no Aboriginal sites or objects have previously been identified to occur on the proposed HDBP site.

The location of Aboriginal archaeological sites that have previously been recorded to occur nearby to the proposed HDBP study area (as drawn from a recent heritage assessment and feasibility study prepared for the Trust by Biosis Research Pty Ltd 2011) are mapped in **Figure 3.1**. The heritage sites are presented in this figure against the backdrop of the dominant soil landscapes and landforms that characterise much of Horsley Park. The approximate location of the proposed HDBP land is marked (arrowed) on this map.

There are seven (7) registered Aboriginal archaeological sites within the local Horsley Park landscape as illustrated in **Figure 3.1**. Three (3) of these sites are open artefact scatters, and are recorded to comprise small numbers of flaked stone artefacts, and three (3) other consist of isolated artefacts finds. The remaining recording (OEH AHIMS Site #45-5-3082) is an area of Potential Archaeological Deposit (PAD). No information for what this AHIMS registration comprises has been located during the course of preparing this report. The site is however located a considerable distance to the west of the proposed HDBP study area, and will therefore remain unaffected by the proposal.

A brief review of previous Aboriginal heritage investigations undertaken in Horsley Park is presented below which places these site recordings in context. This overview provides a basis for the Aboriginal archaeological site prediction evaluation that is presented in the following sub-section of this report.

3.3.2 Previous Aboriginal Heritage Investigations in Horsley Park

A number of previous Aboriginal heritage investigations relevant to the current study have been undertaken since 1989 to guide major road, water, and power infrastructure planning and implementation projects in Horsley Park. Some of these have been completed for lands within and/or immediately adjacent to Prospect Reservoir to the north of the proposed HDBP site. As a result of these studies, a number of additional archaeological sites located outside of the areas that are mapped in **Figure 3.1** have been identified and recorded. A 'constraints map' presented in a 2011 REF prepared by *Transgrid* to inform the Sydney West (Holroyd) 330kV transmission line up-rating is reproduced here as **Figure 3.2**. This illustrates the relative location and concentration of previous Aboriginal archaeological recordings within local Reedy, Eastern, and Prospect Creek landscape contexts.

For example, Smith (1989) undertook an Aboriginal archaeological survey and assessment in the vicinity of the Reservoir prior to the construction of an open water channel for the then *NSW Water Board* in 1989. In addition to the 1.4km x 50m impact footprint assessed for the project at that time, this investigation also included a targeted survey of an approximately 100 ha area of land surrounding the proposed activity area.

As a result, four (4) open campsites (coded PR 1 to 4) and one (1) isolated find (coded 1A) were recorded. Of these, two (2) of the open campsites were assessed to represent Contact-period archaeological evidence that consisted of stone and glass artefacts in the case of PR 2 (at a location 50m north of Chandos Road), and with glass items alone at PR 3 (at a location 70m west of the Upper Canal). The remaining two (2) open campsites (PR 1, 100m north of Chandos Road, and PR 4, 250m north of what is reported as Conduit 5) consisted of small numbers of flaked stone artefacts. Sites PR1 and 4 are described to have consisted of small numbers of largely unremarkable silcrete flakes. The isolated find (1A) comprised a 1-2cm long fine-grained silcrete flake

Site PR 2 (OEH AHIMS Site #45-5-0766) was recorded to comprise at least seven clusters of flaked glass and a background scatter of both flaked glass (over 1,000 items) and four flaked stone artefacts extending over an area of at least 40m by 40m. The glass items were recorded to be of dark green to olive 19th century hand-blown bottle glass, whilst the stone items are reported to be of silcrete and to each measure less than 3cm in length.

Site PR 3 (OEH AHIMS Site #45-5-0767) was described to consist of a large mound of broken and flaked bottle glass with at least three considerably smaller clusters of glass occurring around the principal mound. Covering an area of approximately 20m by 10m, it was estimated that the site contained over 2,000 glass fragments although not all items were observed to display any evidence

for (intentional) human flaking. A small sample of glass items that were considered to be artefacts were described to include cores, scrapers and flakes.

Comber subsequently undertook a survey of lands on the southern shore of Prospect Reservoir between 1900 and 1991 in response to a (then) *NSW Water Board's* proposal to construct a new water processing plant and a pipeline corridor bypass. Comber (1991) reported on the location of a small number of open campsites and isolated finds during these studies, in addition to an Aboriginal scarred tree (Comber 1990a). The tree was a grey box, and was described as possessing two separate scars.

Steele (2004) undertook on behalf of the (then) *Sydney Catchment Authority* in 2004 a aboriginal heritage survey and assessment study to inform a proposal to augment existing water storage and supply facilities at Prospect Reservoir that overlapped in places with lands previously inspected by Smith and Comber. This study included the following findings:

> *The co-association of flaked stone artefacts and what may represent intentionally flaked bottle glass materials is potentially significant in so far as it may indicate Aboriginal occupation of the place into the post-Contact period. Mindful that the recent site survey has failed to relocate these previously reported sites (as described in the following section), the veracity of the presence of Aboriginal flaked glass items (as opposed to naturally fractured items) with provenance to locations where a low-density distribution of stone artefacts occur cannot at present be confirmed or refuted at this point in time. However, in evaluating this evidence the following considerations are pertinent:*
>
> - *The proportion of intentionally flaked glass items to pieces that have been fractured as a consequence of vehicle damage and/or other activities associated with the ongoing post-Contact use of the land (such as past land clearance and maintenance) remains unclear.*
> - *Fracture patterns, flake scars, and other attributes such as bulbs of percussion that may be present on glass items that are the result of non-intentional (natural) processes such as vehicle impacts, trampling and breakdown through time can often replicate those observed on intentionally flaked stone and glass artefacts.*

While the potential presence of post-Contact Aboriginal archaeological evidence at Prospect Reservoir is a significant finding that remains to be unequivocally demonstrated, the previously reported sites nearby to Prospect Reservoir are (presumably) still intact and all occur well outside of the proposed HDBP study area.

Other recent archaeological heritage investigations undertaken at Horsley Park (and nearby) include excavations carried out by McDonald (2003) of SEPP 59 Lands bounded by the Western (M4) Motorway to the north, Wallgrove Road to the east, the Prospect Water Supply Pipeline to the south, and 330kV power lines east of Ropes Creek to the west. The lands are located approximately 1 km to the northeast of Horsley Park. A progressive Aboriginal archaeological planning study was completed for the area over a period spanning from 2002 to 2005. Four Aboriginal archaeological test excavations were undertaken in this area; McDonald's being the most recent in 2003. Over 1,500 Aboriginal flaked stone artefacts were retrieved during this excavation.

Haglund and Rawson (2007) undertook an excavation at Horsley Park on behalf of the (then) RTA for a proposed upgrade of Horsley Park Drive. The aim of the test excavation was to ascertain the heritage potential the areas to be affected and to assess the character and significance of any such evidence recorded. The Aboriginal heritage material that was found by the test excavation was mostly in disturbed contexts and Consent to Destroy (a Section 90 AHIP) was applied for where proposed construction or associated activities would interfere with potential archaeological deposits.

3.3.3 Summary

In some respects, the distribution of recorded Aboriginal archaeological heritage sites across the landscape surrounding the study area may reflect more accurately the pattern of development, the non-systematic nature of site discovery and recording during project environmental assessments, and factors of site visibility (exposure), rather than providing a true picture of (surviving) Aboriginal site distribution. However, a number of evidentiary-based considerations are apparent that can also be broadly relied upon and applied to support the Aboriginal archaeological site prediction model that is presented below. These include:

- Stream order modelling, as a predictive tool, can be used to anticipate the potential for Aboriginal campsite locations in the local landscape based primarily on the order of water permanence. Namely, it can be utilised to forecast the likely location, nature and complexity of sites including the possible range of activities that may have been carried out at a particular site in the past, as well as the possible frequency and/or duration of site occupation. In terms of the most common (and durable) type of evidence found comprising Aboriginal heritage site in the region – stone artefacts - it is likely that overall artefact occurrences in the vicinity of a high order ranking stream will reflect a greater range of activities (e.g. tool manufacture and maintenance, use, food processing and quarrying) than those located on lower order streams. Temporary or casual occupations of a site, reflected by isolated knapping floor or low frequency tool discard, are more likely to occur on smaller, less permanent water courses.

- Historic landuse activities (as detailed in the following section) will have an impact on the surface and subsurface archaeological potential of a study area. In general, lower levels of disturbance will often be expected to correlate with higher potential for archaeological survival, dependent on the nature, location and context of the landform under consideration. Categories of ground disturbance types are varied, but can include (hand and mechanical) vegetation clearance, stock grazing, cultivation (ploughing and drainage provision), and construction (commercial/residential, road and infrastructure works).
- Different types of landuse activities, and different levels of associated environmental effects (such as sheet/gully erosion, fluvial disturbance etc), will have different levels of archaeological impacts that will affect the integrity of both documented and potential archaeological resources. For example, tree removal 9de-stumping) may result in local displacement of buried artefacts, while mechanical agricultural activities (deep-tilling etc) may extend below 'plough zones' that are sometimes referred to as occurring between 100mm to 300mm below ground surfaces. Larger-scale removal or displacement of topsoil via excavation for commercial/residential development may entirely destroy archaeological sites, although remnant (dispersed) materials may survive, but in uncertain archaeological contexts.
- Finally, mindful that significant flood events (some matching or exceeding 1 in 100 year event modelling that have been prepared for parts of the Parklands on Eastern Creek and a number of its tributaries – see DIPNR 2004) are documented for the local landscape, it is noteworthy to consider the potential impacts these types of environmental factors may have had on archaeological resources over time. The proposed HDBP site contains elevated, sloping, and low-lying topographic landforms. It is possible that flooding (and extreme/prolonged rainfall periods creating them) will have affected archaeological materials leading to the redistribution of artefacts into non-systematic concentrations with less focus than expected for even transient campsites in the headwater zones of principal creek catchments in the region (see for example AMBS Pty Ltd 2005:21-22).

3.4 An Aboriginal Archaeological Site Prediction

3.4.1 Rationale

Predictive models of Aboriginal archaeological site location attempt to identify areas of relative archaeological/cultural heritage sensitivity (high, moderate and low etc) as a tool that can be used for the planning and management of known Aboriginal sites and places of potential sensitivity within future development and/or land-use modification circumstances.

These models are generally based upon information including the types of landscape units contained within a study area, the results of previous Aboriginal archaeological and cultural heritage investigations undertaken in the surrounding landscape, the distribution of previously recorded sites along with their known nature, integrity, and potential composition, and upon an understanding of traditional Aboriginal land-use patterns (where possible) as guided by contemporary Aboriginal communities.

3.4.2 HDBP Aboriginal Archaeological Site Prediction

The following Aboriginal archaeological and cultural heritage predictive statement for the proposed HDBP site was prepared prior to the commencement of the current site inspection and assessment program.

Based upon information sourced from the OEH AHIMS Sites Register, and the background data for local Aboriginal archaeological contexts reviewed above, the types of sites/evidence that were expected to potentially occur/survive within the study area (as detailed and illustrated in **Section 5.0** of this report) were outlined.

- *Open Camp Sites*: These types of Aboriginal cultural heritage sites are likely to occur on dry and relatively flat landforms along or adjacent to both major and minor watercourses in the local Kellyville landscape. However, repeatedly or continuously occupied sites are more likely to be located on elevated ground situated at principal creek confluences in the locality.

  Surface scatters of flaked stone artefacts (or potentially durable food remains such as animal and fish bone or shell) may be the result of mobile hunting activities, while single or/and low density occurrences of such finds might relate to tool loss, tool maintenance activities or abandonment. These types of sites are often buried in alluvial or colluvial deposits and only useably become visible when subsurface sediments are exposed by erosion or disturbance allowing their identification and subsequent reporting.

  As described and evaluated in following sections of this report, surface sites can also be indicators of associated subsurface archaeological deposits which may remain intact dependant on the degree of land disturbance which has occurred in the past.

- *Isolated Artefacts*: These items generally occur without any associated evidence for past Aboriginal prehistoric activity or extended occupation. Isolated finds can occur anywhere in the local landscape and may represent the random loss, deliberate discard or abandonment of artefacts, or the remains of dispersed artefact scatters as people moved through favourable resource catchment zones over time.

Single artefacts are commonly found across the landscape as individual pieces which have no associated archaeological context. Isolated finds may be the result of either opportunistic resource use/discard or represent the 'background scatter' of Aboriginal archaeological material that can be seen across much of the Cumberland Plain

Manuports are referred to as items consisting of raw materials of stone that do not naturally occur within the soil profiles of a given region. Transported onto a site by Aboriginal people from sources elsewhere, these items will have subsequently been discarded before use as flaked or ground stone tools.

It was anticipated at the initiation of the project that there was some chance that isolated artefacts (and/or low distribution of finds) may occur within the proposed activity areas across the site, although it was recognised these items are in most cases extremely difficult to detect where ground visibility conditions are limited. The archaeological visibility considerations recorded during the April 2012 site inspection are described below.

- *Background Archaeological Scatters:* A number of definitions exist in the archaeological literature for which this term may apply. This refers to be low density presence of Aboriginal archaeological material across most landforms on the Cumberland Plain. Often isolated finds or artefacts out of context, Aboriginal archaeological material is present across much of the region as a result of the time depth in which Aboriginal people have been present and utilising resources on the Plain (in excess of 20,000 years). This time depth when related to variables such as: changes in past Aboriginal populations; landuse regimes, artefact reduction methods and the longevity of Aboriginal stone artefacts in the archaeological record and combined with natural erosion processes have served to create what archaeologists call a 'background scatter' of archaeological material in which whole and *in situ* Aboriginal archaeological sites are identified and studied.
- *Potential Archaeological Deposit (PAD):* A number of definitions also exist in the archaeological literature for which this term may apply. This issue, relative to the current HDBP proposal, is discussed in context within following sections of this report.

  Essentially, this term generally refers to an area of subsurface archaeological sensitivity that has not undergone any significant levels of disturbance in historical times, whereby archaeological excavation of a PAD is considered likely to yield intact subsurface Aboriginal artefacts and/or artefact-bearing deposits. The identification of areas of PAD is generally based on landscape and environmental factors such as topography, hydrology and proximity

to local resources. PADs can either be identified in association with identifiable surface artefacts or on the basis of landscape and environmental factors alone.

- *Scarred Trees*: These sites are the result of bark or wood removal to make shields, shelter, canoes containers or carving designs into the exposed wood. These sites have rarely survived early timber clearance, bush fires and timber cutting. The definite ascription of scarring on a tree to an Aboriginal origin is not always possible. Europeans often removed bark for roofing material and stock watering troughs. Other scars may be the result of surveyor and property owner blazes, lightning strikes or cockatoo pecking. Unless the tree is at least 150 years old the scarring is unlikely to have an Aboriginal origin.

3.4.3 HDBP Aboriginal Archaeological Site Prediction

In summary, it is likely that 'attractive' areas in the landscape, such as permanent water, rises overlooking stream confluences, and raw material sources, would have encouraged repeated visits of longer duration by Aboriginal people in the past. This would have resulted in a wider range of activities (getting water, hunting, fishing, plant gathering, and camping etc), producing more diverse archaeological remains.

Other areas may show the results of one-off tool making or repair, produced as people moved through the landscape as part of a mobile lifestyle.

Historical land clearance will have greatly reduced the potential that scarred trees may survive in the study area.

Figure 3.1: Previously Recorded Aboriginal Archaeological Sites in the Local Landscape (Source: Biosis Research Pty Ltd 2011).

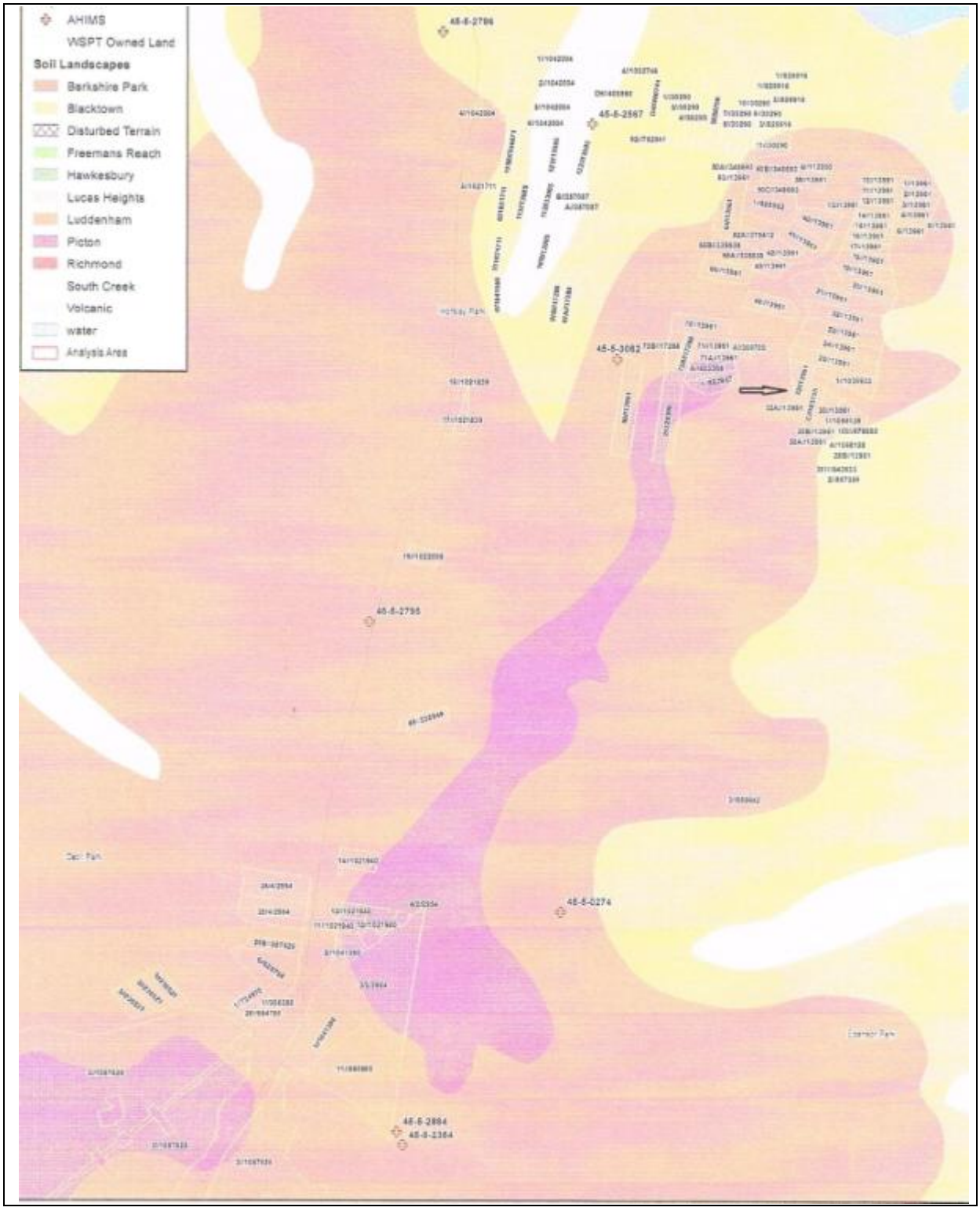
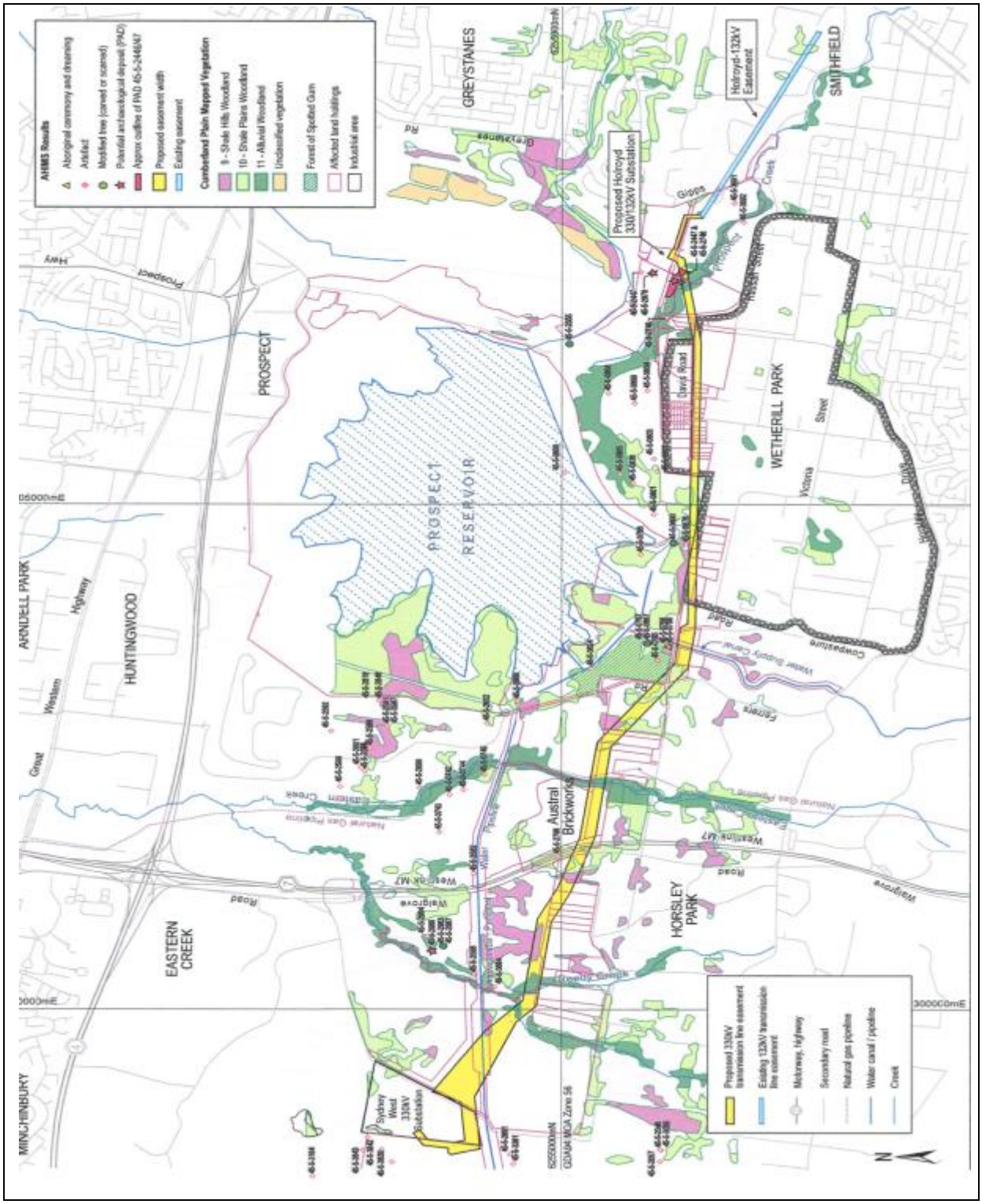


Figure 3.2: Previously Recorded Aboriginal Archaeological Sites in the Local Landscape on Reedy, Eastern, and Prospect Creeks (Source: Transgrid 2011).



4.0 European Heritage Context

4.1 Early European Explorations as of the Fairfield District

One of the earliest recorded descriptions of the Fairfield district is described in William Bradley's journal (Bradley 1969) that provides details for an expedition by Governor Phillip and a small party between the 7th and 10th of October 1789 leaving from Rose Hill (Parramatta) and returning from Prospect Creek that attempted to determine whether Prospect Creek led to Botany Bay.

Bradley describes a place on the Creek where the water changed from fresh to salt with a drop of 4 feet (due to the tide being out). The location appears to have been 'Rocky Bridge'' in present-day Fairfield Park, The presence of salt water confirmed Prospect Creek's connection to the sea. Travelling downstream on the western bank of the Creek, the party were hampered from continuing by the junction of Orphan School and Prospect Creeks. At this site, Bradley recorded a fight between a kangaroo and one of the party's greyhounds in the Creek, which required one of the group to enter the water to save the dog. That location is believed to have been near the present-day bend of Riverview Road, Fairfield.

4.2 King's Gift - Horsley

As described below, the allotments that comprise the proposed HDBP form part of the subdivision of the Horsley Estate that was undertaken in 1925. Horsley was established by Major George Johnston by the grant of 2,000 acres (809 ha) dated 18th December 1805. The grant was made by Governor Philip Gidley King in recognition of the crucial role Johnston played in suppressing the armed rising of Irish convicts at Vinegar (Rouse) Hill in March 1804. Johnston named the grant 'King's Gift'.

George Johnston (1764-1823) had come to the colony of NSW in 1788 with the First Fleet as part of the marine detachment aboard the *Lady Penrhyn*. Reputedly he was the first man ashore at Port Jackson. Like many of the officers, Johnston in addition to his official military and civic duties engaged in commercial farming (permitted after 1803) and he received numerous land grants. His initial grant was 100 acres at Petersham, which was named Annandale Farm and became the focus of Johnston's life. In total he received 6,756 acres in land grants inclusive of 600 acres neighbouring, to the west, King's Gift (Horsley) in 1815 that was named Lockwood. These grants were supplemented by land purchases and at King's Gift (Horsley) this comprised two fifty acre farms on the northern boundary (1821), and Abbotsbury, comprising 2,000 acres to the south of King's Gift (Horsley), that was acquired from Major Abbott around 1811.

At King's Gift (Horsley) and at farms on the Georges River, the Johnston's kept most of their sheep and cattle. Johnston's son, David, lived at the neighbouring Lockwood for a time, and from the mid

1820s until 1837 George Johnston's widow, Esther, lived there. Very little information is available about Abbotsbury and how the Johnston's used it.

A detail section of a 1908 map of the Parish of Melville that shows the Johnston's' land grants inclusive of King's Gift is presented in **Figure 4.1**. The approximate location of the HDBP study area is marked on this figure.

4.3 Horsley

Following Johnston's death in 1823, King's Gift (Horsley) was divided equally between his daughters Julia, Maria, and Blanche. By 1831 the whole of the grant was owned by Blanche (1806-1904). Blanche married Captain George Edward Nicholas Weston in Sydney 1829 and he renamed the estate Horsley after his family seat in England.

Captain Weston was of the East India Company and the couple spent two years in India before coming to live at Horsley in 1831. The house was built in about 1832 and its design was derived from Indian precedents. It has been assessed as the '*finest and the most sophisticated (Indian) bungalow built in the colony' and is unique in New South Wales*' (Broadbent 1997:327). The house was furnished and lined in Indian teak. The house and its garden setting are located well to the west of the allotments under review in this study.

Edward Weston died in 1876 and his widow, Blanche, died at Horsley in 1904. Both were buried at the graveyard of St Bartholomew's at Prospect. The estate, then comprising 2,045 acres, was put up for sale in 1905 and the neighbouring Lockwood, which had also come be owned by the Weston's, was also sold in that year (Sydney Morning Herald 15/5/1905). While a photographic record of the house and immediate garden setting was made in 1905, a military reconnaissance map dated 1906 and the sale notice of 1905 quoted below provides a detailed account of the estate as developed by the Weston's (Sydney Morning Herald 11/2/1905):

> *The residence has for decades of years been a praise, fashioned after the style of the best Indian bungalow for coolness, and in the height of some of the rooms. It is built of brick, stout walls, cemented, contains wide verandahs, eleven rooms, pantries, detached building of 3 bedrooms, kitchen, scullery, etc. Basement is superior, and very useful. The stabling is 11 stalls, 2 looseboxes, coach and harness rooms, men's rooms with loft over all. Stockyards, barns and barnsheds, orchard and vineyard, choice fruits. The paddocks number sixteen in all, each with dam or creek. Valuable timber for mill or fuel purposes is standing, computed as worth some thousands, men's cottages, wine house. .. The residence is on an eminence, surrounded by cleared paddocks, and commands wide and pretty views.*

A '*reconnaissance map of the neighbourhood of Liverpool Camp*' dated 1906 is provided here by **Figure 4.2**. In this sketch map the area of the Weston's' Horsley under present review here was described as lightly timbered. Horsley Road was not depicted.

4.4 Horsley Estate

In the mid 1920s Horsley was purchased by the property developer Arthur Rickard and was subdivided to form 'farmlet' blocks of between five and 31 acres. There were also a number of small quarter acre suburban blocks fronting Horsley Road (The Horsley Drive). The subdivision was released initially for sale in 1925 (Sydney Morning Herald 30/0/1925):

The allotments that form the HDBP site are located at the south-east corner of the Horsley Estate being bounded on the east by Cowpasture Road, on the south by Horsley Road, and on the west by the Sydney water supply canal.

Horsley Road was dedicated as a public road in 1925 in Rickard's subdivision, but probably was an earlier estate road and also a means to access the water supply canal.

Cowpasture Road is one of the earliest roads in Australia. It led to the Cowpastures (Camden district) from the Western Road at Prospect Hill, and was also the main road extending south before the Lansdowne Bridge was built over Prospect Creek in 1836. Little more than a track in its formative years, by late 1806 the route had been surveyed and by 1809 sufficiently defined to permit excursionists from Sydney. The road and the old homesteads beside it, inclusive of Horsley, were immortalised by the architect William Hardy Wilson in the 1920s in his book, *The Cow Pasture Road* (Proudfoot 1987:68).

The Upper Canal of the water supply from the weirs on the Upper Nepean River and Cataract River was completed in 1888. The water flowed through the canal from the catchments by gravity into Prospect Reservoir, which was the main storage dam. The Upper Canal is 45 km in length and is lined in the most part of dry packed rubble masonry. A strip of land bordering the canal was also reserved, and here some landscaping appears to have been undertaken and houses built for the maintenance men.

The original survey of the route of the canal through the Weston's Horsley is reproduced below (see **Figure 4.3**). This poor image quality is as supplied by the *Land and Property Information Authority*. The date of the drawing is indecipherable. The approximate location of the study area under review is circled.

4.5 A Summary History of the HDBP Allotments

All of the allotments under review here were formed in the Horsley Estate subdivision. The subdivision was made in Torrens Title and the plan of the subdivision was registered in 1925 as Deposited Plan 13961 (see **Figures 4.4** and **4.5**).

An aerial photograph dated 1930 indicates this part of the Horsley Estate had been substantially cleared of trees and scrub and was one large, open paddock (see **Figure 4.6**). No built development was depicted aside from the maintenance man's house associated with the water canal and a few small structures at the junction of Horsley Road and Cowpasture Road (Lot 28C). That particular allotment (28C) was not sold by the vendors until 1939 and the date and use of the structures depicted are not currently known.

The earliest sales of this part of the Horsley Estate occurred in 1929 (Lots 29 and 29A) and 1930 (Lot 28A) and then after a lapse of some years, no doubt because of the Depression, between 1937 and 1939. These early sales included the northern allotments (Lot 23 & Lot 26) that were favourable for farming with their creek systems. The smaller suburban lots (Lots 28B, 28C, Lot 30B, Lot 31A, Lot 31B) along Horsley Road were also popular with purchasers in the late 1930s. In most instances an individual allotment was purchased.

The one significant exception was the purchase of Lots 26, 27, 30, 30A, 30B, 31, 31A and 31B in 1937 to form a farm of around 22 acres. In that farm the house was built on Lot 31.

An aerial photograph dated 1961 (see **Figure 4.7**) indicates that over the late 1930s, the 1940s and 1950s the cleared paddock of the Horsley Estate was transformed into a myriad of small market gardens in the main operated by migrants from southern Europe. The houses associated with these farms were predominantly sited to front Horsley Road.

4.6 Current Use

The proposed HDBP site is located within the Horsley Precinct of the Western Sydney Parklands. The Parklands is an extensive tract of land that forms a corridor of green space sited between Quakers Hill and Leppington. Successive NSW Governments have acquired land in this corridor over decades. The origin of this land acquisition project is the *Sydney Region Outline Plan* of 1968 that identified areas to be acquired for infrastructure and open space requirements.

By 1978 around 70 percent of the Parklands had been acquired. While Lot 28A within the current HDBP study area was acquired by the government in 1953, the other allotments under review here were acquired from 1977.

4.7 A Summary of the Proposed HDBP Allotments Landuse Histories

A summary of the relationship between the current real property identification and the original lot number for the HDBP allotments is tabulated below in **Table 4.1**. A gazetteer of the allotments is presented in **Table 4.2**. This provides a overview of the landuse use history for each lot within the study area, and can be tracked for the latter half of the twentieth century by reference to the 1930 and 1961 aerial photographs presented in **Figures 4.4** and **4.5**.

Table 4.1: Allotment Details

Table A – Summary Details of the Allotments

Original Lot Number	Date of Original Purchase	Current Street Address	Current Property Identifier	Current Certificate of Title (Vol/Fol)
Lot 23 DP13961	1937	156-164 Cowpasture Road, Wetherill Park	23/13961	10395-231
Lot 24 DP13961	1938	174 Cowpasture Road, Wetherill Park	24/13961	4957-63
Lot 25 DP13961	1942	184 Cowpasture Road, Wetherill Park	25/13961	5330-201
Lot 26 DP13961	1937	186-188 Cowpasture Road, Wetherill Park	1/1036933	15529-165
Lot 27 DP13961	1937	200-212 Cowpasture Road, Wetherill Park	10/879209	15529-166
Lot 28 DP13961	1937	Part Lots 1-4, The Horsley Drive, Horsley Park	100/879680	9982-209
Lot 28A DP13961	1930			
Lot 28B DP13961	1938	1455 The Horsley Drive, Wetherill Park	28B/13961	15498-176
Lot 28C DP13961	1939	Lots 1-4 The Horsley Drive, Horsley Park	1 to 5/1098128	4370-247 5911-213 10145-211
Lot 29 DP13961	1929			
Lot 29A DP13961	1929			
Lot 29B DP13961	1948			
Lot 30 DP13961	1937	1465 The Horsley Drive, Wetherill Park	30/13961	7943-58

Table A – Summary Details of the Allotments				
Original Lot Number	**Date of Original Purchase**	**Current Street Address**	**Current Property Identifier**	**Current Certificate of Title (Vol/Fol)**
Lot 30A DP13961	1947	1465 The Horsley Drive, Wetherill Park	30A/13961	7943-58
Lot 30B DP13961	1937	1465 The Horsley Drive, Wetherill Park	30B/13961	7943-58
Lot 31 DP13961	1937	1467 The Horsley Drive, Wetherill Park	C/103755	10045-33
Lot 31A DP13961	1937			
Lot 31B DP13961	1937			
Lot 32 DP13961	1949	1487 The Horsley Drive, Wetherill Park	32/13961	9879-15
Lot 32A DP13961	1949	1477 The Horsley Drive, Wetherill Park	32A/13961	9879-16

Table 4.2: Allotment Gazetteer

Lot 23 in DP13961

Original Purchase	November 1938: Augusto Pretti (1897-1964), at the time residing at Horsley Park and a market gardener
Later Owners	November 1956: Guilio Mancini and Teodosio Bucciatio
Government Acquisition	Not determined
1930 Aerial Description	Cleared paddock, no dam, no built structure
1961 Aerial Description	Land under cultivation, house and dam at north-west corner

Lot 24 in DP13961

Original Purchase	August 1938 by Giovannico Cossu (1886-1975), at the time residing at Carlingford and retired
Later Owners	November 1951: Ernest Alfred Speerin (1921-2010), at the time a

	farmer at Horsley Park March 1952: Tarsillo Crestani and Livio Crestani, both labourers March 1959: Livio Crestani, farmer
Government Acquisition	1979
1930 Aerial Description	Cleared paddock, no dam, no built structure
1961 Aerial Description	Land under cultivation, house on southern boundary and set well back from Cowpasture Road

Lot 25 in DP13961

Original Purchase	July 1942 by Vaclav Svatos, at the time residing at Horsley and a market gardener
Later Owners	April 1949: Jean Isabelle Limberg, at the time residing at Bondi and a married woman August 1955: Tarsillo Crestani and Livio Crestani November 1959: Tarsillo Crestani
Government Acquisition	1987
1930 Aerial Description	Cleared paddock, no dam, no built structure
1961 Aerial Description	Land under cultivation, house fronting Cowpasture Road

Lots 26, 27, 30, 30A, 30B, 31, 31A and 31B in DP13961

Original Purchase	July 1937: Guerino Maronese (1904-1962) and Emillo Maronese (died 1995), both at the time residing at St John's Park and farmers
Subdivision	1958 see entry below for Lots 30, 30A and 30B
Later Owners	Antonietta Maronese (died 1996) at the time residing at Bondi Junction, widow
Government Acquisition	Not determined
1930 Aerial Description	Cleared paddock, no dam, no built structure

1961 Aerial Description	Lot 26 under cultivation Lot 27 under cultivation and with house fronting Cowpasture Road Lot 31 under cultivation, dam and house at north-west corner, and house fronting Horsley Road Lots 31A and 31B under cultivation

Lot 28 in DP13961

Original Purchase	September 1937: Rosetta Marion Collier (1898-1976), at the time residing at Erskineville and a married woman
Later Owners	August 1939: Elijah Sisson (1883-1963), at the time residing at Horsley and a store keeper August 1939: Leo Austen O'Loughlin, at the time residing at Horsley and a farmer, and wife Annie Eleanor O'Loughlin February 1945: Margaret Florence Waller, wife of Henry David Waller, the time residing at Horsley and a retired farmer December 1945: Otto Gustave Karl Hartung, the time residing at Leichhardt and a poultry farmer October 1956: Guiseppe Gipressi and Teodoro Gipressi
Government Acquisition	Not determined
1930 Aerial Description	Cleared paddock, no dam, no built structure. Cluster of trees at south-east corner
1961 Aerial Description	Land under cultivation

Lot 28A in DP13961

Original Purchase	December 1929: Annie Maud Akerman, at the time residing at Randwick and a widow
Later Owners	March 1948: Gladys Lillian Tucker, at the time residing at Coogee and a widow July 1957: Edmond Brain Johnson, at the time residing at North Manly and a welder
Government Acquisition	1953

1930 Aerial Description	Cleared paddock, no dam, no built structure.
1961 Aerial Description	Cleared paddock

Lot 28B in DP13961

Original Purchase	July 1938: John Lindsay Hall (1888-1956), at the time residing at Ashfield and a labourer
Later Owners	July 1953: Leslie Gordon Lindsay Hall, at the time residing at Lindfield and a butcher
Government Acquisition	Not determined
1930 Aerial Description	Cleared paddock, no dam, no built structure.
1961 Aerial Description	House fronting Horsley Road, cleared paddock

Lot 28C in DP13961

Original Purchase	September 1939: Elijah Sisson, at the time residing at Horsley and a storekeeper
Later Owners	September 1939: Leo Austin O'Loughlin, at the time residing at Horsley and a farmer, and wife Annie Eleanor O'Loughlin February 1945: Margaret Florence Waller, wife of Henry David Waller, the time residing at Horsley and a retired farmer December 1945: Otto Gustave Karl Hartung, at the time residing at Leichhardt and a poultry farmer October 1956: Guiseppe Gipressi and Teodoro Gipressi
Government Acquisition	Not determined
1930 Aerial Description	Small structures fronting Horsley Road with sheds to the rear. Otherwise, land is cleared, and no evidence for cultivation at this time.
1961 Aerial Description	House fronting Horsley Road structures at the rear, land under cultivation

Lots 29 and 29A in DP13961

Original Purchase	January 1930: Mary Jane Turner, wife of James Turner, at the time residing at South Kensington and a civil servant
Later Owners	September 1948: Esmee Muriel Gifford Allard (1897-1966), wife of Vincent Allard, at the time residing at Bondi and recorded as a merchant seaman March 1954: Angelo Marosin, at the time residing at Horsley Park and a farmer, and wife Maria March 1974: Angelo Marosin at the time residing at Horsley Park and a widow
Government Acquisition	1977
1930 Aerial Description	Cleared paddock, no dam, no built structure
1961 Aerial Description	Lot 29 under cultivation Lot 29A house fronting Horsley Road with structure at the rear, land under cultivation

Lot 29B in DP13961

Original Purchase	December 1948: Samuel Foster Money (1888-1951), at the time residing at Smithfield, garage proprietor
Later Owners	November 1951: Arthur Fittler, at the time residing at Kandos and a kiln burner September 1981: David William Blain and Diana Mary Blain
Government Acquisition	1984
1930 Aerial Description	Cleared paddock, no dam, no built structure
1961 Aerial Description	Cleared paddock

Lots 30, 30A and 30B in DP13961

Original Purchase	November 1947 by Guerino Maronese (see entry above)

Later Owners	January 1960: Giacomo Battaglin (died 2008), at the time residing at Rozelle and a bricklayer November 1966: Gabrielle Mendotto, Giavannico Mendotto, Mario Nevino Mendotto, at the time all residing at Horsley Park and all carriers
Government Acquisition	Not determined
1930 Aerial Description	Cleared paddock, no dam, no built structure
1961 Aerial Description	Lots 30A and 30B under cultivation Lot 30 house fronting Horsley Road with structure at the rear.

Lot 32, Lot 32A in DP13961

Original Purchase	March 1949: Francisco Ragonesi, at the time residing at Horsley Park, and a market gardener
Later Owners	October 1949: Antonette Bortolazzo, wife of Sebastiano Bortolazzo, at the time residing at Horsley Park, and a market gardener September 1959: Gido Bortolazzo at the time residing at Horsley Park, and a market gardener
Subdivision	1964: Lot 32 to Luciano Morassut at the time residing at Smithfield and a transport worker, and Franco Morassut, the time residing at Smithfield and a boilermaker Lot 32A Luciano Morassut at the time residing at Smithfield and a transport worker
Government Acquisition	Not determined
1930 Aerial Description	Cleared paddock, no dam, no built structure
1961 Aerial Description	Lot 32 house fronting Horsley Road, land under cultivation, dam at north-east corner Lot 32A under cultivation

4.8 Historical Archaeological Heritage Context in Summary

4.8.1 Landuse Sequence and Archaeological Potential

The proposed HDBP site forms a small part of a larger landscape at Horsley Park that was first visited and described by Europeans in October 1789. A part of this land (2,000 acres) within which the study area is located was originally granted to Major George Johnston in December 1805 by Governor Philip Gidley King (1800-1806). This land grant was named 'King's Gift'.

Within the historical context of the time, large areas of land around Eastern and South Creeks in particular had been declared as 'stock reserves' in 1802 by King that was to be used only as common grazing land. The disposal of these reserves/commons by means of Crown land grants was undertaken in stages from this time, and accelerated soon after the arrival of Governor Macquarie in the Colony in late 1809.

There are no indications in the historical records that any significant 'improvements' were made to the 'Kings Gift' land during the period from c.1805 up to the early 1830s. It is likely that the land grant was utilised in this period for stock grazing and other similar landuse activities that may have included (some) timber clearing and the possible creation of animal enclosures/temporary shelter.

These types of (potential) early landuses (such as fence lines, cleared tracks, timber structures etc) will generally be ephemeral in the archaeological recorded in the first place, and are highly unlikely to have survived (or be recognisable) later historical uses such as intensive market gardening and similar agricultural ground modifications.

Johnston's land grant was renamed Horsley after his death in 1823. A house (Horsley) was built on the land in about 1832. This and its garden setting are located well to the west of the proposed HDBP study area, and will therefore not be affected by the proposal.

The Horsley Estate was first put up for sale in 1905. In 1925 the Horsley land was purchased and subdivided to form small blocks intended for farming purposes and released for sale at this time. The allotments that form the HDBP (bounded on the east by Cowpasture Road, on the south by Horsley Road, and on the west by a section of the Sydney Water Supply Upper Canal that was completed by 1888) date to that time.

The proposed HDBP lands appear to have remained vacant of building up until its subdivision for sale in 1925. A strip of land bordering the current canal was reserved during the late nineteenth century construction period where some landscaping appears to have been undertaken, and some houses are recorded to have been built for the construction and maintenance personnel during this period.

It is unknown what the maintenance housing structures were constructed from. It is probable that they were of timber and/or brick materials. Any specific landscaping works within the study area that may have been undertaken during the canal construction period within or nearby to the site is unlikely to be easily recognised in the archaeological record, when it is considered that it will have been significantly 'overprinted' by subsequent use and maintenance activities undertaken within the canal reserve over time from c.1888 to the present.

A 1930 aerial photograph indicates that the HDBP site and its surrounds had been substantially cleared of its original trees and other vegetation, and comprised what was in-effect one large and open 'paddock' at this time. No built development is evident aside from the previously noted maintenance workers structures associated with the Upper Canal, along with a few other buildings at located at the junction of Horsley Road and Cowpasture Road (Lot 28C). This allotment (28C) was sold by the Estate vendors in 1939 and the date and use of the structures on the lot as depicted in this aerial image are not currently known.

The majority of the small individual allotments contained within the study area that were created and sold as part of the 1925 Horsley Estate subdivision occurred in the decade between 1929 and 1939. The one exception was the purchase of Lots 26, 27, 30, 30A, 30B, 31, 31A and 31B in 1937 to form a farm of approximately 22 acres. In that farm the house was built on Lot 31.

An aerial photograph dated 1961 indicates that between the late 1930s and up to the 1950s the cleared paddock of the Horsley Estate was transformed into a complex pattern of small and intensively maintained market gardens. The houses associated with these farms were predominantly sited to front Horsley Road. Some of these still remain on-site today.

4.8.2 Heritage Register Searches

A search of the State Heritage Register (SHR), State Heritage Inventory (SHI), and (Schedule 4) of the Fairfield Local Environmental Plan (FLEP) 1994 and Draft LEP 2011 indicates that no heritage sites or items (either built-heritage or archaeological) occur on the proposed HDBP lands that are listed on any State or Local heritage register or schedule.

Likewise, no heritage listings apply to the HDBP site as revealed from a search of the National Heritage List (NHL), National Trust of Australia (NT), Register of the National Estate (RNE), or the NSW Roads & Maritime Services and Sydney Water Heritage & Conservation Registers.

The 1888 Upper Canal is a recognised state significant piece of water infrastructure as comprising part of the upper Nepean Water Supply scheme. Specific components of the Canal are listed on the SHR, along with Sydney Water's Section 170 Register. The section of this infrastructure (and its

easement) at Horsley Park occurs outside of the western boundary of the HDBP site and will remain unaffected by the proposal.

A tall planted Bunya Pine (*Araucaria bidwillii*), along with an associated smaller Radiata Pine (*Pinus radiata*), are located on the intersection of The Horsley Drive and Cowpasture Road. These trees occur close by but are situated *outside* of the proposed south-eastern HDBP property boundary. The Bunya Pine is listed as a heritage item of Regional significance in Schedule 4 of the FLEP 1994 and Draft LEP 2011. While this item will not be *directly* affected by the proposal, the Trust propose to include the tree in the SEPP (Western Sydney Parklands) 2009 as an item of local heritage significance.

A description and evaluation of this item is presented in following sections of this report within this context, and relative to its current and proposed heritage listing. This discussion identifies the types of *potential* threats that the HDBP proposal may have on the significance values of the tree and its setting in the future, and presents an overview of the kinds of heritage management considerations that should be used to guide the long-term protection and conservation of this tree.

Figure 4.1: Detail of the 1908 Edition of the Map of the Parish of Melville Which Shows the Johnston's' Grants Inclusive of King's Gift (Source: State Library of NSW).

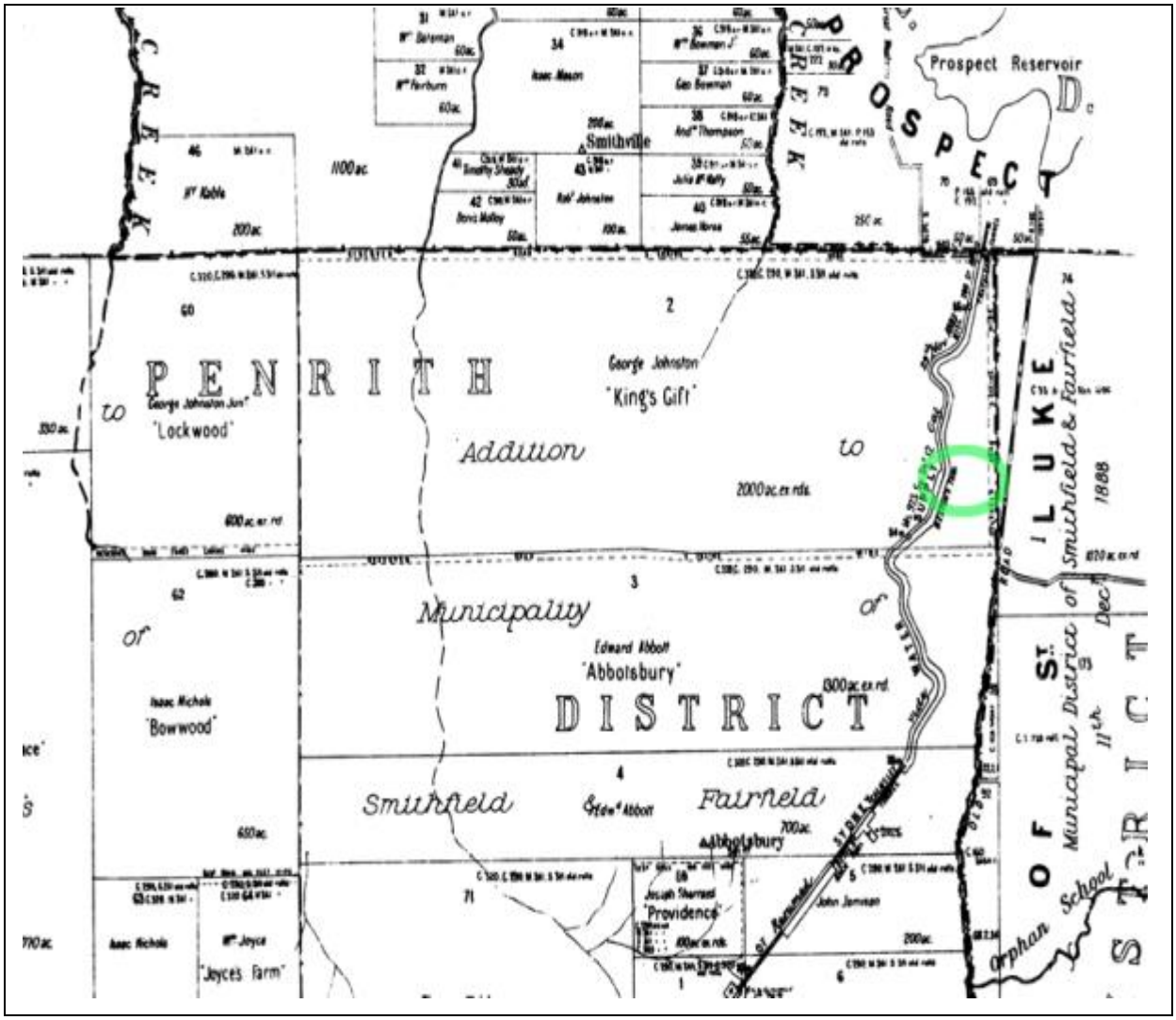


Figure 4.2: A 1906 Sketch Map the Area of the Weston's' Horsley (Source: State Library NSW - Z M3 811.124/1906/1).

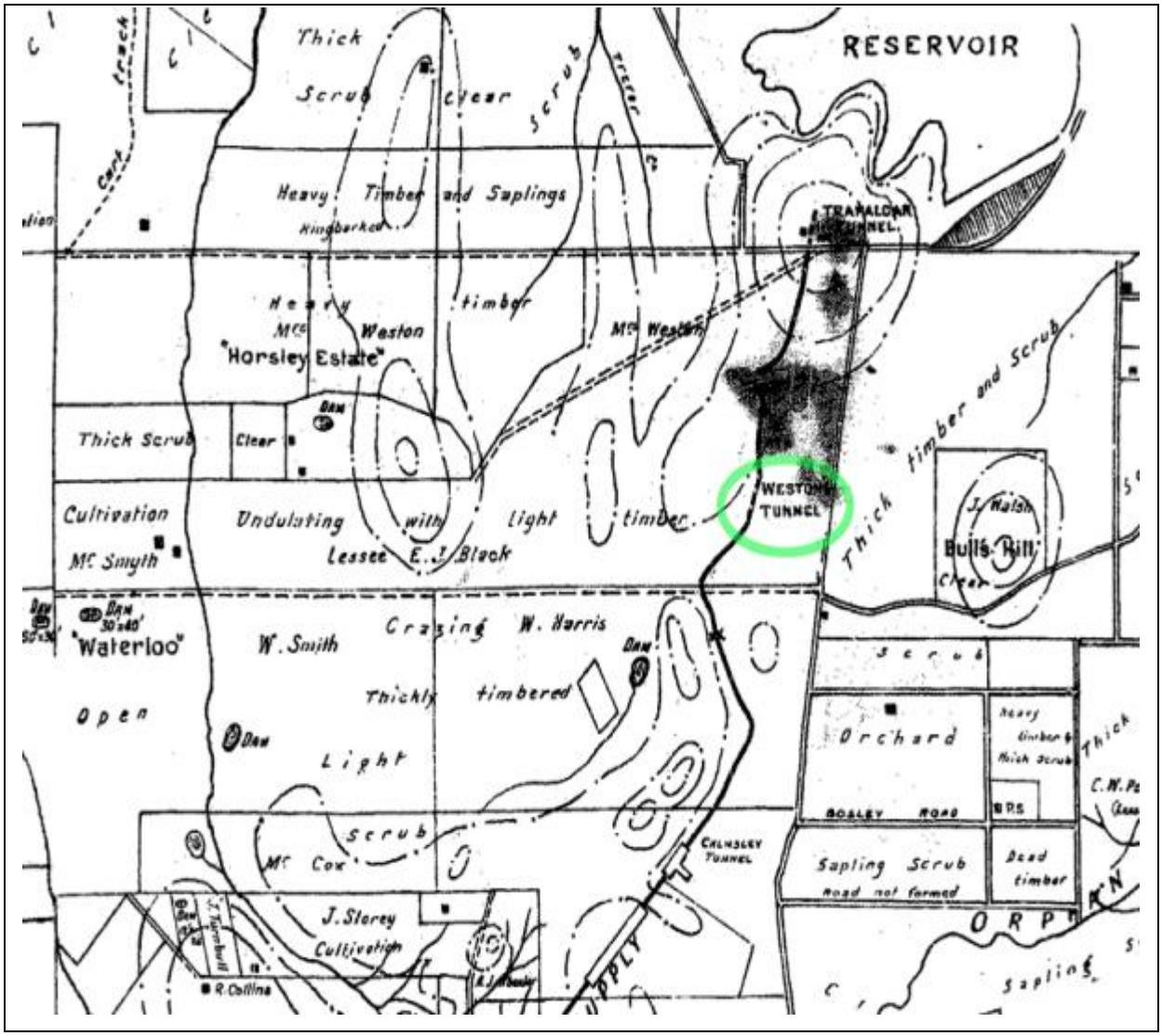


Figure 4.3: An Undated Survey Route of the Upper Canal (Source: LPI Authority).

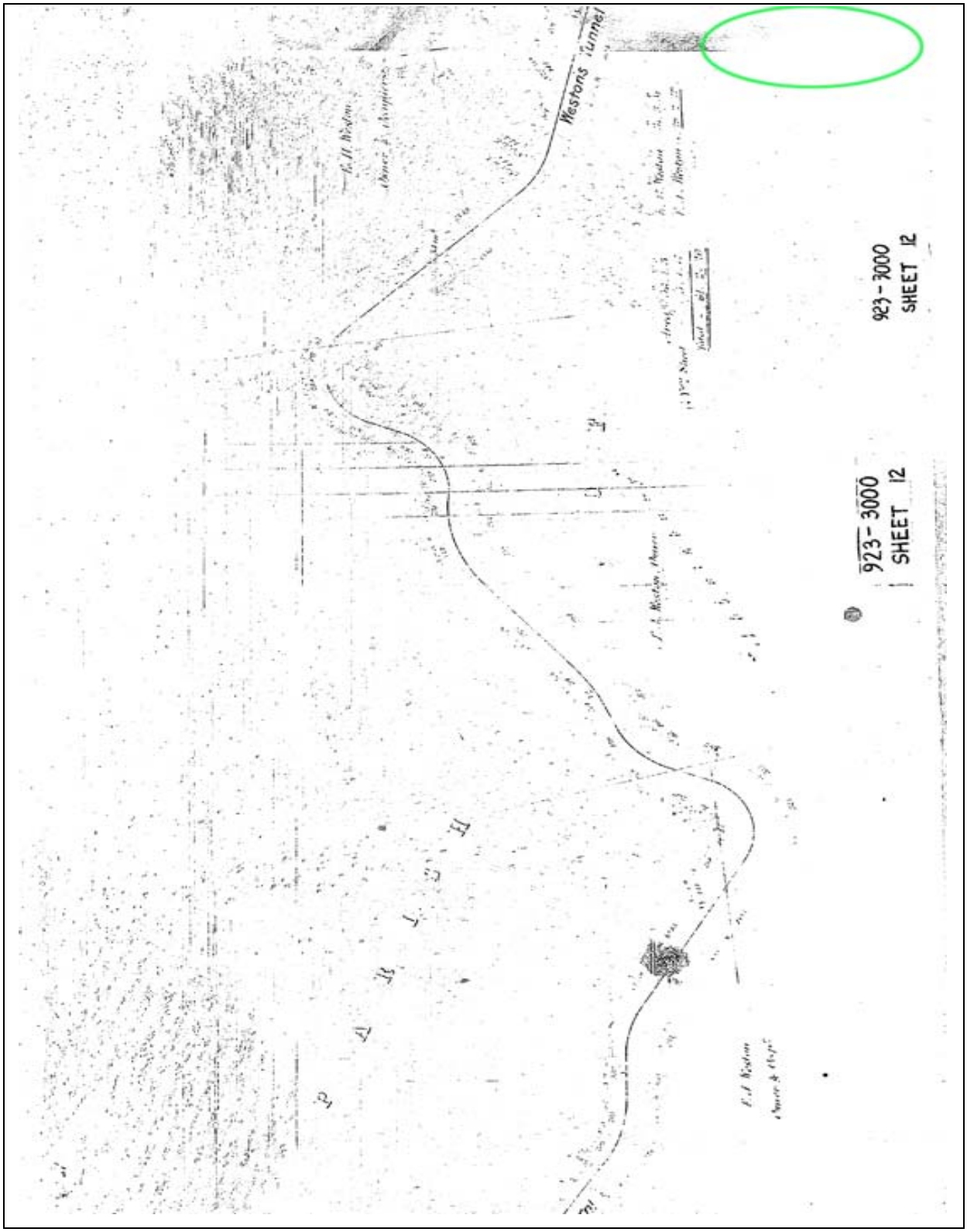


Figure 4.4: Sheet 1 of DP139361, Dated 1925, Showing the Allotments Created in the Horsley Estate Subdivision (Source: LPI Authority).

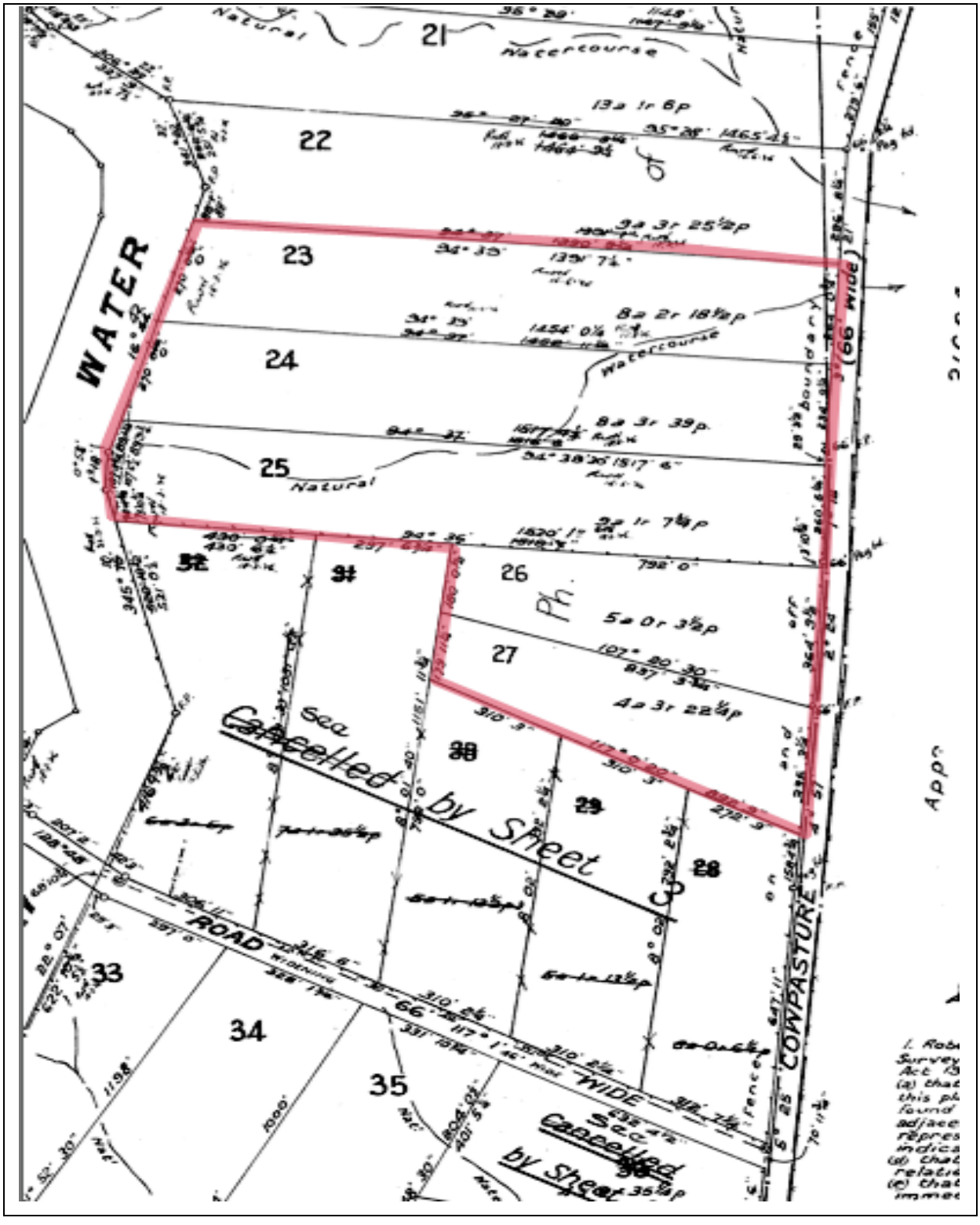


Figure 4.5: Sheet 3 of DP139361, Dated 1925, Showing the Allotments Created in the Horsley Estate Subdivision (Source: LPI Authority).

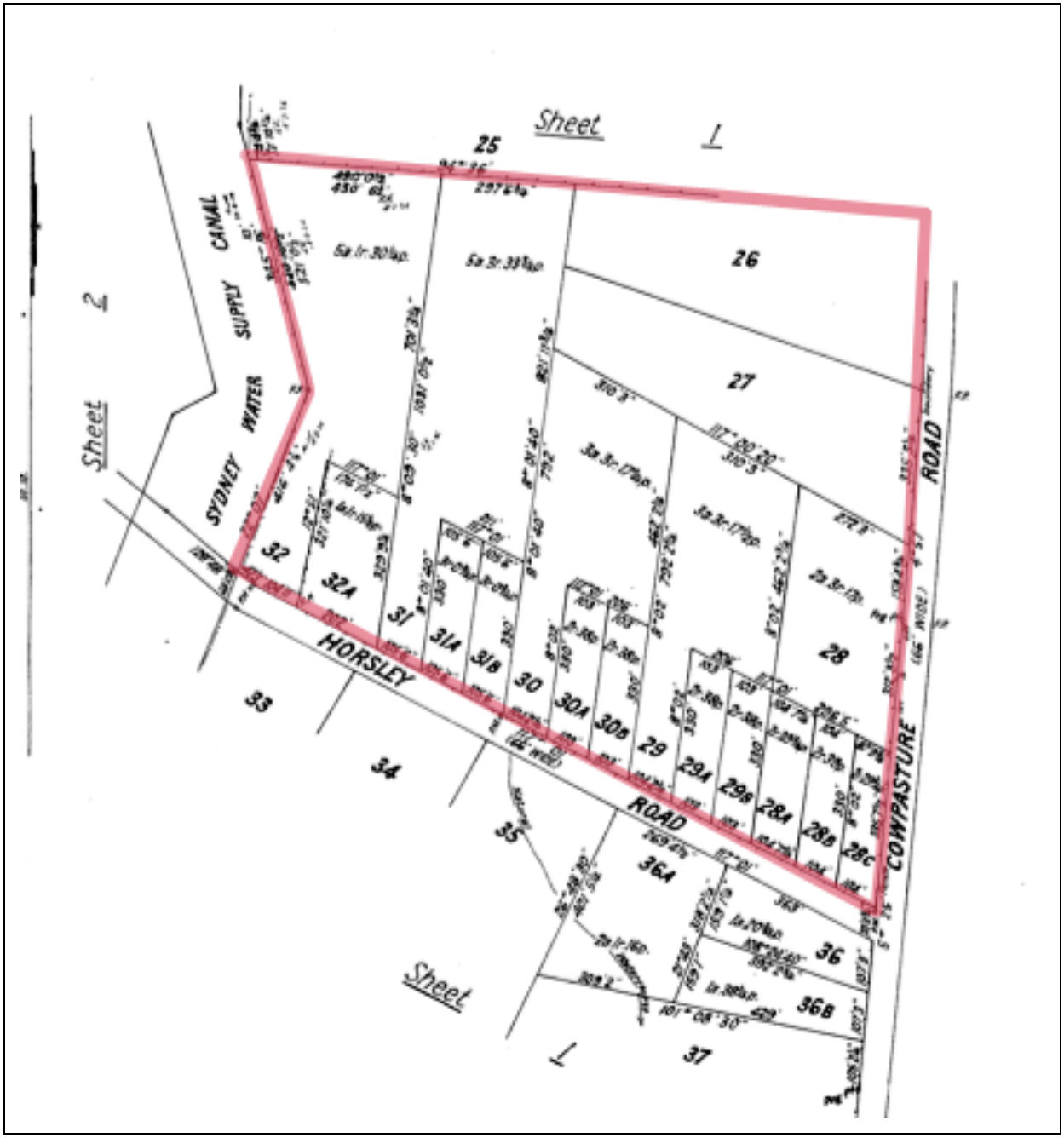


Figure 4.6: 1930 Aerial Photograph (Source: LPI Authority).

Figure 4.7: 1961 Aerial Photograph. The Numbers are the Lots in DP139361 (Source: LPI Authority).

5.0 April 2012 Site Inspection

5.1 Introduction

An initial inspection of the proposed HDBP property was undertaken (in fine weather) on the 2nd of April 2012 by DSCA archaeologists, Mr Dominic Steele and Mr Adrian Dreyer. The approximately 2.4 ha parcel of private of land at No's 200-212 Cowpastures Road (Lot 10 in DP 879209) contained within the HDBP site boundaries was excluded from the field assessment.

A second inspection of the land was undertaken in partnership with *Deerubbin Local Aboriginal Land Council's* (DLALC) Heritage Officer, Mr Steve Randall, on the 29th of May 2012. A Cultural Heritage Statement that has been prepared for the project by the DLALC to accompany this report is appended.

The existing conditions across the property were recorded during this visit. This included detailed inspections and recordings that specifically targeted locations and landforms contained within the site that were most likely to provide an accurate characterisation of the potential archaeological sensitivity of the place. This included site features such as elevated ridge-lines and spurs, dam margins, and flat to moderately insulating topography.

Ground visibility was found to be limited across the entire property due to the nature of the prevalent knee to chest height grass cover that characterizes the land, along with the presence of a number of significant stands of lantana, privet, and blackberry that are located in places across the formerly farmed allotments.

Despite this fact, the illustrations and discussion that are provided below are considered to be sufficient to underpin the conclusions and heritage management recommendations that are presented in following sections of this report that have been developed to inform the current HDBP proposal with regards to the potential Aboriginal and European archaeological heritage sensitivity of the plsce.

5.2 Site Inspection and Recording Methods

The site inspections reported here was undertaken according to the standards required by the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW 2010*, and those endorsed by the *NSW Heritage Manual 1996* (and supplements). In summary, this included:

- The documentation of observations pertinent to the assessment of potential Aboriginal and European archaeological and cultural heritage sensitivity. This included a consideration of the landforms on the property, topography, existing vegetation; the nature of ground exposures/visibility; and the extent of disturbances from past and ongoing landuse activities.

- Photography was undertaken using a Nikon D-200 camera (with 28-105mm lenses) and a range of scale bars as required.
- A Garmin eTrex handheld GPS was utilised to record noteworthy features.
- Air photos (1930, 1961, and current), subdivision plans, sketch plans, and a 1:25, 000 topographic map were also used to correlate the field observations that are reported below.
- For each Aboriginal site or individual stone artefact location that may be identified, the minimum information that was to be recorded included raw material, type and size (i.e. maximum length, width and thickness). Given the uncertainties that have previously been reported in distinguishing naturally fractured silcrete materials from those culturally modified by Aboriginal people in the past, attention was also paid to recording diagnostic signs of marginal fracture initiation, conchoidal fracture (and a lack of heavy compressive initiation which might indicate fracture from machine impact), and flake scars and flakes bearing clear evidence of conchoidal fracture initiation typical of Aboriginal flaked artefacts.
- For the purposes of this study, an Aboriginal archaeological *site* was defined as the location where artefacts may be observed or may be reliably inferred within archaeological deposit. This broad definition is discussed in context in following sections of this report.
- The definition of PAD (which applies to both Aboriginal and European archaeological heritage) that has been used for the current study is explained in following sections of this report.

Indicative views of the current condition of the study area are presented below. These provide a way of visually evaluating how and when the property may have changed, or remained largely the same, when compared with two 'fixed points' (1930 and 1961) for which we have useful records during the twentieth century historical sequence of occupation and use of the property.

5.3 April 2012 Field Observations

5.3.1 The Proposed HDBP Site and its Surrounding Curtilages

A series of inspections of the study area were undertaken (in fine weather) during April and May 2012 by DSCA archaeologist Mr Dominic Steele. One of these site visits (on the 29th of May 2012) was attended by DLALC Sites Officer, Mr Steve Randall.

Three indicative panoramic views over the site, showing three different perspectives, are presented here as **Figures 5.1** to **5.3** and provide an overview of the types of landforms and vegetation covers that are contained within the proposed HDBP property, and the existing condition of each of these site features.

How the site looks from the elevated land above (and outside) the western site boundary looking to the east is illustrated in **Figure 5.1**. The concrete-lined Upper Canal cleared and banked easement which is lined with sapling regrowth and some plantings can be seen to the left of this image. The elevated ridge/spur that is the dominant landform contained within the boundaries of the study area is evident in the centre (background) of the photograph. The land to either side of this rise is lower-lying, gentle undulating in places, and retains a varied ground cover of pasture grass and low shrubs that have regenerated on former (and some current) market garden allotments. An electrical transmission line that runs to the north of the site can also be seen in the background of this figure.

A view of the site looking to the north and northeast taken from the elevated south-western corner of the property is presented here as **Figure 5.2**. The heavily grassed ground in the foreground (within Lot 32A) is extremely uneven (furrowed), with areas of up-cast (seemingly bulldozed) fill evident in places along the break in-slope that can be seen mid-centre in this photograph. The water retention dams that are present in Lots 31 and 32 are evident in the background of the image. These were both created between 1930 and 1961.

An indicative view over the western parts of the site taken from near the eastern property boundary is presented here in **Figure 5.3**. The differential vegetation growth (in terms of its type, colour grades, and relative height) that can be seen to characterise the lower-lying portions of the property provide a visual sense of where past market garden plots were created and used from the early to mid twentieth century prior to their progressive acquisition by the Government from the 1950s and late 1970s. The scattered trees on the land largely consist of introduced plantings of differing ages associated with the occupation of former farming blocks.

The site-specific illustrations described below provide further details on the main features that are identified to characterise the property as shown in the three preceding panoramic images.

An indicative illustration of a relatively large farm dam that occurs on the north western boundary of the property (on Lot 23) is provided by **Figure 5.4**. This shows a number of characteristics that are typical of the two other main dams on site that mark the now heavily modified alignment of the Orphan School Creek tributary that runs through the land.

The 1906 and 1925 plans (**Figures 4.2** and **4.4**) mark the watercourse as running through (at least in 1925) lightly timbered land. By 1930 virtually all the timber and vegetation across the entire site has been cleared, excluding a small number of isolated trees. The exception to this is within Lot 23 to the north of the study area, and within one defined (square) parcel of land within Lot 28 on the south eastern boundary of the site fronting Cowpasture Road.

By 1961 the margins of the creekline are largely devoid of vegetation excluding isolated regrowth. The aerial image of the property at this time (see **Figure 4.7**) shows evidence for the meandering nature of the watercourse channel, whereby water-flow and direction has changed at different times, most likely during periods of prolonged rain, and which has been exacerbated by the low-lying nature of some of this land and its cleared nature. The line of the creek can be traced in more recent aerial images that are most easily discerned on the basis of changes in the colour and density of vegetation relative to surrounding margin areas. However, in many locations this has been obscured by past market gardening activities.

The dam illustrated in **Figure 5.4** retains a small number of isolated eucalypts around its raised margins. The surrounding grass cover in this part of the site today is uniform, and overlies distinctive (and parallel) furrows created from numerous market garden plots that have been in place on this allotment since at least the early 1960s.

The extensively disturbed nature of the ground surrounding the farm dams that characterise the subject land are further illustrated in **Figures 5.5** to **5.7**. These images show undulating and uneven grassed surfaces which in many locations also display greater levels of disturbance beyond those associated with ploughing and the creation of planting rows. These include unformed but graded vehicle tracks, excavated drainage lines and swales, and distinctive mounds and banks of excavated topsoil, presumably to control water run-off.

5.3.2 Bunya Pine on The Horsley Drive & Cowpastures Road Intersection

The Bunya Pine located on the intersection of The Horsley Drive and Cowpasture Road was listed as a heritage item of Regional significance in Schedule 4 of the FLEP 1994 in October 1995 (as Gazette No. 122). The following description is drawn from that listing (which is dated March 1992):

> *'Significance: Important landmark tree, relating to Horsley Park homestead ri the west. Tree over 100 years old. Regional significance.*
>
> *Description: Very old Bunya Pine. Tree about 22m high and located on prominent corner. Radiata Pine close by adds visual weight to corner element, approx 14 metres high, from c1950. Telegraph pole and street wires degrade landmark characters of trees, as does the "scruffy" nature of the ground around the bottom of the tree.*
>
> *History: Bunya Pine probably in about 1850-1870, by owners of the Horsley House (about 2 kilometres to the west).*

<u>Recommendations:</u> Conserve as existing but consider improving ground surfaces (possibly with mulch and turf). Consider signage. Consider future relocation of telegraph post and overhead wires'.

Two recent aerial photographs presented here as **Figures 5.8** and **5.9** places the pine trees in its current landuse and streetscape setting. Additional views of the trees that occur within the road reserve intersection at (but outside of) the southwest corner of the proposed HDBP site are provided in **Figure 5.10**. These images reinforce how the listed Bunya Pine is now largely disconnected from its original landscape association with the Horsley Homestead complex (house, outbuildings, garden and farm focused around Jamieson Close 2km to the west) that are listed on the SHR.

The following description for the Horsley complex is adapted from the SHR listing to place the isolated Bunya Pine in its former historical and landscape context:

'A substantially intact core of a colonial farm estate with its original 1830s bungalow, outbuildings, plantings, layout and entry within a remnant rural landscape setting which is now rare in the Fairfield LGA and on the Cumberland Plain. Horsley is integral to the history of Fairfield and the history of New South Wales, from its initial granting to Colonel Johnston as reward for his role in suppressing the Castle Hill rebellion. It has been associated with major elements in the colony's development, particularly the pastoral and racing industries, and trade with India.

Horsley makes a major contribution to the local townscape through its visual prominence, size and character, for instance its prominent Bunya pine avenue climbing the hill to the house is similar in effect to those of Bella Vista Farm, Seven Hills, and Winbourne, Mulgoa. It retains some important traditional views to features beyond the estate.

The place has individual components of heritage significance, eg:

- the homestead as a rare (perhaps unique) surviving early Australian version of an Indian Bungalow style residence;

- its outbuildings both individually and as a "street" which is rare;

- its early plantings such as the prominent Bunya pine (Araucaria bidwillii) entry avenue;

- the garden as a substantially intact 19th century landscape, with carriage loop, garden beds and early plantings; and

.....Site is ringed by new housing development built on the 1972 subdivisions.....New developments insensitive in form and siting, impinge on the major views of the homestead from the east and south-east approached along the Horsley Drive (Source: Lucas, C. 1982)'.

The observation above illustrates that the view corridor(s) between the Homestead to the west and the Bunya Pine located approximately 2km to the east that existed during the mid nineteenth century are now diminished as a result of increased development. The original landscape values of the 'marker' pine have also been reduced whereby the tree is now situated in an isolated context within a busy road intersection reserve.

Traffic conditions (in terms of vehicle volume and type) may potentially increase as a result of the future development of the proposed HDBP. The proposal however does not include any specific changes to the intersection of Cowpasture Road and The Horsley Drive itself that would directly affect the existing conditions of the pine trees in their present setting.

The proposed development of the land for predominately industrial warehousing and distribution facilities may also include further subdivision dependent on end-user requirements, and this would be subject to separate approval. In broad terms nevertheless, the subject site is not located adjacent to, or in close viewing proximity from, any sensitive visual receivers outside the Parklands. It is likely that future views to the proposed HDBP from the main residential areas in the local landscape at Abbotsbury and Bossley Park to the southwest at least would be comparable to those of the existing Smithfield-Wetherill Park Industrial Area.

In this regard, while the proposal would result in some changes to existing views between the Horsley Homestead to the west and the Bunya Pine to the east, these potential changes would appear to be minor within the context of those that have progressively occurred as a result of subdivision and development of the area since the early 1970s. The *precise* nature of any *potential* visual impacts to the heritage values of the Bunya Pine would be detailed in an Estate Landscape Plan that is to be prepared when design for future building on the land is further progressed. Consideration of factors such as built-form (particularly height), character, and site layout will assist in minimising any identified visual impacts to the trees within the road reserve.

The (then) *Department of Planning* (DoP) and the *Heritage Branch* have prepared general guidelines and other supporting technical documents for local and state authorities on how to develop management and action plans for heritage 'street trees' in reserves and other publically

accessible/used urban and commercial streetscape contexts. Risk management guidelines are also available for the maintenance and conservation of these types of heritage assets. [4]

The Trust's proposal to include the Bunya Pine (currently listed as a heritage item of Regional significance on the FLEP 1994) in the SEPP (Western Sydney Parklands) 2009 as an item of local heritage significance may require existing inspection and maintenance records and schedules to be updated to levels commensurate with the proposed change to its statutory listing. This may include preparing an 'audit' for the item that would consider its existing condition (health), any potential threats that may be anticipated (either impending or into the future), and short/long-term conservation management strategies in accordance with relevant statutory requirements such as those contained in the *Environmental Planning and Assessment Act 1979*, the *Heritage Act 1977* and the *National Parks and Wildlife Act 1974*.

5.4 Summary

5.4.1 Aboriginal Archaeological Heritage

The recently completed site inspection of the proposed HDBP property reported here revealed the following.

- No Aboriginal archaeological sites or objects (such as open campsites, isolated flaked stone artefacts or manuports etc) were located on the subject site during the field inspection.
- The exposed soil profiles across the more elevated topography within the centre of the property were found to be relatively shallow, and in places, considerably disturbed from past agricultural and building activities.
- The majority of the land within the study area has been intensively farmed for over 70 years and displays extensive evidence for agricultural furrowing and the excavation of farm dams, drainage lines, and grading for water run-off control.
- As a whole, the property comprises gently undulating to conspicuously low-lying land with a central spur of greater elevation, and has been cleared and continuously used for farming and market gardening purposes for a considerable period of time. Prior to 1925, the available historical evidence indicates the site comprised a vacant and cleared pastoral (grazing) parcel of land through which a minor watercourse ran. This watercourse is now heavily modified. The original alignment(s) and water-flows of the creekline have been significantly altered as a

[4] See for example, 'Street Trees in NSW: Guidelines for Conservation' (DoP 1990), 'Guidelines for Tree Planting and Maintenance on Urban Roads' (RTA 1987), 'Tree Safety Management Plan' (Ausgrid 2007) etc.

result of damming and changes to its creek banks and flats. In combination, the likelihood that intact subsurface soil horizons exist across the study area would appear to be minimal.

- Despite the fact that effective survey coverage was found to be relatively constrained due to the presence of extensive grass cover, the landuse history of the site and the types of sloping to low-lying landforms present on the property suggests the probability that as yet undetected Aboriginal sites or features of significance are present within the subject land is extremely limited.

5.4.2 European Archaeological Heritage

- All of the farm buildings on the site, many of which have now been demolished, were constructed between 1930 and 1961. Most of these were sited on long and narrow allotments fronting either onto The Horsley Drive to the south or along Cowpasture Road to the east.
- No European occupation (building) of note is reported to have been located within the central portions of the site prior to 1930, which from aerial imagery, it can be shown has been continuously used for farming and market gardening activities throughout the second half of the twentieth century.
- While there is evident some minor changes in the location and layout of some of the individual market garden plots on a few of the Lots on the site, the current internal fence lines and broader Lot boundaries (comprising modern barbed wire and timber materials) have remained consistent since at least 1961 indicating that no significant landuse changes have occurred on the property since that time.

Figure 5.1: A Panoramic View Over the Site Looking From the West to the East.

Figure 5.2: A Panoramic View Over the Site Looking to the North and to the East.

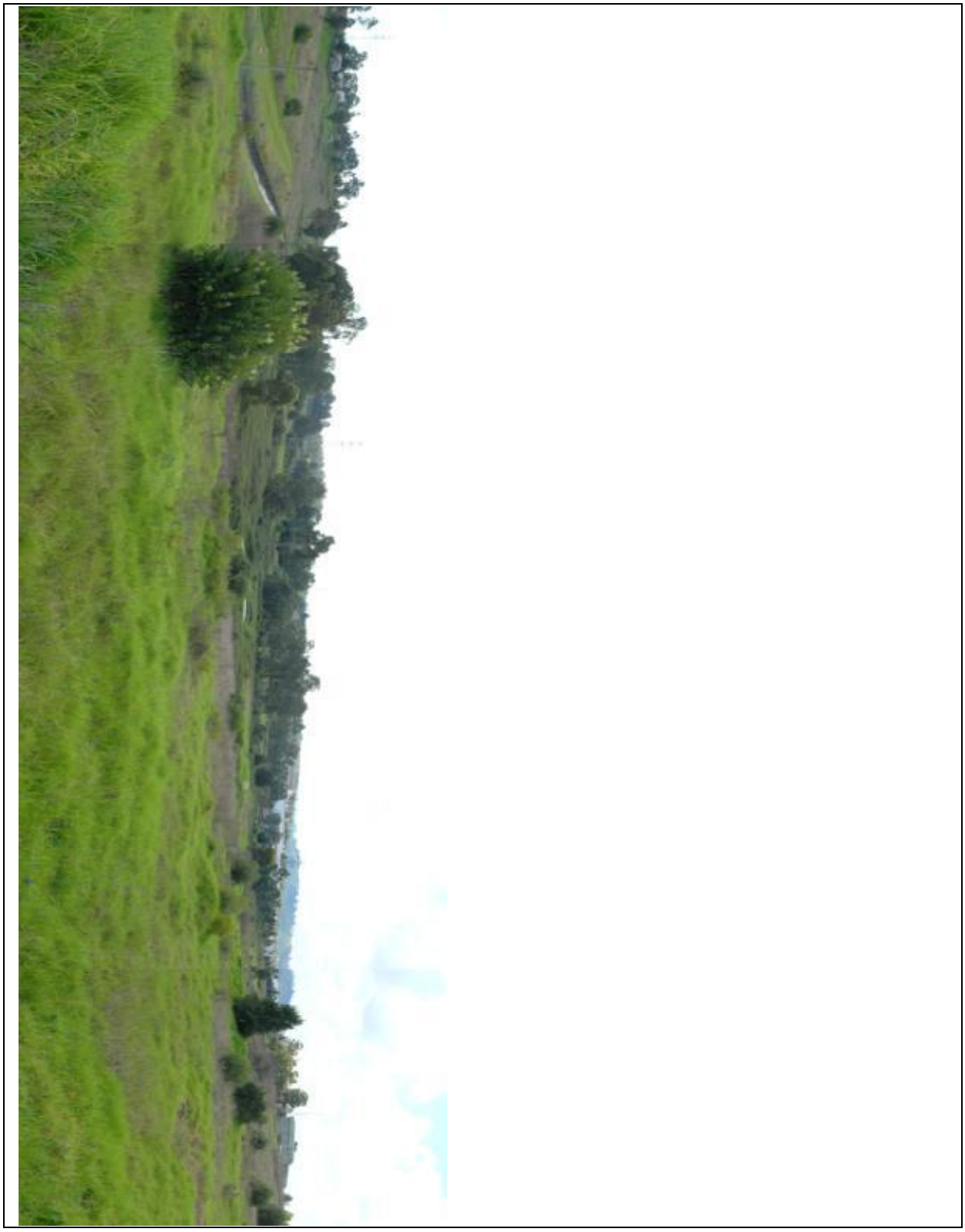


Figure 5.3: A Panoramic View Over the Site Looking to the West.

Figure 5.4: A View of a Dam Located on the North Western HDBP Site Boundary.

Figure 5.5: A View of the North Western Portion of the Site Looking to the East.

Figure 5.6: A View of the Site Looking North from The Horsley Drive Boundary.

Figure 5.7: An Indicative View of the Site Looking North East.

Figure 5.8: Landscape Context of the Bunya Pine (Source: Google Maps 2012).

Figure 5.9: Existing Context of the Bunya Pine at the Road Intersection (Source: Google Maps 2012).

Figure 5.10: Indicative Street Views of the Existing Context and Condition of the Bunya Pine at the Road Intersection (Source: Google Maps 2012).

6.0 Summary and Conclusions

6.1 Aboriginal Archaeological Heritage Impact Statement

6.1.1 Issues for Consideration

The background Aboriginal archaeological and cultural heritage research, site inspection, analysis and assessment of the proposed HDBP site undertaken for the current study indicate that:

- No *previously* documented Aboriginal archaeological sites or objects are known to occur within the boundaries of the subject site. The nearest known site registered with the OEH AHIMS is an area of PAD associated with an unknown landscape context situated nearby to Eastern Creek that is reported to occur to the west of the study area, and well outside of the HDBP property.
- Excluding a small number of relatively immature scattered eucalypts, no original timber (trees) survives on the property that may have formerly displayed evidence for Aboriginal cultural modification (bark removal) for the creation of containers, canoes or other equipment useful for day to day activities. The property was entirely cleared by at least 1930, and timber felling and pasture improvement activities are likely to have commenced in some form from perhaps 100 years prior to that (from the 1830s) when the larger Crown land grant of which the HDBP site forms a part began to be occupied on a more systematic basis than appears to have characterised the more permissive or 'absentee' occupancy of the local landscape that occurred prior to this time.
- No open campsites or isolated finds of flaked stone have been identified on the site. While these types of archaeological evidence can often be difficult to detect in landscape contexts such as reported here (heavily grassed semi-rural/pastoral properties etc), the subject site has been extensively disturbed over time as a result of the accumulated impacts associated with past timber felling and vegetation clearance, and ongoing use for a variety of agricultural purposes including crop growing, intensive market gardening, probable stock grazing, and other property improvement works including building and farm dam construction.
- A minor tributary branch of Orphan School Creek runs through the northern half of the site in an east to west direction. The original channel(s), banks, and flats of this watercourse have however been heavily modified over time as a result of vegetation stripping, market gardening (planting and ploughing), dam constructions changing water-flows, and excavations for the creation of irrigation and drainage channels and other water control measures.

- No sources of stone raw materials commonly used by Aboriginal people in the past for artefact manufacture are known to occur on the property itself, or in locations nearby. The principal (documented) sources for silcrete for example (St Marys Formations) occur considerable distances further to the north and west of the study area.
- In this regard, there appears to be no readily identifiable reason to expect that the property itself would have been subject to intensive or repeated visitation and use by Aboriginal people in the past that would have created substantial and significant archaeological deposits. As the land appears today, it would not appear that it would have originally contained significant (and valuable) raw materials resources that were highly sought after by people in the past for subsistence and tool manufacture and maintenance purposes that would have marked the site as overly desirable campsite location. It more likely that the site may have been visited sporadically by people over time as they moved to and from more attractive landscape contexts and resource zones in the local landscape such as the catchments (containing higher stream order tributaries) to the west (such as Eastern Creek) and the north and east (such as Prospect Creek).

In conclusion, it is expected that any as yet undetected evidence for past Aboriginal visitation and use of the site that may be exposed by future development will consist of either isolated items or very low-density distributions of flaked stone artefacts that will be encountered in disturbed contexts.

The *potential* archaeological resource is assessed to be of low (scientific) archaeological significance due to the highly disturbed nature of the site, and that any finds that would be recovered would likely to be largely unexceptional in nature with minimal research potential.

6.1.2 Evaluation

On the basis of the above considerations, it is concluded that the HDBP proposal is unlikely to have an adverse impact upon the Aboriginal archaeological heritage values of the place and that no identified Aboriginal archaeological constraints are apparent that would restrict the proposal proceeding as planned.

6.2 European Archaeological Heritage Impact Statement

6.2.1 Assessing the Heritage Significance of the Site

As previously described, no heritage sites or items (either built-heritage or archaeological) occur on the proposed HDBP lands are listed on any State or Local heritage register or schedule, including the SHR & SHI, or the Fairfield LEP 1994 and (Draft LEP 2011).

While the site has some local historical associations with one of the earliest Crown land grants that was made in the area ('Kings Gift') dating to 1805, there is however no direct historical links with any known nineteenth century improvements to this originally large (2,000 acre) parcel of land to the current property as it comprises an approximately 21.4 ha group of 18 separate allotments within 'Precinct 9' of the Parklands.

All of the existing built structures (including farm house, dams, market garden allotments, and other associated landscape elements such as plantings) on the site relate to the period following the subdivision of the Horsley Estate and its release for sale in 1925 Historical research previously presented indicates that many of the individual allotments that are contained within the study area were mainly purchased during the 1930s and 1940s, and that all of the farm buildings on the land today post-date 1930.

A planted Bunya Pine is located on the intersection of The Horsley Drive and Cowpasture Road and occurs close to (but outside of) the proposed south-eastern HDBP property boundary. The tree is listed as a heritage item of Regional significance on the FLEP 1994 and Draft LEP 2011. This item will not be affected by the proposal.

Significance assessments aim to explain why particular sites or places may be important to the community and allow for appropriate management strategies to be developed within proposed changes in landuse circumstances that may potentially affect the assessed significance values of a site or a place.

Cultural significance is defined in the *Australian ICOMOS Charter for the Conservation of Places of Cultural Significance* (the *Burra Charter*) as '*aesthetic, historic, scientific or social value for past, present or future generations*' (Article 1.1). This aspect of significance may be derived from the fabric of a place, association with a place, or the research potential of a place. While these definitions are more commonly used with reference to buildings or items, they can also in a number of respects also apply to archaeological features and deposits.

In general terms, the process of linking this assessment process with a site's historical context is outlined in the NSW Heritage Branch guidelines - *Assessing Heritage Significance* - and is supported by the *NSW Heritage Manual* as previously detailed in this report. The guidelines establish seven evaluation criteria (see below) that reflect significance categories and representativeness by which a place can be evaluated in the context of State or Local historical themes. These are as follows:

> *Criterion (a) – an item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area).*

Criterion (b) – an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area).

Criterion (c) – an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).

Criterion (d) – an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.

Criterion (e) – an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area).

Criterion (f) – an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area).

Criterion (g) – an item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places; or cultural or natural environments.

Different components of a site or a place may make a different relative contribution to its overall heritage value. Loss of integrity or poor condition for example may diminish a site or an item's significance. Relative grades that can be used to determine the heritage significance of items (both built and archaeological) also include:

Exceptional: Rare or outstanding item of Local or State significance. High degree of intactness. Item can be interpreted relatively easily. Fulfils criteria for Local or State listing

High: High degree of original fabric. Demonstrates a key element of the item's significance. Alterations do not detract from significance. Fulfils criteria for Local or State listing.

Moderate: Altered or modified elements. Elements with little heritage value but which contribute to the overall significance of the item. Fulfils criteria for Local or State listing.

Little: Alterations detract from significance. Difficult to interpret. Does not fulfil criteria for Local or State listing.

Intrusive: Damaging to the item's heritage significance. Does not fulfil criteria for Local or State listing.

None of these standard heritage significance assessment criteria would appear to apply to the proposed HDBP site in general, or to any of its built and environmental components in particular. Detailed local historical records exist for the use and occupation of the study area which suggests that

the land does not appear to differ in any significant way with how other contemporary farm holdings that continue to operate for small-scale market gardening in the local district have been used and developed over the latter half of the twentieth century.

There are also no visible (surface) features on the site today that may indicate the presence of buried archaeological remains of any earlier farm buildings (or associated evidence for significant landuse activities) that are likely to predate the progressive sale and use of the individually subdivided and purchased farm lots from the mid 1920s onwards that characterise the documented historical use of the place.

6.2.2 The Potential Historical Archaeological Resource(s)

The known landuse history and landscape context of the site suggests that any potential archaeological remains associated with pre c.1925 use and occupation of the land is likely to be, if present, of low significance according to the heritage assessment criteria noted above. Namely, for the following types of reasons:

- The property is an area where *potential* archaeological survival will have been considerably impacted upon by a long landuse history of clearing, farming, building, and land improvement including dam excavation and drainage provision.
- The *potential* for *in situ* archaeological features or deposits, in the form of building footings and occupation materials associated with any pre 1930s buildings would appear to be limited due to the extensive levels of disturbances that are presently evident across virtually all areas of the property.
- The removal, at least down to ground levels that existed at the time, of any demolition materials of any former (pre-1930s) structures would have most likely needed to be cleared to allow the continued operation of the farms on each of the allotments within the study area.

To evaluate what archaeological research potential and educative opportunities the *potential* archaeological remains on the site may have for providing insights into the lifestyles of 'early' farmers in the Horsley Park area, it is necessary to consider what archaeological features and deposits may survive on the property, what their integrity is likely to be, and what these archaeological resources may be able to tell us about the occupation and use of the land that we cannot find out and/or reasonably infer from the available documentary records.

Archaeological potential is defined by the NSW Heritage Office *Archaeological Assessment Guidelines* (1996:14) '*as the degree of physical evidence present on an archaeological site*'. The broad definition makes it difficult initially to define sites that have no archaeological remains readily apparent in so far

as under the provisions of the *NSW Heritage Act 1977* all relics are protected irrespective of their significance, although they are at the same time managed in practice under the Act according to their archaeological significance.

A reasonable and pragmatic approach to the assessment of archaeological potential is to determine the ability of a site, element or feature to significantly increase our knowledge about a historical site, person or community. Archaeological significance has traditionally been assessed in terms of Assessment Criterion (e) – that is, '*the potential to yield information*'. The *Guidelines* (1996:26) comment that:

> *'the key test that must be applied in understanding the scientific research values of a known or potential archaeological site is the question of whether further studies of the physical evidence may reasonably be expected to help answer research questions'.*

In this context, it is considered that:

- Deep-cut archaeological features are the most likely types of physical remains that will have survived outside of areas excavated for dam constructions, and below zones that are likely to have been deep-ripped for the creation of market garden cultivation plots and drainage infrastructure.
- Brick (or possibly stone) base-course footings of structures may survive in footing trenches at some depth below ground. Traces of smaller outbuildings made of timber and/or with piers and possibly cement slab floor are less likely to survive repeated ground disturbances from farming (such as ploughing, drainage line excavations etc).
- The lower sections of wells or cess pits (privies) may survive below ground. Earthen-sided wells/water storage tanks may be difficult to detect in the archaeological record, unless they have been backfilled with rubbish prior to their falling into disuse. These types of materials when identified in the ground (particularly in disturbed contexts) can sometimes indicate the presence of such features in the vicinity
- Ground surfaces contemporary with the period(s) of occupation of former farms, and evidence of the use of that land in the form of defined cultivated plots and fence lines etc, will have been largely obscured by significant 'activity overprint' associated with continued farm use from the 1930s to the present. The distinctive agricultural furrows evident across much of the site today are the product of over 80 years of continued farming activity on the land.
- It is unlikely that 'domestic' occupation deposits will survive with any archaeological integrity. Household items lost or discarded within internal building spaces (sub-floor) are unlikely to have survived intact demolition later construction and farming activities. Refuse discarded in

scatters across yard areas or buried within rubbish pits are also likely to have been dispersed during later landuse phases.

Balanced against these considerations, it may be concluded that '*further studies of the physical evidence* [that] *may reasonably be expected to help answer research questions'* is likely to result in only a relatively few 'knowledge gaps' being addressed that cannot be explored by further historical research into the history of the site that is beyond the scope of the current archaeological heritage assessment reported here.

6.2.3 Evaluation

It is reasonable to conclude on the basis of the landuse history previously outlined for the site, and the results of the recent site inspection recorded for the property, that the place retains at best low archaeological potential. This evaluation is based on the fact that the land has been considerably impacted upon by ongoing agricultural use and is unlikely to yield a significant sample of archaeological material of sufficient integrity that can provide us with substantial new information that may not be able to be sourced from other documentary-based avenues of research.

It is therefore assessed that the HDBP proposal is unlikely to have an adverse impact upon the European archaeological heritage values of the place and that no *significant* archaeological constraints are apparent that would restrict the proposal proceeding as planned.

7.0 Management Recommendations

7.1 Basis for Recommendations

It is assessed that the proposed subdivision and future commercial development of the HDBP property at Horsley Park is unlikely to have an adverse impact upon the Aboriginal and European archaeological and cultural heritage values of the place.

Aboriginal Archaeological Heritage

The site contains *no currently* documented Aboriginal sites or objects, or any *specific* areas of *potential* Aboriginal archaeological sensitivity as evaluated in the course of preparing this report.

It is expected that any as yet undetected evidence for past Aboriginal visitation and use of the land will consist of either isolated items or very low-density distributions of flaked stone artefacts that will be encountered in highly disturbed contexts.

The *potential* Aboriginal archaeological resource is assessed to be of low (scientific) archaeological significance due to the highly disturbed nature of the site, and that any finds that may be exposed in the future will be largely unexceptional in nature with minimal archaeological research potential.

European Archaeological Heritage

Neither the land itself, nor any of the existing elements contained within it, are listed on any State or Local European heritage register or schedule.

There are no visible features on the site today that may be the remains of any farm buildings that pre-date c.1930.

The site is assessed on the basis of its landuse history as a place that retains at best low archaeological potential. This evaluation is based on the conclusions that the property has been considerably impacted upon by ongoing agricultural use for over 70 years or more and is unlikely to yield a significant sample of archaeological material of sufficient integrity that is likely to provide substantial new information that may not be able to be sourced from other documentary-based avenues of research.

7.2 Recommendations

I Based on the conclusion that the development proposal will not directly impact upon any *identified* Aboriginal archaeological sites or objects, and also that the *potential* for undetected Aboriginal archaeological items to occur within the property that may be affected by future uses is assessed to be *low*, it is therefore recommended that there are no Aboriginal

archaeological constraints to the HDBP proposal proceeding as planned and that no further Aboriginal archaeological heritage input is warranted.

II In the (largely) unexpected circumstance that any Aboriginal objects are unearthed as a result of construction works in the future, it is recommended that activities should temporarily cease within the immediate vicinity of the find locality, be relocated to other areas of the site and the OEH be contacted to advise on the course of action to allow the identified item(s) to be appropriately managed.

III The property is assessed to be a place of minimal archaeological potential of low Local significance. It is it is therefore concluded that there are no identified European archaeological constraints to the subdivision and future development proposal proceeding as planned.

IV One copy of this report should be forwarded to:

Ms Lou Ewins
Manager Planning & Heritage Section
Metropolitan Branch
NSW Office of Environment and Heritage
Department of Premier and Cabinet
PO Box 668
PARRAMATTA, NSW, 2124

V One copy of this report should be forwarded to:

Ms Katrina Stankowski
NSW Heritage Branch
Office of Environment and Heritage
Department of Premier and Cabinet
Locked Bag 5020
PARRAMATTA, NSW, 2124

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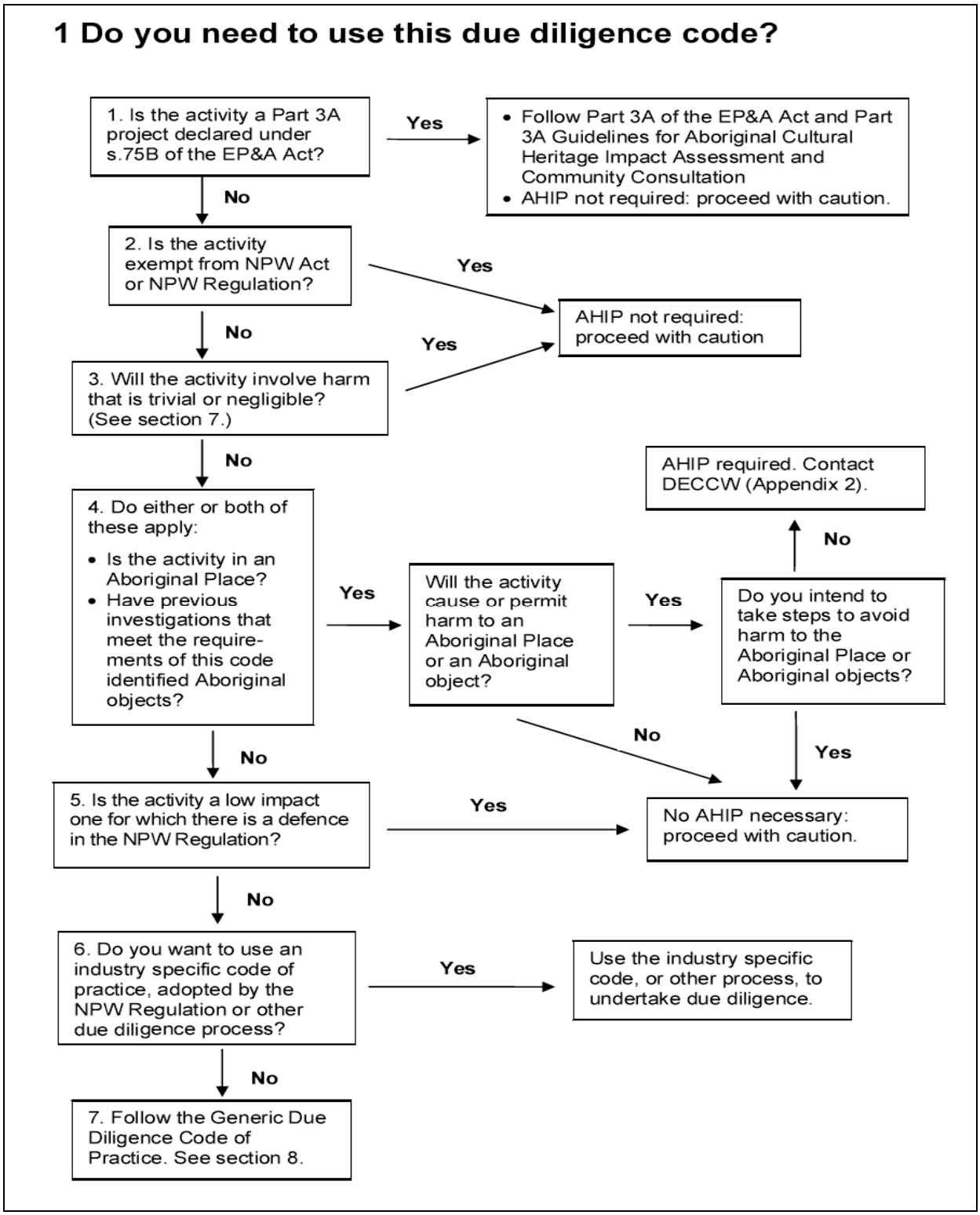
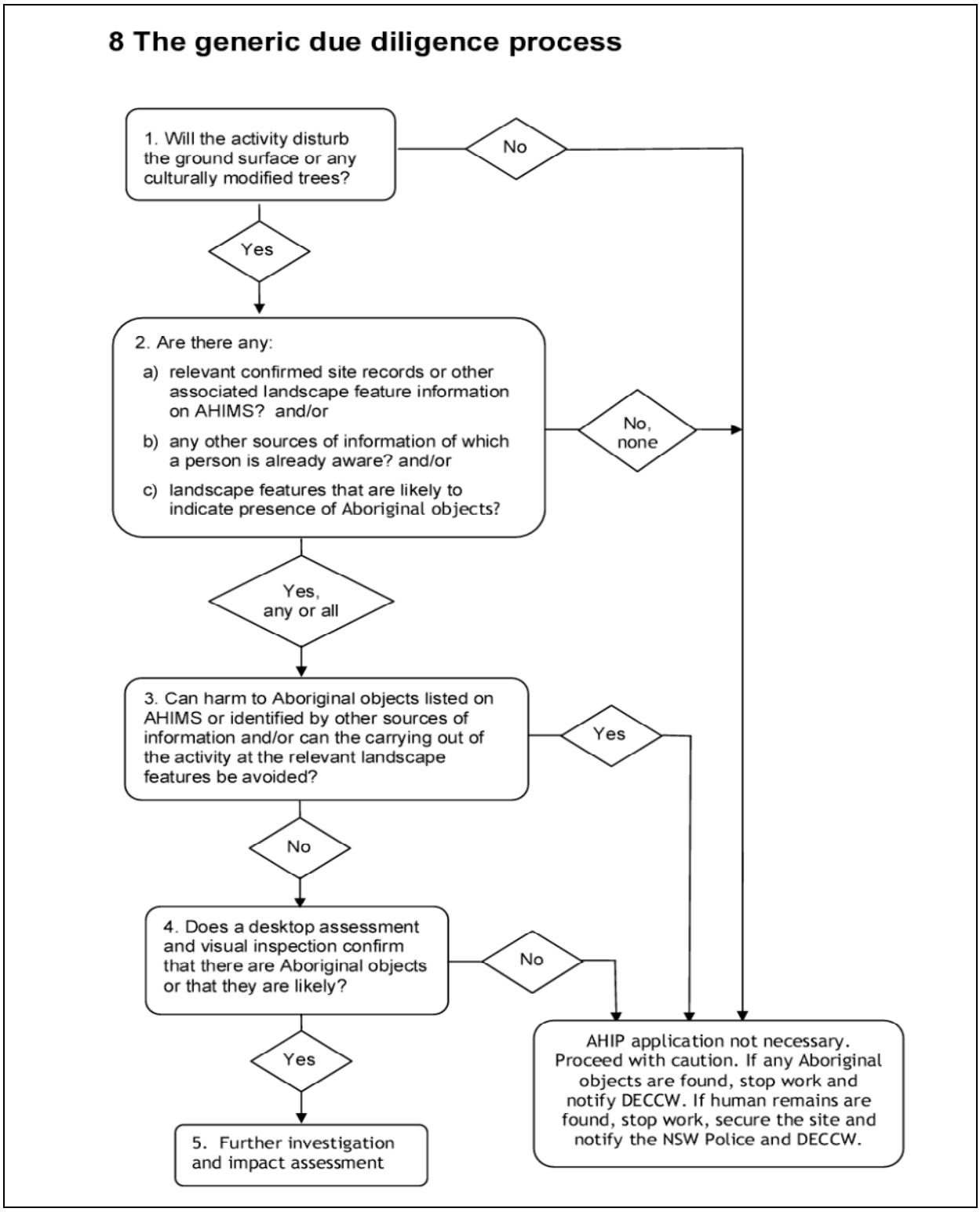
Appendix 1

OEH Due Diligence Code of Practice

Protection of Aboriginal Objects in NSW – NPWS Act 1974

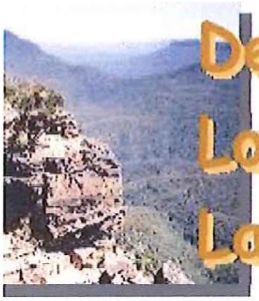

1 Do you need to use this due diligence code?
1. Is the activity a Part 3A project declared under s.75B of the EP&A Act?
Yes
• Follow Part 3A of the EP&A Act and Part 3A Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation
• AHIP not required: proceed with caution.
No
2. Is the activity exempt from NPW Act or NPW Regulation?
Yes
AHIP not required: proceed with caution
No
Yes
3. Will the activity involve harm that is trivial or negligible? (See section 7.)
No
AHIP required. Contact DECCW (Appendix 2).
No
4. Do either or both of these apply:
• Is the activity in an Aboriginal Place?
• Have previous investigations that meet the require-ments of this code identified Aboriginal objects?
Yes
Will the activity cause or permit harm to an Aboriginal Place or an Aboriginal object?
Yes
Do you intend to take steps to avoid harm to the Aboriginal Place or Aboriginal objects?
No
Yes
No
5. Is the activity a low impact one for which there is a defence in the NPW Regulation?
Yes
No AHIP necessary: proceed with caution.
No
6. Do you want to use an industry specific code of practice, adopted by the NPW Regulation or other due diligence process?
Yes
Use the industry specific code, or other process, to undertake due diligence.
No
7. Follow the Generic Due Diligence Code of Practice. See section 8.

8 The generic due diligence process



Appendix 2

Deerubbin Local Aboriginal Land Council Cultural Heritage Statement



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Western Sydney Parklands Trust
Level 4, 10 Valentine Avenue
PARRAMATTA NSW 2150

Our Ref: 2273

5 June 2012

SUBJECT: PROTECTION OF ABORIGINAL CULTURAL HERITAGE
Proposed Commercial Development
Horsley Drive Business Hub
Horsley Park

Attention: Tim Colless: Project Manager

A representative of the Deerubbin Local Aboriginal Land Council inspected the area for Proposed Commercial Development, Horsley Drive Business Hub, Horsley Park on Tuesday, 29 May 2012. An Aboriginal cultural heritage assessment was undertaken to evaluate the likely impact the proposed development has on the cultural heritage of the land.

Our representative reports, the ground surface is highly disturbed from past land use, visibility poor because of the grass cover, no Aboriginal cultural material (in the form of stone artefacts, for example) were found.

Deerubbin Local Aboriginal Land Council therefore, has no objections to the proposed residential development on the grounds of Aboriginal cultural heritage, however, prior to construction or activity that may disturb the topsoil, you shall arrange with Deerubbin Local Aboriginal Land Council for our qualified representative to monitor such works.

Yours Faithfully,

(Kevin Cavanagh
Chief Executive Officer)

C.c. Miranda Morton, Aboriginal Heritage & Planning Officer – Office of Environment & Culture, Dept. of Premier & Cabinet

C.c. Dominic Steele – Dominic Steele Consulting Archaeology