



Cultural Heritage Assessment

Blacktown Hospital Blacktown, NSW

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Report Number: PR112828
Version / Date: Final Draft; April 2012

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Document Status

Version	Purpose of Document	Orig	Review	Review Date
Draft	Issue to client Manager	Joanne McAuley	Sarah Ward	27/04/12

Approval for Issue

Name	Signature	Date
Sarah Ward		05/05/2012

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Terms & Abbreviations

Abbreviation	Meaning
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
cal. years BP	Calibrated years before present (1950), indicates a radiocarbon date.
DECCW	Department of Environment, Climate Change and Water
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EP&A Act	Environmental Planning and Assessment Act
GDA	Geodetic Datum Australia
GIS	Geographic Information System
LALC	Local Aboriginal Land Council
LEP	Local Environment Plan
NPWS	National Parks and Wildlife Service
OEH	Office of Environment & Heritage
PAD	Potential Archaeological Deposit
REP	Regional Environment Plan
REF	Review of Environmental Factors

Executive Summary

RPS has been engaged by Appian Group on behalf of NSW Health Infrastructure to prepare a Cultural Heritage Assessment (CHA) for the proposed extensions to Blacktown Hospital under the *Environmental Planning and Assessment Act 1979* (EP&A Act). Both Aboriginal and European archaeology were considered during the course of this assessment.

The project area is located on Blacktown Road, approximately 800m south east of the Blacktown Central Business District, which is itself 34 km west of the Sydney General Post Office (GPO). The existing Hospital complex is situated on the north face of a moderately sloped hill, and comprises an area of approximately 9.5 hectares. It was built in 1965 on its present site. Since that time, it has been extensively modified, along with the surrounding landscape. It now occupies a series of terraces leading up the hillside, with the main hospital building at its northern-most point, and a series of associated buildings, an administration building and car parks.

The proposed works include the construction of the new building adjacent to the main hospital building, refurbishment of the existing building, the construction of a multi-storey car park near the administrative building and construction of a new sub acute mental health facility, and will be staged as follows:

- 1) Blacktown Multi Storey Car Park – DA Planning Application (including new Construction Only access road junction);
- 2) Blacktown Mental Health Building & Civil Infrastructure Works – ISEPP (self certification Planning Application); and
- 3) Blacktown New Stage-1 Clinical Building- DA Planning Application.

As part of the Due Diligence procedures for Aboriginal Heritage, which this CHA incorporates, an Aboriginal Heritage Information Management System (AHIMS) search was conducted on 25 November 2010 by Archaeologist, Anna Nardis. The basic search confirmed a total of 67 sites within 1km of the project area (defined as Eastings 303848-309661, Northings 6257896-6263023). The extensive search, completed on 3 December 2010, shows that the majority of these sites (n=60) (89.5%) are artefacts (unspecified) sites, with two modified trees (3%), and the remaining are either artefacts or potential archaeological deposits. None of the sites identified were contained within the project area and the updated searches, carried out by RPS Archaeologist, David White on 30 April 2012, confirm this. The updated searches show an additional 5 sites, taking the total to 72, however the newly identified sites are confirmed to be outside the project area.

The purpose of a due diligence report is to demonstrate that reasonable and practicable measures were taken to prevent harm to an Aboriginal object or place and has been undertaken in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (2010).

Additionally, a review of previous archaeological reports, State, regional and local Heritage registers showed no Aboriginal sites having been recorded within the boundaries of the Blacktown

project area. Similarly, no European heritage sites were registered within the boundaries of the project area.

A survey of the project area was conducted on 21 April 2011 with the participation of Deerubbin Local Aboriginal Land Council, Darug Aboriginal Cultural Heritage Assessments, Darug Custodians Aboriginal Corporation and Darug Tribal Aboriginal Corporation. No Aboriginal or European sites were identified during the course of the survey, and as the fieldwork was carried within 12 months of the date of this report, and the footprint of the development has not changed, it was elected not to repeat the fieldwork for this report.

As part of the consultation process with Aboriginal community stakeholders, and in accordance with the *National Parks and Wildlife Act 1974* (NPW Act) responses regarding the project were sought from all registered parties. Of the seven registered groups, responses were received from four groups; three in writing and one by telephone (see Appendix 2).

As a result of the assessment and survey, the following recommendations were made:

1.1.1.1 Recommendation 1

All relevant staff and contractors should be made aware of their statutory obligations for heritage under NSW *National Parks and Wildlife Act 1974* and the NSW *Heritage Act 1977*, which may be implemented as a heritage induction.

1.1.1.2 Recommendation 2

If any Aboriginal site/s are identified in the project area, then all works in the area should cease, the area should be cordoned off and contact made with: Office of Environment and Heritage Enviroline 131 555; a suitably qualified archaeologist; and the relevant Aboriginal stakeholders, so that the site/s can be adequately assessed and managed.

1.1.1.3 Recommendation 3

In the unlikely event that skeletal remains are identified, work must cease immediately in the vicinity of the remains and the area cordoned off. The proponent will need to contact the NSW Police Coroner to determine if the material is of Aboriginal origin. If determined to be Aboriginal, the proponent, must contact: the Office of Environment and Heritage Enviroline 131 555; a suitably qualified archaeologist; and representatives of the local Aboriginal Community Stakeholders to determine an action plan for the management of the skeletal remains, formulate management recommendations and to ascertain when work can recommence.

1.1.1.4 Recommendation 4

If, during the course of development works, suspected European cultural heritage material is uncovered, work should cease in that area immediately. The Heritage Branch, Office of Environment and Heritage (02 9873 8500) should be notified and works only recommence when relevant permits and an appropriate and approved management strategy instigated.

2.0 Introduction

RPS has been engaged by Appian Group, on behalf of NSW Health Infrastructure to prepare a Cultural Heritage Assessment (CHA) for the proposed extensions to Blacktown Hospital under the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This CHA report has been prepared to meet heritage assessment requirements for the proposed project under Section 79(c) of the EP&A Act, and the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* 2010. This assessment has also considered the environmental and archaeological context, developed a predictive model and reported on the results of an archaeological survey of the project area. Management recommendations have been formulated with consideration of the significance of Aboriginal heritage, as well as potential impacts and have been prepared in accordance with the relevant legislation.

2.1 Project Area

Blacktown is an outer western suburb of Sydney, approximately 34 km west of the Sydney General Post Office (GPO). Blacktown Hospital is located on a bend on Blacktown Road, approximately 800m south east of the Blacktown CBD.

The Hospital complex is situated on the north face of a moderately sloped hill, and comprises an area of approximately 9.5 hectares. It was built in 1965 on its present site. Since that time, it has been extensively modified, along with the surrounding landscape. It now occupies a series of terraces leading up the hillside, with the main hospital building at its northern-most point, and a series of associated buildings, an administration building and car parks (see Figure 1-1).

2.2 Proposed Works

The proposed works include the construction of the new building adjacent to the main hospital building, refurbishment of the existing building, the construction of a multi-storey car park near the administrative building and construction of a new sub acute mental health facility, and will be staged as follows:

- 1) Blacktown Multi Storey Car Park – DA Planning Application (including new Construction Only access road junction);
- 2) Blacktown Mental Health Building & Civil Infrastructure Works – ISEPP (self certification Planning Application); and
- 3) Blacktown New Stage-1 Clinical Building- DA Planning Application.

(See Figure 1-2).

Figure 2-1: Site Location – Blacktown Hospital



TITLE: FIGURE 1-1 LOCATION MAP-
BLACKTOWN HOSPITAL

LOCATION: BLACKTOWN

DATUM: N/A
PROJECTION: MGA ZONE 56 (GDA 94)

DATE: 10/5/2011
PURPOSE: HERITAGE ASSESSMENT

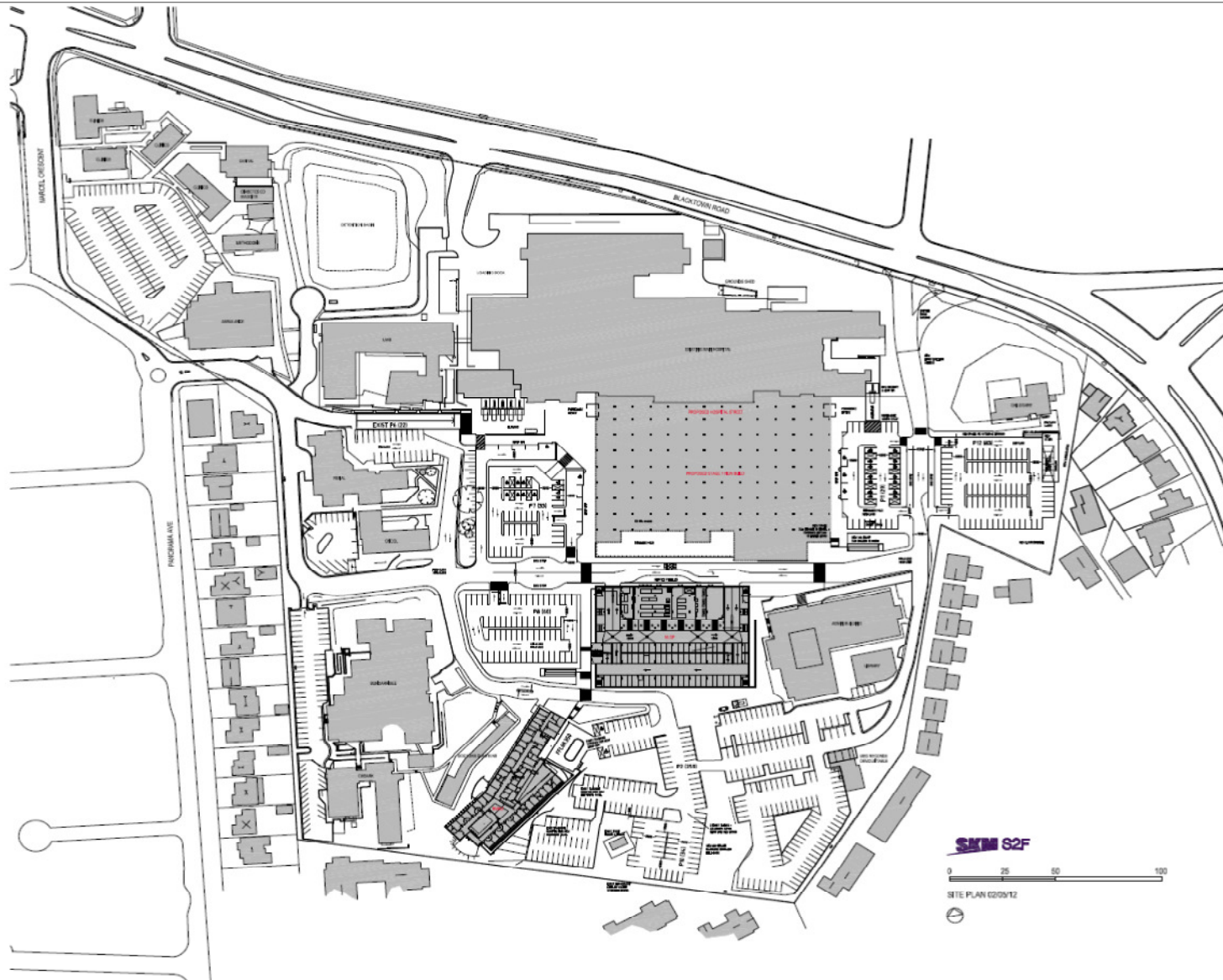
LAYOUT REF: 10-01-0001 (00000) Blacktown - 100 Dots
VERSION (PLAN BY) A4 (DF-NW)

CLIENT: AURORA PROJECTS/DEPT OF HEALTH
JOB REF: 106833

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Figure 2-2: Proposed works for Blacktown Hospital (courtesy Appian Group)



2.3 Legislative Context

The following overview of the legal framework is provided solely for information purposes for the client, it should not be interpreted as legal advice. RPS will not be liable for any actions taken by any person, body or group as a result of this general overview, and recommend that specific legal advice be obtained from a qualified legal practitioner prior to any action being taken as a result of the summary below.

Aboriginal heritage (places, sites and objects) in NSW are protected by the *National Parks and Wildlife Act 1974*, which is overseen by the Office of Environment and Heritage (formerly Department of Environment, Climate Change and Water (DECCW)), now a part of the Department of Premier and Cabinet. In some cases, Aboriginal heritage may also be protected under the *Heritage Act 1977*, which is also overseen by the Heritage Branch, Office of Environment & Heritage (formerly the Heritage Branch of the Department of Planning). The *Environmental Planning and Assessment Act 1979*, overseen by the Department of Planning and Infrastructure, along with other environmental planning instruments, trigger the requirement for the investigation and assessment of Aboriginal heritage as part of the development approval process. For crown land, provisions under the *Aboriginal Land Rights Act 1983* and the *Native Title Act 1993* (overseen by the Office of the Registrar of the *Aboriginal Land Rights Act 1983*) may also apply.

2.3.1 *National Parks and Wildlife Act 1974*

Aboriginal heritage (places, sites and objects) within NSW are protected by the *NPW Act*. Although there are other Acts protecting and managing cultural heritage in New South Wales (see Appendix 1), the due diligence procedure is only available to projects applicable under this Act.

The NSW Government is working towards stand alone legislation to protect Aboriginal cultural heritage which will be a significant reform for NSW. The first stage of this work has been completed and includes significant changes to the primary state legislation relating to Aboriginal cultural heritage in NSW, the *NPW Act*. The legislation is now overseen by the OEH (formerly Department of Environment Climate Change & Water or DECCW) as part of the NSW Department of Premier and Cabinet.

Changes to the NPW Act were made effective on 1 October 2010 and include:

- increased penalties for Aboriginal heritage offences, in some cases from \$22,000 up to \$1.1 million in the case of companies who do not comply with the legislation;
- ensuring companies or individuals cannot claim 'no knowledge' in cases of serious harm to Aboriginal heritage places and objects by creating new strict liability offences under the Act;
- introducing remediation provisions to ensure people who illegally harm significant Aboriginal sites are forced to repair the damage, without need for a court order;
- unification of Aboriginal heritage permits into a single, more flexible permit; and
- strengthened offences around breaches of Aboriginal heritage permit conditions.

Along with the new offences summarised above, there are new defences that have been introduced which will apply where a person harms an Aboriginal object without knowing what it was and without a permit from OEH. One of these defences is the 'due diligence' defence (s87(2)), which states that if a person or company has exercised due diligence to ascertain that no Aboriginal object was likely to be harmed as a result of the activities proposed for the site, then liability from prosecution under the NPW Act will be removed or mitigated if it transpires that an object was harmed. As a consequence of this provision, OEH released a publication entitled *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*. This publication sets out a minimum benchmark for acceptable due diligence investigations to be followed. These investigations include:

- the carrying out of a search of the Aboriginal Heritage Information Management System (AHIMS) database to ensure there are no registered sites within the project area;
- a review of previous archaeological investigations in the Project Area; and
- an assessment of the relevant landscape features and visual inspection to determine whether there are Aboriginal objects present within the Project Area or that they are likely.

One of the benefits of the due diligence provisions are that they provide a simplified process for investigating the Aboriginal archaeological context of an area without the need for an Aboriginal Heritage Impact Permit (AHIP). Aboriginal consultation is also not required for an investigation under due diligence. However, if the due diligence investigation reveals that the activities proposed for the area are likely to harm objects or likely objects within the landscape, then an AHIP will be required with full consultation.

2.3.2 Heritage Act 1977

This Act protects the natural and European cultural history of NSW with emphasis on non-indigenous 'historic' cultural heritage (such as place, building, works, relic, moveable object, precinct, historic shipwreck, or archaeological site) of State or local significance, through protection provisions and the establishment of a Heritage Council and a State Heritage Register. Additionally, Government agencies have special obligations under the NSW *Heritage Act 1977*. Agencies are required to compile a register of heritage assets (known as a Section 170 Heritage and Conservation Register) and look after their assets on behalf of the community.

Although Aboriginal heritage sites and objects are primarily protected by the NPW Act, if an Aboriginal site, object or place is of great significance, it may be protected by a heritage order issued by the Minister subject to advice by the Heritage Council. Penalties of up to \$1.1m are in place for breaches of the Heritage Act and its Regulations.

2.3.3 Environmental Planning & Assessment Act 1979

This Act regulates a system of environmental planning and assessment for NSW. Land use planning requires that environmental impacts are considered, including the impact on cultural heritage and specifically Aboriginal heritage. Assessment documents prepared to

meet the requirements of the EP&A Act including Reviews of Environmental Factors (REF), Environmental Impact Statements (EIS) and Environmental Impact Assessments (EIA) should address Aboriginal heritage, and planning documents such as Local Environment Plans (LEP) and Regional Environmental Plans (REP) typically contain provisions for Aboriginal heritage where relevant.

2.3.4 Aboriginal Land Rights Act 1983

The purpose of this legislation is to provide land rights for Aboriginal people within New South Wales and to establish Local Aboriginal Land Councils. The land able to be claimed by Aboriginal Land Councils on behalf of Aboriginal people is certain Crown land that (s36):

- (i) Is able to be lawfully sold, leased, reserved or dedicated;
- (ii) Is not lawfully used or occupied;
- (iii) Will not, or not likely, in the opinion of the Crown Lands minister, be needed for residential purposes;
- (iv) Will not, or not likely, be needed for public purposes;
- (v) Does not comprise land under determination by a claim for native title;
- (vi) Is not the subject of an approved determination under native title.

Claims for land are by application to the Office of the Registrar, *Aboriginal Land Rights Act 1983*.

2.3.5 Native Title Act 1993

The Commonwealth Government enacted the *Native Title Act 1993* to formally recognise and protect native title rights in Australia following the decision of the High Court of Australia in *Mabo & Ors v Queensland (No. 2)* (1992) 175 CLR 1 (“Mabo”).

Although there is a presumption of native title in any area where an Aboriginal community or group can establish a traditional or customary connection with that area, there are a number of ways that native title is taken to have been extinguished. For example, land that was designated as having freehold title prior to 1 January 1994 extinguishes native title, as does any commercial, agricultural, pastoral or residential lease. Land that has been utilised for the construction or establishment of public works also extinguishes any native title rights and interests for as long as they are used for that purpose. Other land tenure, such as mining leases, may be subject to native title, depending on when the lease was granted.

Further details on the relevant legislative Acts are provided in Appendix 1.

2.4 Authorship and Acknowledgements

This report was written by RPS Senior Heritage Consultant Joanne McAuley, with assistance from RPS Senior Archaeologist Sarah Ward, RPS Business Support Manager

Audrey Churm and Archaeologists Deborah Farina, David White Anna Nardis and Ali Byrne. The report was reviewed by RPS Senior Archaeologist, Sarah Ward.

The RPS team acknowledges the assistance in preparing this report, and its previous iterations, of various organisations and individuals, including but not limited to:

Table 2-1: Acknowledgements

Name	Organisation
Tony Kiernan	Appian Group
Sam Valentine	Appian Group
Dan Brindle	BBC Consulting Planners
Andrew Paris	Department of Health
Steve Randall	Sites Officer, Deerubbin Local Aboriginal Land Council (DLALC)
Gordon Morton	Sites Officer, Darug Aboriginal Cultural Heritage Assessments (DACHA)
Leanne Watson	Sites Officer, Darug Custodians Aboriginal Corporation (DCAC)
Dennis Hardy	Darug Tribal Aboriginal Corporation (DTAC)

3.0 Aboriginal Community Consultation

The purpose of Aboriginal community consultation is to provide an opportunity for the relevant Aboriginal stakeholders to have input into the heritage management process. The Office of Environment and Heritage encourages consultation with Aboriginal people for matters relating to Aboriginal heritage. If an Aboriginal Heritage Impact Permit (AHIP) is required, then specific Office of Environment and Heritage guidelines are triggered in respect to Aboriginal consultation. In some circumstances the Office of Environment and Heritage consultation guidelines are also used as a framework for Aboriginal consultation, even if not specifically triggered by the preparation of an AHIP application.

As mentioned above, due diligence inspection relates to the physical identification of Aboriginal objects. Community consultation is only required once Aboriginal objects have been detected and an Aboriginal Heritage Impact Permit (AHIP) is deemed necessary. Section 5.2 of the 2010 Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW specifically states that:

'Consultation with the Aboriginal community is not a formal requirement of the due diligence process' (2010:3)

As the original assessment of the project area was conducted ahead of an application for approval under Section Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) (which has now been repealed), this section of the EP&A Act stipulated that the 'Aboriginal Cultural Heritage Assessment and Community Consultation' guidelines be followed which includes the Interim Community Consultation Guidelines (DEC 2005).

This project has complied in full with the above requirements and satisfied in excess of their requirements by following the newly issued (April 2010) *Aboriginal Cultural Heritage Consultation Requirements (ACHCRs) for Proponents* (DECCW 2010). All Aboriginal consultation has been undertaken in accordance with these requirements. Please note that AHIP's are not required for Part 3A projects and instead all cultural heritage is managed under the auspices of a Cultural Heritage Management Plan.

The ACHCRs 2010 include a four stage Aboriginal consultation process and stipulates specific timeframes for each stage. Stage 1 requires that Aboriginal people who hold cultural information are identified, notified and invited to register an expression of interest in the assessment. Stage 1 includes the identification of Aboriginal people who may have an interest in the Blacktown Hospital Project Area and hold information relevant to determining the cultural significance of Aboriginal objects or places.

This identification process draws on reasonable sources of information including: the *Aboriginal Land Rights Act 1983*, the relevant OEH/DECCW Environment Protection Regulation Group Regional Office, the Local Aboriginal Land Council(s), the Registrar, the National Native Title Tribunal, the Native Title Services Corporation Limited, the Catchment Management Authority and the Local Council(s). The identification process should also include an advertisement placed in a local newspaper circulating in the general location of the Blacktown Project Area. Aboriginal organisations and/or individuals

identified should be notified of the project and invited to register an expression of interest (Eol) for Aboriginal consultation. Once a list of Aboriginal stakeholders has been compiled from the Eol's, they need to be consulted in accordance with ACHCR's 2010 Consultation Requirements Stages 2, 3 and 4. Stage 2 requires the preparation of an assessment design to be sent to the Aboriginal stakeholders for comment and review. Stage 3 requires that the assessment report be provided to registered Aboriginal stakeholders for review and comment.

As such, an advertisement was placed in the *Blacktown Sun* on 11 January 2011 requesting groups register their interest in the project by 25 January 2011. No ACS groups registered their interest in the Blacktown Hospital Project as a result of the newspaper advertisements. Expression of interest letters were sent to the following ACS groups regarding the Blacktown Hospital Project on 23 February 2011 requesting that an expression of interest (Eol) be provided to RPS by 9 March 2011. Recipients of those letters are at Table 3-1.

Table 3-1: Stakeholders to whom Expressions of Interest (Eol) letters were sent

Organisation	Name of Representative	Date Eol sent to ACS
DLALC	Steve Randall	23 February 2011
DTAC	Sandra Lee	23 February 2011
DACHA	Gordon Morton/Celestine Everingham	23 February 2011
DLO	Gordon Workman	23 February 2011
Yarrowalk	Scott Franks	23 February 2011
DCAC	Leanne Watson	23 February 2011
DLC.	Des Dyer	23 February 2011
Gunjeewong Cultural Heritage Aboriginal Corporation	Cherie Carroll Turrise	23 February 2011

The ACS groups registered their expressions of interest in the Blacktown Hospital Project to RPS by 9 March 2011 are listed in Table 3-2.

Table 3-2: ACS who registered an EOI in the Blacktown Hospital Project

Organisation	Name of Representative	Date Eol Registration date
DLALC	Steve Randall	28/02/2011
DTAC	Sandra Lee	02/03/2011
DACHA	Gordon Morton/Celestine Everingham	02/03/2011
DLO	Gordon Workman	08/03/2011
Yarrowalk	Scott Franks	08/03/2011
DCAC	Leanne Watson	14/03/2011

Each of the registered ACS groups was provided with information regarding the Blacktown Hospital Project, including the survey methodology, on 16 March 2011, requesting comments by 13 April 2011.

Table 3-3: Recipients of the Survey Methodology Information Letters

Organisation	Name of Representative	Date Methodology sent
DLALC	Steve Randall	16/03/2011
DTAC	Sandra Lee	16/03/2011
DACHA	Gordon Morton/Celestine Everingham	16/03/2011
DLO	Gordon Workman	16/03/2011
Yarrowalk	Scott Franks	16/03/2011
DCAC	Leanne Watson	16/03/2011

Three ACS groups returned their comments on the Survey Methodology by the closing date of Wednesday 13 April 2011 and are listed in Table 3-4.

Table 3-4: ACS Responses to Survey Methodology Information

Organisation	Name of Representative	Date of Reply for Methodology due 13/04/2011
DCAC	Leanne Watson	25/03/2011
DACHA	Gordon Morton	29/03/2011
DTAC	Sandra Lee	31/03/2011

The following ACS groups participated in the Blacktown Hospital Project field survey, refer Table 2-5. The survey for the hospital sites was conducted on Thursday, 21 April 2011, with DLALC attending at 8 am to 10 am, and DACHA, DCAC and DTAC from 10.15 am to 12.15 pm.

Table 3-5: ACS Field Survey Participants

Organisation	Name of Representative
DLALC	Steve Randall
DACHA	Gordon Morton
DCAC	Leanne Watson
DTAC	Dennis Hardy

The following ACS groups received a copy of the Blacktown Hospital Project final draft report for their perusal and comment, refer Table 3-6. Comments received on the final draft by the ACS should be received within 28 days after the ACS have received the report.

Table 3-6: ACS Recipients of Blacktown Hospitals Project Consulted for Project Final Draft Report (Appendix 2)

Organisation	Name of Representative	Date of response to final draft	Response noted and report adjusted accordingly
DLALC	Steve Randall		
DTAC	Sandra Lee		
DACHA	Gordon Morton/Celestine Everingham		
DLO	Gordon Workman		
Yarrowalk	Scott Franks		
DCAC	Leanne Watson		

4.0 Environmental Context

Aboriginal heritage due diligence requires that available knowledge and information is considered. The purpose of reviewing the relevant environmental and heritage information is to assist in identifying whether Aboriginal sites or places are present within the study area.

The purpose of reviewing the relevant environmental and heritage information is to assist in identifying whether Aboriginal sites or places are present within the study area. The reporting of environmental context is also required by OEH as specified in the NSW Department of Environment, Climate Change & Water, *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* 2010.

4.1 Local Environment

An understanding of environmental context is important for the predictive modelling of Aboriginal sites, as well as, for their interpretation. The local environment provided natural resources for Aboriginal people, such as, stone (for manufacturing stone tools), food and medicines, wood and bark (for implements such as shields, spears, canoes, bowls, shelters, amongst others), as well as, areas for camping and other activities. The nature of Aboriginal occupation and resource procurement is related to the local environment and it therefore needs to be considered as part of the cultural heritage assessment process.

4.1.1 Geology and Soils

The underlying geology can be important for Aboriginal occupation of an area, as siliceous rocks were used by Aboriginal people for manufacturing flaked stone tools. The exploitation of stone raw materials depends on the nature of the source, rock outcrops (primary source) may be exploited by quarrying, but may also be procured as or cobbles (secondary source) (Doelman et al. 2008).

The Blacktown project area is situated on the Cumberland Plain, a large low-lying and gently undulating landform in the Sydney Basin. The Sydney Basin is a large geological feature that stretches from Batemans Bay in the south, Newcastle in the north and Lithgow in the west (Clark and Jones 1991). The formation of the basin began between 250 to 300 million years ago when river deltas gradually replaced the ocean that had extended as far west as Lithgow (Clark and Jones 1991). The oldest, Permian layers of the Sydney Basin consist of marine, alluvial and deltaic deposits that include shales and mudstone overlain by Coal Measures. By the Triassic period the basin consisted of a large coastal plain, with deposits from this period divided into three main groups; the Narrabeen Group, Hawkesbury Sandstone and the Wianamatta Group (Clark and Jones 1991). The presence of tuff and sandstone in both project areas are important for Aboriginal occupation of the area because certain types of silicified tuff have been used by Aboriginal people for manufacturing flaked stone tools; and sandstone was used for grinding grooves, for shelter (if rock shelters present), engravings, amongst other uses.

The geology for the Blacktown area chiefly comprises the Triassic Wianamatta Group, which is made up of sandstone and shale with the exception of the areas surrounding watercourses, such as Ropes Creek, Eastern Creek and South Creek, which are made up of Quaternary deposits of gravel, sand, silt and clay (Brunker & Rose, 1967). The Wianamatta Group is overlain by Triassic Bringelly Shale, Ashfield Shale and small deposits of Minchinbury Shale (Erskine, et al, 2003:128).

The dominant soil landscape of the Blacktown area is the Blacktown soil landscape. The residual Blacktown soil landscape is characterised by shallow to moderately deep red and brown podzolic soils on crests, upper slopes and well drained areas, and deep yellow Podzolic soils and soloths on lower slopes and in areas of poor drainage (Chapman & Murphy, 1989:30).

4.1.2 Topography and Hydrology

The Cumberland Plain is an area of gently undulating country, stretching from the Nepean/Hawkesbury Rivers in the west, to approximately 6 km north of the township of Windsor in the north, to Thirlmere in the south, and the eastern coast of NSW in the east. It covers an area of approximately 275,000 ha and is the most highly urbanised environment in the Sydney Basin bioregion. It comprises fertile soils, contrasting with the rugged sandstone plateaux surrounding it, and has been utilised extensively for agriculture since European settlement in 1788 (NPWS, 2002:1).

The landscape surrounding the Blacktown project area is gently undulating with local relief 10-30m, and slopes generally less than 5%, but up to 10%. Crests and ridges are broad and rounded, with convex upper slopes grading into concave lower slopes (Chapman & Murphy, 1989:30). Two tributaries of Blacktown Creek (approximately 250m north and 300m east respectively) are the nearest permanent watercourses near the project area.

4.1.3 Flora and Fauna

Whilst there has been widespread clearance of natural vegetation in both project areas, the dominant ecological community prior to European contact was the now-endangered Cumberland Plain Woodland. Within this ecological community, two broad forms existed: the Shale Hills woodland group, occurring mainly on the elevated and sloping southern portion of the Cumberland Plain, and the Shale Plains woodland group, the most widely distributed of the two. Prior to European settlement, it is thought that the Cumberland Plain woodland covered approximately 130,000 ha; it now covers less than 9,300 ha, a loss of 93% of its original coverage (NPWS 2002:10).

Dominant species occurring within the Shale Plains woodland were the grey box (*Eucalyptus moluccana*), Forest red gum, (*E. tereticornis*), spotted gum (*Corymbia maculate*) and thin-leaved stringybark (*E. Eugenioides*). The dominant understorey comprised Blackthorn (*Bursaria spinosa*), with grasses such as kangaroo grass (*Themeda*

australis), weeping meadow grass (*Microlaena stipoides* var *stipoides*) and herbs such as kidney weed (*Dichondra repens*), blue trumpet (*Brunoniella australis*) and *Desmodium variens* (NPWS, 2004:1).

Typical animals which would have inhabited this vegetation community include Macrodidae (Kangaroos and wallabies), sugar gliders, possums, echidnas, a variety of lizards and snakes, birds, as well as rats and mice. The bones of these animals have been recovered from Aboriginal sites in the Sydney region suggesting that they were sources of food (Attenbrow 2002:70-76), although the hides, bones and teeth of some of the larger mammals may have been used for Aboriginal clothing, ornamentation, or other implements.

4.1.4 Previous Land Use and Disturbance

The Blacktown project area has been substantially impacted by prior land use practices. Since the earliest period of European settlement, the fertile land of the western Cumberland Plain has been utilised for agricultural purposes, leading to large scale clearance of native vegetation. Although it is not established what type of farming was carried out, most areas were most likely to have been ploughed. In addition, other land clearing practices (fencing, drainage, erosion control and removal of erratics and boulders) can alter the landscape, affect erosion rates and displace and break artefacts if present. These factors can not only disturb the archaeological record but also destroy evidence of past occupation.

The project area in particular has been impacted by development, comprising the construction of hospital buildings, roads, utilities and parking areas. As the proposed works are for the most part extensions and modifications to existing buildings, it is likely that the areas to be impacted by the development are already disturbed to varying degrees by previous construction works.

4.1.5 Environmental Context and Cultural Heritage

A review of the environmental data shows that the Blacktown area was suitable for Aboriginal occupation. Ample food sources in the form of fish and game were present, as was reliable water from the Bega River. This appears to be borne out by the AHIMS data and review of the previous archaeological investigations, which shows a variety of sites and site types present in the project area.

5.0 Historical Context

European land settlement commenced in NSW in 1788 when Governor Phillip claimed possession of the land now known as Australia for a penal colony on behalf of the British Government. The heritage objects, sites and places associated with the European occupation of Australia point not only to the development of Australia as a modern nation, but to the places where people lived and worked. It can tell us about the way things were made and used and how people lived their daily lives.

5.1 European History

5.1.1 History of Sydney

Sydney was first visited by the British in 1770 when Captain James Cook and Joseph Banks sailed the Endeavour into Botany Bay (Karskens 2009). The First Fleet arrived at Botany Bay in 1788 led by HMS *Sirius* and under the command of Governor Arthur Phillip, a total of 11 ships brought convicts and officials with plans to establish a colony (Karskens 2009).

After deciding that Botany Bay was not suitable for the settlement, Phillip rowed north to Port Jackson. On January 26, 1788, the First Fleet sailed north to Port Jackson, Phillip having left the day before to begin clearing land at Sydney Cove (Karskens 2009). Sydney was named after Thomas Townshend - Lord Sydney who became British Secretary of State in 1783 and recommended the British establish a colony in Australia.

The first school in Sydney opened in 1789 and the first shop was opened in 1790 by Captain Aitken (Karskens 2009). A second fleet arrived in Australia in 1790 and a third fleet came in 1791. At first things were difficult for the colonists and food was short although Phillip sent a ship to South Africa for more provisions which returned in May 1789. Phillip left Australia in December 1792 (Karskens 2009). For three years Australia was left without a governor until John Hunter arrived. The first theatre in Sydney was built in 1794 and in 1804 a stone bridge was built over the Tank Stream (Karskens 2009). It was the first stone bridge in Australia. The first post office in Australia opened on Lower George Street in 1809 (Karskens 2009).

It wasn't long before the inexperienced farmers utilising patchy European farming methods found themselves on the brink of starvation. Combined with disease and low morale, the colony was in desperate trouble. Despite the harrowing experience of the First Fleet's settlement the second and third fleet of convicts and military settlers followed soon after the First. In 1808, Governor William Bligh was overthrown by the New South Wales (Rum) Corps whom had commercial interests in the Rum trade; this became known as the Rum Rebellion (Karskens 2009). Hyde Park Barracks was built in Sydney in 1819 and was originally an accommodation for convicts. Macquarie's tenure as Governor of New South Wales was a period when Sydney was improved from its basic beginnings (Karskens 2009). Roads, bridges, wharves and public buildings were constructed by

British and Irish convicts, and by 1822 the town had banks, markets, well-established thoroughfares and an organised constabulary (Karskens 2009). The oldest church in Sydney, St James, was built in 1824 whilst the Australian Museum was founded in 1827 (Karskens 2009).

From 1830 hackney carriages ran in the streets of Sydney and the first Australian gin was distilled in Sydney in 1834 by Robert Cooper (Karskens 2009). From 1841 the streets of Sydney were lit by gas. By 1840 the colony's population was made up of mainly free immigrants and transportation ceased in 1842. In 1842 Sydney was incorporated and by 1847 the convict population of Sydney accounted for only 3.2 percent of the total population (Karskens 2009). The 1830s and 1840s were periods of urban development, including the development of the first suburbs, as the town grew rapidly when ships began arriving from Britain and Ireland with immigrants looking to start a new life in a new country. On 20 July 1842 the municipal council of Sydney was incorporated and the town was declared the first city in Australia, with John Hosking the first elected mayor (Karskens 2009).

Sydney University was founded in 1850 (Karskens 2009). With the discovery of gold from the west to the colony in 1851 and word that gold had been discovered in Victoria, settlers began leaving Sydney for the prospect of becoming rich. The gold rush attracted miners and prospectors from all over the world.

Then in 1855-57 Fort Denison was built to protect Sydney which was named after Sir William Denison (1804-1871) who was governor of New South Wales from 1855 to 1861 (Karskens 2009). Meanwhile in 1855 a railway was built from Sydney to Parramatta and in 1861 horse drawn trams began running through the streets of Sydney. In the 1880s they were replaced by steam trams and at the beginning of the 20th century by electric trams (Karskens 2009). However the tram system began closing in the 1950s and the last tram ran in Sydney in 1961. Meanwhile in 1926 the first part of an underground railway opened in Sydney (Karskens 2009).

As Sydney expanded in size many new buildings were erected. Government House was built in 1845 and the Sydney Observatory was built in 1858 (Karskens 2009). St Mary's Roman Catholic Cathedral was built on the site of previous church, which burned down in 1865. Macquarie lighthouse was built in 1883 and Customs House was built in 1885. Centennial Park was laid out in 1888 and Sydney Town Hall was built was completed in 1889 (Karskens 2009). The Strand Arcade in Sydney opened in 1892 and the Queen Victoria Building was erected in 1898 (Karskens 2009).

In 1901 the six British colonies in Australia formed a federation to become the Commonwealth of Australia. Sydney continued to grow and by 1925 became a metropolis of 1 million people (Karskens 2009). The First World War spurred an economic boom for Sydney, however, with the artificial spending stimulant of the war over, the economy went into rapid decline and over a third of Sydney side were unemployed during the Great Depression of the early 1930's (Karskens 2009). World War II marked the beginning of a long period of Australian economic growth. The war greatly increased the size and importance of the Australian manufacturing sector and stimulated the development of

more technologically advanced industries (Karskens 2009). As part of this trend many workers acquired relatively high skill levels and female labour force participation rates greatly increased.

After 1945 Australia entered a boom period with refugees and migrants arrived in Australia in the immediate post-war period. The number of Australians employed in the manufacturing industry had grown steadily since the beginning of the century. Today Sydney is one of the most cosmopolitan, culturally diverse and has become an extremely popular tourist destination attracting almost 3 million visitors annually (Karskens 2009). This history is important in setting the scene for our assessment and placing the site in context.

5.1.2 History of the Blacktown Area

According to Sharpe (2002) Europeans on exploratory expeditions to the Hawkesbury traversed through the Blacktown area in 1789. The first European settlement of Blacktown began when Governor Phillip granted land at the base of Prospect Hill in August 1791 to 13 people. In 1800, the population had risen to 16.

In 1802, Governor King reserved an area of the approximate size and boundaries of the current Blacktown City local government area as a stock reserve for its cattle and other livestock, known variously as the Government Stock Farm or the Rooty Hill Run. After 1810, Governor Macquarie had buildings constructed for the use of the superintendant of the stock reserve on the northern footslopes of the Rooty Hill, also as a country home for Governor Macquarie. Over the years, the house was referred to as “Government House”, “Thornleigh” and “Stratton” (Blacktown City Council, undated).

From 1817, however, Governor Macquarie began granting portions of the run. William Dean was granted two portions of 100 acres and 50 acres respectively near Eastern Creek, John Campbell was granted 2000 acres near present day Blacktown, and named his property “Bungarribee”, Major Druitt was also granted 1,000 acres near Ropes Creek.

A school was initially set up for the local Aboriginal people at Parramatta in 1814 but as the area became more densely settled in the 1820s, this was moved further west. The school and the area around it at the new site were known as ‘Black’s Town’, and it is from a derivation of this that the City of Blacktown was named. In 1819 Governor Lachlan Macquarie granted 30 acres of land along the Richmond Road near Blacktown to two indigenous men, Colebee and Nurragingy (Sharpe 2002).

From the late 1820s-early 1830s, a Royal Charter bestowed a percentage of new land in the Colony to the Trustees of the Clergy and School Lands for the benefit of religion and schools. Much of the land previously used for the Government stock reserve in the Blacktown and Mt Druitt area not already granted prior to the Royal Charter was therefore Church and Schools Land, who in turn leased portions of it, usually for a period of 21 years. However, from the mid 1830s, several legal problems arose with the Trust, leading

to the Church and Schools Land eventually reverting back to the Crown. By 1865 the final lots of the former Church and Schools Land were auctioned off.

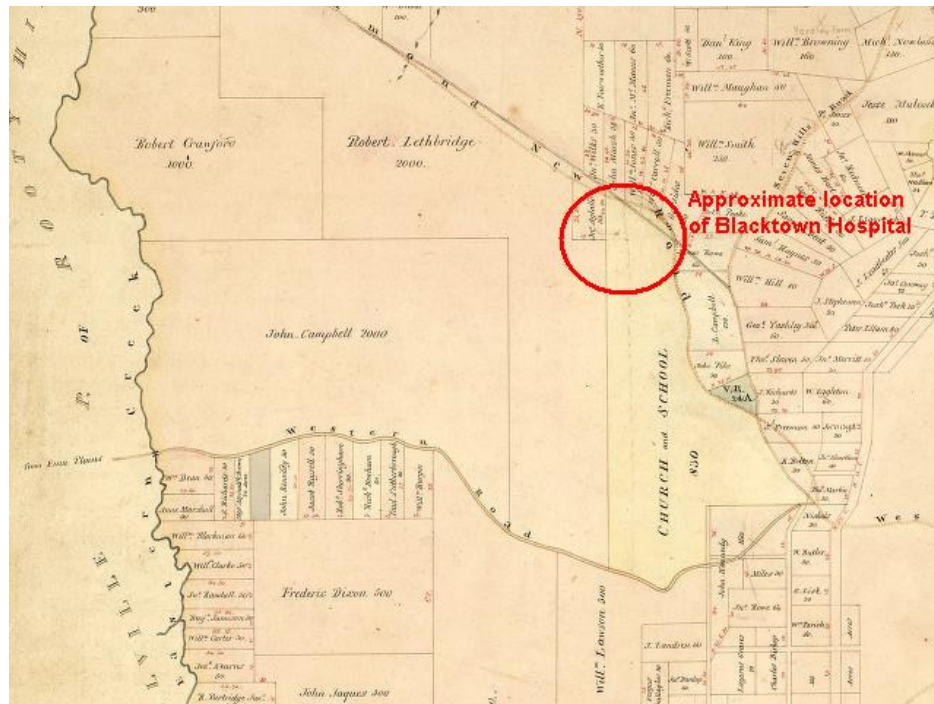


Figure 5-1: Undated Parish Map from LPMA Parish Maps project showing Blacktown Hospital's approximate location.

By 1841, St. Bartholomew's Church had been built and dedicated by Bishop Broughton and in the 1850's local land owners decided to divide the original land grants. The railway reached Blacktown in 1860 and the first Post Office was opened at the railway station in 1862. A public school opened at Prospect in 1867. A man named Edward Palmer opened a butcher's shop in 1872 and in 1878 Riverstone Meatworks started operating in Blacktown (Sharpe 2002).

The Shire of Blacktown was formed in 1906 with a provisional council and by 1912 the council had its very own chambers. In 1961 Blacktown became a municipality; and in 1979 the City of Blacktown was declared. Permission to use a Coat of Arms was granted in 1981 (Sharpe 2002).

An aerial photograph taken in 1943 shows the area now occupied by Blacktown hospital as still being rural in character, with a single house located on the land (see Figure 5-2).

In the 1950s and 60s, there was a large amount of suburban development both in the current suburb of Blacktown and the new suburbs that sprung up around it. This led to civic development in the town centre with land being resumed in 1958 for hospital purposes, and the opening of Blacktown Hospital in 1965. The courthouse and police station were opened in 1966, the library in 1967 and the TAFE College in 1969. In 1973,

the Westpoint shopping centre opened. The City of Blacktown is today is one of the largest cities in Australia comprising 45 suburbs (Sharpe 2002).

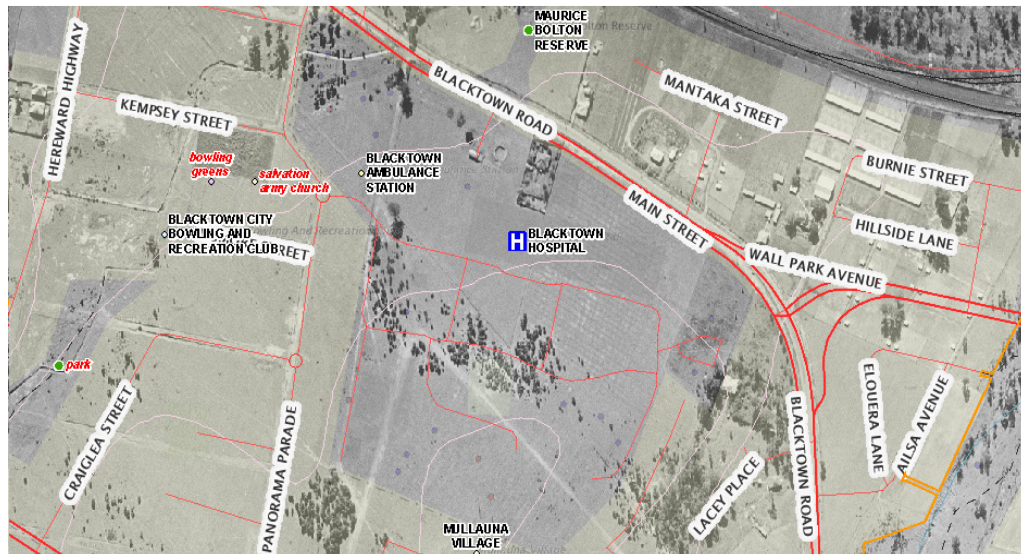


Figure 5-2: Aerial photograph of Blacktown Hospital site in 1943
(Dept of Lands, Six Viewer).

5.2 Aboriginal History

5.2.1 Historical Records of Aboriginal Culture

Some historical documents provide important information and insights into local Aboriginal customs and material culture at the time of non-Indigenous (European) settlement and occupation of region. Nonetheless, it is important to note that the historical documents were produced for a number of reasons and thus may contain inaccuracies and/or bias in their reporting of events or other aspects of Aboriginal culture.

Anthropologist R.H Mathews referred to a dialect that he called Darug, also spelt Dharruk, where he states that the Darug adjoined the Thurralwal on the north, extending along the coast to the Hawkesbury River, and inland to what are now Windsor, Penrith and Campbelltown (Attenbrow 2003:32). Mathews considered the Darrug to have linguistic affinities with the Gundungurra as:

“A very old Dharruk fellow, named “Jimmy Lownds”, informed us that the Gundungarra and Dharruk natives could converse together with but little difficulty”
(Mathews in Attenbrow 2003:32)

On 22nd April 1788, Governor Phillip ordered the first major inland expedition across the Cumberland Plain. At this time, evidence of Aboriginal people was seen ‘everywhere’ in the form of huts, camp fires, burning trees and partially eaten food (Trench in Flannery 1996:91). Barrallier, in his expedition through Darug and Gandangara territory in the early

19th century, describes the swamps in the Nepean River area as being excellent sources of fish, shellfish and 'enormous' eels. He states that:

"the people from this area usually fed upon opossum and squirrels, which are abundant in that country, and also upon kangaroo rats and kangaroo, but they can only catch this last one with the greatest trouble, and they are obliged to unite in great numbers to hunt it"

(Barrallier 1802:2-3).

Such a kangaroo hunt, with a large group using fire, spears and 'tomhawks' was described near Menangle Swamp. The participants were spaced at "30 paces ... and formed a circle which contained an area of 1 or 2 miles" (Barrallier 1802:3). Based on this description, in the order of 100 people may have been involved in this hunt, suggesting that such activities may have involved co-operation between several bands. Lizards and grubs were also documented as part of their diet (Barrallier 1802:6). For the purpose of collecting these grubs, Cahbrogal, a specific utensil was used, this being described as:

"a switch about twelve inches long and the thickness of a fowl's feather ... One of the extremities of this stick is provided with a hook. ... This is used upon finding evidence of these grubs in the bark of trees ... dip their switch into the hole, and, by means of the hook, draw it out, and eat it greedily"

(Barrallier 1802:6).

Other specialised, inland, adaptations to localized resources include the 'squirrel traps' in hollow trees and 'decoys for the purpose of ensnaring birds' (Tench 1789:154). These decoys were assessed as having great utility as they were full of quail feathers. The accounts described these structures as complex (Tench 1789:154) and that they were made of reeds and 'underwood'. They were described as being 'long and narrow, shaped like a mound raised over a grave; with a small aperture at one end for admission of the prey; and a grate made of sticks at the other' (Tench 1789:155). One such structure described by Collins 'was between 40-50 feet long' (1798:462). He also describes animal and bird traps near inland lagoons as consisting of holes with camouflaged tops (Collins 1798:462).

Early accounts remarked on the facility with which men of the inland tribes climbed trees (Collins 1798:464). This was done for the purpose of obtaining possums (usually with assistance of smoke) and was achieved by cutting notches for footholds 'with a stone hatchet' (Tench 1796:233). Possums and other tree dwelling animals were indeed the staple of the woodland tribes and that edge-ground hatchets were identified as the dominant subsistence item in the inland toolkit.

At the time of contact, Aboriginal camp sites on the Cumberland Plain were described (Collins 1798:460) as being made of the bark of a single tree, bent in the middle and placed on its two ends on the ground 'exactly resembling two cards, set up to form an acute angle' (Collins 1798:460). These shelters (gunyahs) would be grouped together, up to a total of nine (Barrington 1802:20).

During a trip along the Hawkesbury-Nepean during 1791, Tench wrote that Dharruk hinterland people:

"depend but little on fish, as the yields only mullets, and that their principal support is derived from small animals which they kill, and some roots (a species of wild yam) which they dig out of the earth"

(Tench 1996:238)

Animals such as wallabies, kangaroos, possums, flying foxes, water birds, parrots, reptiles, freshwater fish and yabbies played a far greater role in the subsistence of hinterland groups than the coast. They set snares for quail and dug pitfall traps for small mammals. Fish traps were set along creeks and rivers. Men also caught eels, platypus, yabbies, mussels, tortoises and water birds. Huge mud oysters were harvested in estuarine waters (Tench 1996:239). Food habits and diets varied from one region to another, custom and beliefs affected what was hunted and gathered.

The Dharruk groups living in the Hawkesbury sandstone region made extensive use of the natural rock overhangs that are characteristic of the area (Attenbrow 2003:56). Over the flat or undulating shale country in this area the Dharruk camped in gunyahs which were made of branches and sheets of bark (Attenbrow 2003:56). Creeks contained rocks and boulders suitable for making stone tools, and the Dharruk developed a sophisticated toolkit of spears, coolamons, traps, snares, nets and digging sticks (Attenbrow 2003:58).

Fire-stick farming opened up the access to land and created pockets early succession vegetation that increased the amount of important plant foods (Attenbrow 2003:60). Early re growth vegetation, particularly grasses, attracted animals, which in turn made them easier to hunt. Firing of the landscape was an important tool in manipulating the environment to increase food sources and to broaden their range of food (Attenbrow 2003). In 1833 R. H.L. Mathews describes a journey up Berowra Creek where he met a group of Aborigines who

"Had set the grass on fire, which was spreading up the mountain with incredible rapidity, running up the highest tree in a moment, the weather had been lowering all day and some slight showers had fallen".

(Attenbrow 2003:63)

This describes burning in conditions which are going to prevent a wildfire from developing. Although early European settlement onto Dharruk land were greeted with friendship, as the British colony spread, competition for food resources and land led to frontier violence and violent conflicts (Attenbrow 2003:55). The scarcity of many traditional food sources resulted in a food shortage. There was open hostility between colonists and the Dharruk for many years, with troops often deployed to protect settlers' interests and conduct punitive expeditions. After 1810 Governor Macquarie took a number of steps to assimilate Aboriginal people into the British colony (Attenbrow 2003:57). Several Cabrogal children were among the boarders at the 'Native Institution' established first at Parramatta and later moved to the 'Black town' (Attenbrow 2003:57). Corroborees and other ceremonies continued well into the 1830s (Attenbrow 2003:78).

6.0 Heritage Context

Heritage consists of those objects, sites and places that society has inherited from the past and want to hand on to future generations. Australia's has many rich and varied historic places and landscapes, both urban and rural. Identifying and understanding their particular qualities, and what these add to our lives, is central to our engagement with our history and culture. Heritage gives us a sense of living history and provides a physical connection to the past; to the work and way of life of earlier generations; enriching our lives and helping us to understand who we are today.

NSW's heritage is diverse and includes buildings, objects, monuments, Aboriginal places, gardens, bridges, landscapes, archaeological sites, shipwrecks, relics, bridges, streets, industrial structures and conservation precincts.

6.1 European Cultural Heritage

European land settlement commenced in NSW in 1788 when Governor Phillip claimed possession of the land now known as Australia for a penal colony on behalf of the British Government. The heritage objects, sites and places associated with the European occupation of Australia point not only to the development of Australia as a modern nation, but to the places where people lived and worked. It can tell us about the way things were made and used and how people lived their daily lives.

European Heritage is recorded in a number of ways/places including the Australian Heritage Database which is an online database of items listed under the Commonwealth Heritage List, National Heritage List and the Register of the National Estate. For ease of understanding, the Commonwealth Heritage List (which relates to Commonwealth owned property and, as such, is not applicable for this assessment), the National Heritage List, the Register of the National Estate and in NSW, the State Heritage Inventory and in records held by local Councils and heritage organisations.

6.1.1 National Heritage

The National Heritage List is now the lead statutory document for the protection of heritage places considered to have national importance. This list comprises Indigenous, natural and historic places that are of outstanding national heritage significance to Australia. Listed places are protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

A search of the National Heritage List indicates that there are no (0) items within the Blacktown LGA on the National Heritage List.

Previously the Register of the National Estate was the primary document. While the Register of the National Estate still exists in archival form, items can no longer be registered and since February 2012 no longer has statutory status. However, the Minister

is still required to considering the Register when making some decisions under the *EPBC Act*. The Register of the National Estate includes one (1) heritage site within the Blacktown LGA and this is not contained within the project area.

The Australian Heritage Database is an online database of items listed under the Commonwealth Heritage List, National Heritage List and the Register of the National Estate. A search of the Commonwealth Heritage List indicated that there are no items listed in both project areas.

Table 6-1: Item listed in the National Heritage List

Item Name	Address	Heritage Listing
Old Boiler House	Blacktown Road, Blacktown	Register of National Estate

This item is situated approximately 2 km from the Blacktown Hospital project area.

6.1.2 State and Local Significant Heritage in NSW

Heritage items in NSW may be registered as important at the State level and/or at the local level. The Heritage Council has developed a set of eight (8) criteria to help determine whether a heritage item is of State or local significance to the people of New South Wales. Items are assessed by the Heritage Council of NSW, and if deemed eligible for listing, i.e. are of State significance, they are referred to the Minister for Heritage for Listing on the State Heritage Register, a statutory register of heritage items created by the NSW *Heritage Act 1977*.

Some heritage places and items that do not reach the threshold for listing on the State Heritage Register may be of heritage significance within a local government area. These places are listed by local council under their LEP and additionally may be included on the NSW Heritage Inventory database.

The NSW Heritage Inventory database is maintained by the NSW Heritage Office and lists items that have been identified as of State and local heritage value throughout NSW.

Table 6-2: Items listed by the Heritage Council under the NSW Heritage Act in Blacktown Hospital Project area

Item Name	Address	Heritage Listing
Rosenallis	76 Richmond Road, Blacktown	Heritage Act

A search of the State Heritage Inventory has indicated that there are 14 items listed within the Blacktown project area: one (1) item is on the State Heritage Register, and the remaining 13 items are listed as being of local heritage significance to Blacktown LGA, however, zero (0) items are within the project area.

Table 6-3: Items listed by Local Councils and Shires and State Government Agencies in the Blacktown Hospital Project area

Item Name	Address	Heritage Listing
Blacktown Overbridge	Sunnyholt Road, Blacktown	State Government
Blacktown Primary School (former)	Flushcombe Road, Blacktown	Local Government
Blacktown Railway Signal Box	George Street, Blacktown	State Government
Dayton House	37-39 Roger Place, Blacktown	Local Government
Flushcombe Turrets Gates	Lancelot Street, Blacktown	Local Government
House	47 Clifton Street, Blacktown	Local Government
House	49 Clifton Street, Blacktown	Local Government
House	Erith Street, Blacktown	Local Government
House	11 Harold Street, Blacktown	Local Government
House	2 Sarsfield Street, Blacktown	Local Government
House	5 Sarsfield Street, Blacktown	Local Government
House	4 Wallace Street, Blacktown	Local Government
Lytton Cottage	29 Lyton Street, Blacktown	Local Government
Mount Druitt Youth Resource Centre	Mount Druitt Place, Blacktown	Gazzetted

6.1.3 Blacktown Local Environmental Plan 1988

A search of the Blacktown Local Environmental Plan 1988 confirms that there are 12 locally listed heritage items in the Blacktown area, although zero (0) items in the project area.

Table 6-2: Items listed in the Blacktown Project area in the LEP

Item Name	Address	Heritage Listing
Blacktown Primary School (former)	Flushcombe Road, Blacktown	LEP
Blacktown Railway Signal Box	George Street, Blacktown	LEP
Dayton House	37-39 Roger Place, Blacktown	LEP
Flushcombe Turrets Gates	Lancelot Street, Blacktown	LEP
House	47 Clifton Street, Blacktown	LEP
House	49 Clifton Street, Blacktown	LEP
House	Erith Street, Blacktown	LEP
House	11 Harold Street, Blacktown	LEP
House	2 Sarsfield Street, Blacktown	LEP
House	5 Sarsfield Street, Blacktown	LEP
House	4 Wallace Street, Blacktown	LEP
Lytton Cottage	29 Lyton Street, Blacktown	LEP

6.1.4 Discussion of Search Results

Research of listed Heritage Items has provided evidence into the type and approximate distance of the listed State Heritage items from the proposed project area. A detailed desktop investigation and survey of the location of these listed items in the Blacktown project area has shown that they are positioned outside the impact zone of the proposed works, and therefore will not be affected.

With regard to heritage items identified in the vicinity of the Blacktown portion of the project area, there were no heritage items identified within the boundaries of the Blacktown project area. The closest heritage item to the Blacktown hospital complex is the State-listed Blacktown Overbridge on Sunnyholt Road, located 600m to the northwest of the project area's northern boundary. The overbridge passes over the western railway line and is separated from the hospital complex by the intersection of Sunnyholt Road and Blacktown Road, Blacktown Road itself, as well as numerous houses and commercial buildings and it is therefore unlikely to be affected by the proposed works.

6.1.5 European Heritage Conclusion

The search results indicate that there are no known (i.e. reported or recorded) European heritage items within the project area. It is also considered that the Blacktown Hospital project area is sufficiently removed from any listed Heritage Items and therefore the proposed works will have no impact upon them. Further, given that the Blacktown Hospital project area was in semi-rural settings prior to the construction of the hospital complexes, there is low - nil potential for unknown European heritage items to be present. It is therefore considered that there are no European heritage constraints associated with the project.

6.2 Aboriginal Cultural Heritage

Aboriginal and Torres Strait Islander heritage is an important part of Australian heritage. Evidence of the occupation of Australia by Aboriginal and Torres Strait Islander people dates back more than 60,000 years. As well as being historically important, Aboriginal cultural heritage objects, sites and places provide valuable information about one of the world's oldest living cultures, and are of continuing significance, creating and maintaining continuous links with the people and the land.

Aboriginal heritage consists of those places and objects that contribute to the story of Aboriginal people in NSW. It can help identify the links that places may have with each other. Aboriginal people moved around NSW and passed on stories, information and knowledge by going to these special places. Aboriginal heritage includes places and items that are important to the local Aboriginal community or to Aboriginal people of NSW. These are places or objects that people have a connection to, both physically and spiritually, and can include natural features such as creeks or mountains, ceremonial or story places or areas of more contemporary cultural significance such as Aboriginal missions or post contact sites.

The Aboriginal heritage assessment process requires that the significance of Aboriginal sites within a project area is assessed. It is important that Aboriginal sites are contextualised within the local and regional landscape, in order to inform the assessment of significance. The Aboriginal heritage context is also needed in order to develop a predictive model of Aboriginal sites in the Blacktown Hospital Project Area. Historical information also provides additional information for the interpretation of archaeological sites.

6.2.1 Regional Archaeological Records

The Sydney region has been inhabited by the Aboriginal people for at least 10 000 years according to available radiocarbon dates. Rock shelter sites in the King Tablelands site (Blue Mountains) and Darling Mills Creek (Pennant Hills), both provide dates over 10 000 years old (Stockton and Holland 1974). More recently, McDonald (2007) has reported on a date of over 30 000 years for a site in Parramatta, but this information has yet to be published in any detail. Further south along the NSW coast, sites at Burrill Lake and Bass Point produce dates of 20 000 and 17 000 years ago, respectively (see Bowdler 1970; Lampert 1971). All of these sites were occupied when the sea level was lower, about 120 m below present day. Therefore, these sites would have been inland, surrounded by incising streams and rivers that crossed the exposed crustal shelf reaching the sea some 20 km from the current coast line.

Few other Pleistocene deposits are known. Two sites are known to date to the early Holocene, those of Curracurrang, south of Sydney, a rockshelter, and an open campsite at Prince of Wales Hospital, Randwick (Steele 2002). Most archaeological sites within the Sydney region are dated to the late Holocene, about the last 2 500 years to present. Researchers believe that the Sydney Basin was not intensively settled until this time after the sea levels had risen and stabilised around 5 000 BP (Attenbrow 1987, 2002). Many believe open sites were occupied only in the 1 500 years before European contact. Attenbrow (2002) identified eight dated sites in the vicinity of Riverstone and Alex Avenue, specifically Power Street Bridge 2 (5 957±74 14C BP), 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). All of which were identified as open artefact scatters and indicate the presence of Aboriginal people in this area in the mid to late Holocene.

Stone artefacts are an important source of information for archaeologists. Information about trade routes, raw material exploitation as well as manufacturing technology can be obtained through the study of these tools. Stone tools are also used by archaeologists to obtain relative dates for archaeological sites. A widely accepted system for the dating of sites containing stone tools on the east coast of Australia was introduced by Fred McCarthy in 1948 and is known as the Eastern Regional Sequence (ERS). Debates over the accuracy of the ERS system continue (Bird & Frankel 1991, Hiscock & Attenbrow 2002), and the sequence has been refined in recent years (Hiscock & Attenbrow 2004). However, it is generally accepted that the phases within the ERS are as follows:

Pre- Bondaian (previously Capertian) – Artefacts from this phase are typically of silicified Tuff, although where this material was difficult to obtain quartz and unheated silcrete were also utilised. Artefacts and cores vary widely size and are typically characterised by unifacial flaking. No backed artefacts, eloueras or ground stone implements have been identified within this phase. This phase generally dates to pre 8,000 years before present (BP).

Early Bondaian – Artefacts of this phase tended to be manufactured from local raw materials and a reduction in use of silicified Tuff is apparent. Both unifacial and bifacial flaking were dominant techniques, with bi-polar flaking becoming more widely used in the later stages. This phase dates from 8,000 to 4,000 BP.

Middle Bondaian – Raw materials used in stone tool manufacture vary widely between sites during this phase, although the use of quartz increases. Backed artefacts are most frequent in this phase in comparison to others. Tools and core size is reduced and the use of bi-polar flaking increases. This phase is generally dated from 4,000 to 1,000 BP.

Late Bondaian - Use of raw material types continues to diversify, whilst quartz is the dominant material type in use. Artefacts were typically manufactured through the use of bipolar flaking. Eloueras, bone artefacts and shell fishhooks are common in this phase. This phase is dated from 1,000 BP to European contact.

It is a common pattern in the Sydney Basin region, and along the east coast of Australia, that the majority of Aboriginal sites are found within close proximity to water sources, such as deflation basins and swamps. It is possible that such patterns may be the result of increased ground surface visibility or survey sample bias in these areas. Indeed, it is suggested by McDonald and White that the presence of erosion and surface exposures of artefact-bearing sediments as a result of sheet wash and gullying close to streams has biased results used for predictive modelling (2010:33).

6.2.2 Local Archaeological Records

The local Aboriginal heritage context provides a review of previous archaeological work conducted in the local landscape, identifies whether Aboriginal sites have been previously identified for the region surrounding the Project Area and informs the predictive model of Aboriginal sites for the area. The review of previous archaeological work includes relevant local research publications, as well as, archaeological consultancy reports. Two types of archaeological investigations are generally undertaken; excavations and surveys. Archaeological excavations can provide high resolution data regarding specific sites, such as the dates or chronology of Aboriginal occupation, as well as, information on stone tool technology (reduction sequences, raw material use, tool production, usewear and similar). Archaeological surveys generally cover wider areas than excavations and can provide important information on the spatial distribution of sites. The detection of sites during survey can be influenced by the amount of disturbance or erosion and therefore sensitivity mapping is sometimes also required to interpret survey results. The local Aboriginal heritage context also provides a framework for assessing local significance.

6.2.3 Aboriginal Heritage Information Management Systems (AHIMS)

Two searches were undertaken of the DECCW Aboriginal Heritage Information Management System (AHIMS) (see Table 6-1 and Table 6-2; and Figure 6-1 and Figure 6-2). The search results indicated that there are 67 previously recorded Aboriginal sites within the Blacktown project area.

Table 6-3: Summary of AHIMS Results Blacktown (April 2012)

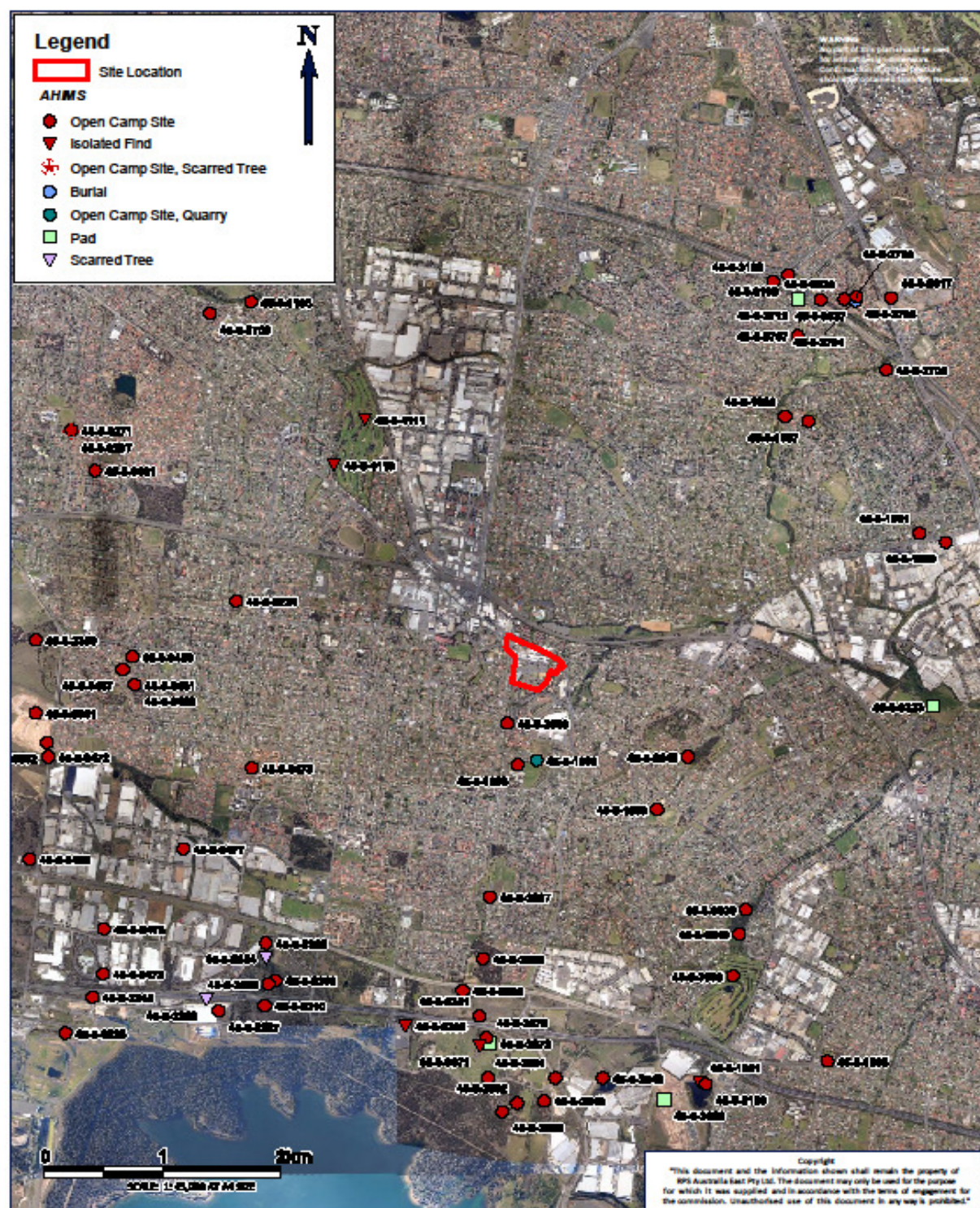
Site Type	Frequency	Percent
Artefact(s) Unspecified	64	88
Modified Tree (Carved or Scarred)	1	1.3
Burial	1	1.3
Artefact(s) Unspecified, Modified Tree (Carved or Scarred)	2	2.7
Potential Archaeological Deposit (PAD)	2	2.7
Artefact(s) Unspecified, Potential Archaeological Deposit (PAD)	1	1.3
Artefact(s) Unspecified, Stone Quarry	1	1.3
TOTAL	72	100

The AHIMS result expressed that most common site types found in the Blacktown project area are Artefact(s) Unspecified (n=60), followed by scarred trees (n=2). Artefact(s) unspecified have been most frequently located along creeks or creek banks.

The AHIMS results indicate that the artefact(s) unspecified are common in the Blacktown regional area. Also recorded in the Blacktown regional area are modified trees (n=2), artefact(s) Unspecified, modified Tree, followed by PAD (n=1), artefact(s) unspecified, PAD (n=1) and artefact(s) unspecified, stone quarry (n=1) indicating that the regional area has predisposition to artefact, modified trees and deposit. The search indicates that there are no registered Aboriginal sites in the vicinity of the Blacktown Hospital project area as it does not retain any of the natural features of the environment due to urban development of the hospital and its surrounding buildings and car parks.

The AHIMS data exhibit a high frequency of artefact(s) unspecified. Unspecified artefacts generally occur in open plateau regions and on level, well drained land features in close proximity to water courses (McDonald, 2005:18).

Figure 6-1: Blacktown Hospital with AHIMS



TITLE: FIGURE 6-1 BLACKTOWN HOSPITAL WITH AHIMS	LOCATION: BLACKTOWN
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DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

DATE: 30/04/2012
PURPOSE: HERITAGE ASSESSMENT

LAYOUT REF: J:\2087\2087_104396 Building - ME Draw
JLB OneNing\jlb\plm Workspaces
VERSION (PLAN BY) A4 (DF-NW)

CLIENT: AURORA PROJECTS/DEPT OF HEALTH
JOB REF: 106833

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
T: 02 4940 4200 F: 02 4961 6794 www.rpsgroup.com.au

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6.2.4 Archaeological Literature Review Studies

The general location of each of the below studies is provided in Figure 6-2 to assist the DOP put the proposed project and its potential impacts into perspective.

6.2.4.1 [Jo McDonald Cultural Heritage Management Pty Ltd 2005, Archaeological Assessment, St Marys](#)

McDonald (2005) was commissioned by Maryland Development Company to undertake an archaeological assessment on the former Australian Defence Industry (ADI) site at St Marys. The ADI site was situated approximately 12km west of the current Blacktown project area.

McDonald (2005) concluded that the ADI site had been moderately or severely impacted on by previous land-use and therefore the archaeological sensitivity was low. The recommendations included that no further archaeological investigation was required in the two areas of the ADI site and two other areas were identified as requiring archaeological salvage prior to development (McDonald 2005).

6.2.4.2 [Jo McDonald Cultural Heritage Management Pty Ltd 2006, Heritage Impact Statement, Western Sydney Parklands](#)

This Heritage Impact Statement (HIS) was prepared for the Parklands and Doonside Parcel (Bungaribee Precinct Project) as a part of the Director General's Requirements for an Environmental Assessment (EA) under Part 3a of the Environmental Planning and Assessment Act 1979. The purpose of the HIS was to assess the impacts of the proposed development on Aboriginal heritage as identified in the initial archaeological assessment of the Western Sydney Parklands (McDonald 2006).

The area was situated approximately 5km west from the current Blacktown project area. Fourteen sites and two areas of PAD were identified in the proposed Parklands development areas. Six of these sites had high potential for containing intact archaeological deposit, four sites had moderate potential for containing intact archaeological deposit, and four sites had low archaeological potential.

It was recommended that the five PADs be subjected to salvage excavation as part of the overall strategic management strategy for Aboriginal heritage in the Bungaribee Precinct Project. It was also recommended that an Aboriginal Heritage Conservation Management Plan should be prepared for the Bungaribee Precinct Conservation Area (McDonald 2006).

6.2.4.3 [Kelleher Nightingale Consulting Pty Ltd 2007, Aboriginal Heritage Assessment, Whalan](#)

Blacktown City Council (BCC) commissioned Kelleher Nightingale Consulting Pty Ltd (2007) to conduct an archaeological survey for Whalan Reserve, at Whalan in the west of the Blacktown LGA. The project area incorporated both Whalan Reserve and Tregear Reserve to the north, which was situated approximately 12km west of the current project area in Blacktown.

The survey identified five previously recorded artefact scatters and one newly recorded artefact scatter. Kelleher Nightingale Consulting Pty Ltd (2007) suggested that the while these sites were not *in situ*, the Aboriginal archaeological sites identified during the survey be conserved and a detailed management plan be designed to ensure that these sites would not be impacted upon by pedestrians (Kelleher Nightingale Consulting Pty Ltd 2007).

6.2.5 Literature Review Summary

As demonstrated by the above reports, many archaeological studies for the Cumberland Plain highlight the disturbance of sites recorded, and the lack of *in situ* archaeological evidence. All of the above investigations identified artefact scatters and isolated find sites conforming to the data supplied by AHIMS. However, the investigation of McDonald (2006) also highlights that despite disturbance, some areas may still contain archaeological evidence of occupation and in many cases may not be evident on the surface.

The literature review, combined with the AHIMS data and environmental data allows the development of an archaeological predictive model. A predictive model is created to provide an indication of Aboriginal sites likely to occur within the project area. It draws on the review of the existing information from the regional and local archaeological context, as well as the environmental context. The predictive model is necessary to formulate appropriate field methodologies and to provide information for the assessment of archaeological significance.

6.3 Predictive Model

A predictive model was created to provide an indication of Aboriginal sites likely to occur within the complete BMDH Project Area. It draws on the review of the existing information from the regional and local archaeological context, as well as, the environmental context. The predictive model is necessary to formulate appropriate field methodologies, as well as, providing information for the assessment of archaeological significance.

There are a number of factors which influence Aboriginal occupation of an area. These include essential subsistence resources such as food (flora and fauna), as well, as freshwater. However, occupation would have been influenced by occurrence of other resources such as stone raw materials, wood and bark, animal skins, reeds for uses such as basket weaving, string, clothing and similar.

Landscape features such as dunal ridges, creek lines, swamp areas, ridges, flat elevated areas, rockshelters and similar, may have also influenced Aboriginal occupation of an area. In addition, cultural activities may have also taken place at certain locations in the landscape for example corroborees, mythological places, initiation sites and similar.

However, whilst most predictive models for the Cumberland Plain predict sites of greater complexity within 50m of a watercourse, diminishing with distance from water, a series of excavations in the Rouse Hill area, approximately 7 km north west of Blacktown, have demonstrated that this not always the case. For example, McDonald and White note that in several investigations in the Rouse Hill area, surface survey was an insufficient indicator of the presence subsurface artefacts, with large numbers found subsurface where no surface artefacts were present (McDonald *et al*, 1994 in McDonald & White, 2010:30). Further, these large sites were identified in greater distances than 50m from a watercourse (ibid:33).

Further investigation established that whilst proximity to water was a significant factor in influencing land use strategies, a combination of landform, stream order and aspect are better indicators in predicting larger and more complex sites.

After examining the statistical variances of proximity to water, landforms, stream orders and aspects of sites, McDonald and White concluded that (ibid:32-33):

- Sites identified along 2nd and 4th order streams had the highest numbers of artefacts in higher densities (7 artefacts per m² and 14/m² respectively);
- Sites identified along 1st order streams had the lowest numbers of artefacts in the lowest densities (1/m²);
- Of all landforms, terraces contained sites with the highest numbers/densities of artefacts along 2nd and 4th order streams, with creek flats having the lowest number/densities;
- Artefact densities increased down-slope, i.e., upper slopes/ridge tops had lower densities, more on mid-slopes, still more on lower slopes, with the most on terraces;
- North facing slopes had higher artefact densities.

6.4 Site Predictions for Archaeology in the Blacktown Project Area

The following site predictions for both the Blacktown Project Area have been made on the basis of the environmental context, available historic observations of Aboriginal people in the region, previous archaeological studies, as well as analysis of the AHIMS data.

6.4.1 Site Type

On the basis of the AHIMS data and a review of previous archaeological investigations in the vicinity of the project area, it is predicted that stone artefact sites (scatters and isolated finds) will be the most likely site type to be present in both the Blacktown project area.

Scarred trees may be present in areas that have not been impacted upon and that contain trees of sufficient age, however given the level of clearance within both portions of the project area, the presence of any such old-growth vegetation is unlikely.

6.4.2 Site Locations

Further to McDonald & White (2010), sites are more likely to be found within 50m of a 2nd order stream, but between 50m-100m with 4th order streams. It should be noted that the majority of previously identified artefact scatters and isolated finds in the vicinity of the project area were identified within 100m of a watercourse.

In relation to the Blacktown portion of the project area, it is situated on a north-facing mid-to-upper slope, and approximately 200m-300m north and east respectively to two 1st order streams. Although the predictive model for the western Cumberland Plain proposed by McDonald & White (2010) would suggest at least a low to moderate potential for sites to be present, this prediction would need to be tempered by the level of disturbance across the site. Considering the modification of the landscape through excavation and artificial terracing, it is therefore predicted that there is a very low potential for artefact scatters and/or isolated finds to be present within the Blacktown project area.

6.4.3 Site Contents

A review of previous archaeological investigations conducted in the area indicate that artefact scatters and isolated finds generally comprise flaked stone artefacts made from the following stone raw materials: chert, silicified tuff, quartzite and silcrete. It is therefore predicted that sites with artefacts within the project area will comprise flaked stone tools, cores, flake and flaked pieces, and that they will likely be made from chert, silicified tuff, quartzite and silcrete.

7.0 Archaeological Survey

7.1 Archaeological Survey Methodology

This Aboriginal heritage assessment has been undertaken in accordance with best practice guidelines for survey reporting and included the following components:

- Documentation of survey coverage
- Documentation of results; and
- Documentation of significance of sites/areas to the Aboriginal community.
- The survey methodology aimed to provide adequate coverage of the project area, sample coverage of all landforms, areas of exposure, as well as, vegetated areas. The locations of previously recorded sites were also inspected.

Survey units were described for each survey area, in particular, exposure and ground surface visibility were reported to ensure comparability of survey results between different areas of the local landscape, as well as, to contextualise survey results. Areas with high visibility and exposure generally have a lot of land surface disturbance, which can expose high quantities of archaeological material (particularly stone artefacts). Conversely, areas with low visibility and exposure particularly due to native vegetation coverage, are generally more intact (undisturbed) landscapes, while the identification of sites (particularly artefact scatters) in such areas are generally low, there is potential for intact archaeological deposits, which have been protected by vegetation coverage.

Survey observations were recorded using digital photography, GPS recording, as well as field notes.

In accordance with DECCW guidelines (2005), photographic recording was undertaken of landforms, survey units, Aboriginal cultural material, areas of archaeological or cultural sensitivity, levels of disturbance, as well as, other areas/items of interest. Photographs were scaled, as appropriate.

Field notes incorporated details including the size, location, contents and condition of Aboriginal heritage in the area, as well as, survey units. Size was recorded, either by GPS or tape measure. The condition of Aboriginal sites/areas of sensitivity were recorded including providing a description of the levels and cause of disturbances such as, erosion, land clearing and similar factors.

The Aboriginal stakeholder/s participating in the survey were asked about the cultural significance of the survey area and where applicable and/or appropriate, about the significance of Aboriginal sites and/or areas of archaeological sensitivity. An opportunity to comment on cultural significance was also provided in the survey preparation documentation and post survey reporting.

7.2 Archaeological Survey Results

A field survey of the Blacktown Hospital portion of the BMDH Project Area was undertaken by RPS Archaeologist, Deborah Farina, with the Aboriginal component of the survey conducted in partnership with Aboriginal stakeholders representing the Deerubbin Local Aboriginal Land Council (Steve Randall), Darug Tribal Aboriginal Corporation (Dennis Hardy) and Darug Aboriginal Cultural Heritage Assessments (Gordon Morton) and Darug Custodians Aboriginal Corporation (Leanne Watson). All surveying took place between early morning and early afternoon on 21 April 2011.

As landforms in the project area had been extensively modified, the survey units were based on geography. There were a total of 3 survey units for the project area. Exposure and visibility for each survey unit was assessed according to the criteria listed in Table 7-1 and the survey coverage for the project area is recorded in

Table 7-2.

No new sites, either Aboriginal or European, were identified as a result of the survey.

7.2.1 Survey Units

Blacktown Hospital is situated on the slope of a moderately inclined hill with expansive views at the upper slope towards the north and east. The survey units (4-6) commenced on the mid slope and progressed upwards, ending on the upper slope (Note: Archaeology Survey Units 3-6 relate to the Mt Druitt hospital which is the subject of a separate report). Participants in the survey were as described for the survey above. Visibility across the area was poor to very poor (0-5%), and disturbance extensive, with little natural and/or unmodified land surface. The site comprises the main hospital building, a number of associated specialist buildings, an administration building, sealed car parks, sealed and unsealed access roads and footpaths, with sporadic lawns and vegetation, typical of an urban health care facility. The Blacktown Project area was divided into three survey units based on geographic location.

7.2.1.1 Survey Unit 4

This survey unit comprised a small area of land on the mid slope, measuring approximately 60 m x 55 m. It is dominated by a structure known as “Maddie’s Cottage”, and is situated towards the eastern boundary of the hospital.

The area has been extensively modified, with Maddie’s Cottage, a child-care centre to the north of Maddie’s Cottage, an unsealed driveway between Maddie’s Cottage and the child care centre with an area for parking and an in-ground swimming pool. Exposures are present under trees and in the form of the unsealed driveway, which were carefully inspected (Plate 13). At the rear of Maddie’s cottage, evidence of earthworks, possibly for sewerage/drainage, was observed.

7.2.1.2 Survey Unit 5

This survey unit chiefly comprised a sealed and a levelled car park, with small areas of grass surrounding it. This car park measured approximately 90m x 42m, and is the proposed site of extensions to the main hospital building (see Figure 2- above).

Visibility was poor (0-5%), with the only areas of exposure being erosional scars caused by rain and subsequent pooling. The grass strips surrounding the car park were narrow (approximately 2-3 m wide) running intermittently along the boundaries of the two sections of the bitumen car park (Plate 14).

7.2.1.3 Survey Unit 6

This survey unit comprised the area between survey unit 5, the administrative building at the south-eastern boundary of the hospital complex, the doctor's accommodation and PECC/Bungarabee House. It comprises the buildings, courtyards, a car park and ramps, as well as access roads and a helipad. Extensive views of the surrounding district were noted from this survey unit (Plate 18). Visibility was poor (0-5%), with very little natural land surface evident. Exposures were identified beneath trees, and in an erosional scar between the land terrace forming survey unit 5, and the land terrace forming survey unit 6 (Plates 15, 16 and 17).

7.2.2 Ground Surface Visibility

Ground surface visibility (GSV) is defined as the amount of bare ground on exposures which might reveal artefacts or other archaeological material although it is not considered a reliable indicator for detecting buried archaeological material. Visibility in an area may be affected by vegetation, leaf litter, loose sand, stony ground or introduced materials and the GSV ratings are described in Table 7-1 below.

Table 7-1: Ground Surface Visibility Rating

GSV Rating	Overall Rating	Description
0 – 9%	Poor	Heavy vegetation with scrub foliage, debris cover and/or dense tree cover. Ground surface not clearly visible.
10 – 29%	Low	Moderate level of vegetation, scrub or tree cover. Small patches of soil surface visible resulting from animal tracks, erosion or blowouts. Patches of ground surface visible.
30 – 49%	Moderate	Moderate levels of vegetation, scrub and/or tree cover. Moderate sized patches of soil surface visible possibly associated with animal tracks, walking tracks and erosion surfaces. Moderate to small patches across a larger section of the study area.
50 – 59%	Moderate	Moderate to low level of vegetation, tree and/or scrub. Greater amounts of areas of ground surface visible in the form of erosion scalds, recent ploughing, grading or clearing.
60 – 79%	High	Low levels of vegetation and scrub cover. High incidence of ground surface visible due to recent or past land-use practices such as ploughing, grading and mining. Moderate level of ground surface visibility due to sheet

wash erosion, erosion scalds and erosion scours.

80 – 100%

High

Very low to nonexistent levels of vegetation and scrub cover. High incidence of ground surface visible due to past or recent land use practices, such as ploughing, grading and mining. Extensive erosion such as rill erosion, gilgai, sheet wash, erosion scours and scalds.

7.2.3 Ground Surface Exposure

As outlined in the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (2010), exposure estimates the area likely to reveal buried artefacts or deposits by observation of the ground surface. It is calculated as the percentage of the land for which erosion and exposure is sufficient to reveal archaeological evidence on the surface of the ground.

Exposures may result from processes such as sheet wash, gullying, blowouts, salt scalds, tracks or animal pads. Ground disturbance on track exposures can be exacerbated by motor vehicles. Effective coverage is generally calculated on the landscape limitations experienced at the time of field survey and what effect this may have on the area surveyed, such as swamp and inundated areas, unstable and potential dangerous terrain and inaccessible vegetation. Table 7-2 details the outcome of survey coverage for the Blacktown Project Area.

Table 7-2: Survey Coverage Data

Survey Unit	Landform	Survey Unit Area (Square metres)	Exposure (%)	Visibility (%)	Effective Coverage Area (square metres)	Effective Coverage (percent)
1	Terrace, vegetated, disturbed and modified	4,928	5%	85%	209	4.2%
2a	Terrace, vegetated, disturbed and modified	2,726	5%	75%	102	4.7%
2b	Terrace, vegetated, disturbed and modified	1,254	5%	75%	47	3.7%
3	Terrace, vegetated, disturbed and modified	900	5%	85%	38	4.2%
4	Mid slope, vegetated, disturbed and modified	3,300	5%	65%	107	3.2%
5	Mid slope, vegetated, disturbed and modified	3,780	5%	15%	28	0.74%
6	Upper slope, vegetated, disturbed and modified	9,120	5%	25%	114	1.25%

7.2.4 Aboriginal Heritage Sites

No Aboriginal sites were recorded during the field survey assessment.

7.2.5 European Heritage Sites

No European Heritage Sites were recorded during the field survey assessment.

7.2.6 Discussion of Survey Results

The Blacktown Hospital complex has been extensively modified in the past. Any Aboriginal material that may have been present has likely been removed or destroyed as part of the construction of the hospital facilities and subsequent works.

The elevation and proximity of the Blacktown Hospital complex to two watercourses (tributaries of Blacktown Creek approximately 200m north, and 300m east) make it a possible candidate for a campsite, and within the parameters of the general predictive model for habitation sites for the western Cumberland Plain (McDonald & White, 2010). However, the level of disturbance would drastically reduce any potential for any archaeological evidence to be identified.

With respect to European archaeology, a review of parish maps from the late 19th and early 20th centuries confirm that the Blacktown portion of the project area was subdivided into medium to large acreages, presumably used for grazing, market gardening and other agricultural purposes. From the earliest times of European settlement, much of the Blacktown LGA was reserved, first as a Government stock farm, and later by the Church and School Lands, with several large holdings. Smaller holdings became more common towards the latter decades of 19th century.

Combined with the absence of sites identified during the archaeological survey and discussions with the representatives of the Aboriginal community stakeholders during the survey, it is considered that no archaeological constraints exist in relation to the proposed works for the Blacktown Project Area.

8.0 Conclusions and Recommendations

This report has considered the environmental and archaeological context of the study area, developed a predictive model and reported on the results of an archaeological survey of the project area. The following management recommendations have been formulated with consideration of the significance of Aboriginal heritage, as well as, potential impacts and have been prepared in accordance with the relevant legislation.

8.1 Recommendations for the Management of Heritage within the Project area

The following recommendations apply to the overall management of proposed works within the project area.

8.1.1 Recommendation 1

All relevant staff and contractors should be made aware of their statutory obligations for heritage under NSW *National Parks and Wildlife Act 1974* and the NSW *Heritage Act 1977*, which may be implemented as a heritage induction.

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8.1.2 Recommendation 2

If any Aboriginal site/s are identified in the project area, then all works in the area should cease, the area should be cordoned off and contact made with: Office of Environment and Heritage Enviroline 131 555; a suitably qualified archaeologist; and the relevant Aboriginal stakeholders, so that the site/s can be adequately assessed and managed.

8.1.3 Recommendation 3

In the unlikely event that skeletal remains are identified, work must cease immediately in the vicinity of the remains and the area cordoned off. The proponent will need to contact the NSW Police Coroner to determine if the material is of Aboriginal origin. If determined to be Aboriginal, the proponent, must contact: the Office of Environment and Heritage Enviroline 131 555; a suitably qualified archaeologist; and representatives of the local Aboriginal Community Stakeholders to determine an action plan for the management of the skeletal remains, formulate management recommendations and to ascertain when work can recommence.

No European cultural heritage sites were located during the field survey investigation. During the course of any development works the following management recommendation should be considered.

8.1.4 Recommendation 4

If, during the course of development works, suspected European cultural heritage material is uncovered, work should cease in that area immediately. The Heritage Branch, Office of Environment and Heritage (02 9873 8500) should be notified and works only recommence when relevant permits and an appropriate and approved management strategy instigated.

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9.0 References

- Attenbrow, V. (2002). Sydney's Aboriginal past: investigating the archaeological and historical records. Sydney, UNSW.
- Attenbrow, V. (2003). Sydney's Aboriginal Past: Investigating the Archaeological and Historical Records (edition 2), UNSW Press.
- Australian Bureau of Meteorology (2010). "Climate Average." Retrieved 31 May 2010.
- Barrallier, F. (1802). Journal of the expedition into the interior of New South Wales. (Printed in 1975). Melbourne, Marsh Walsh Publishing, .
- Barrington, G. (1802). The History of New South Wales, including Botany Bay, Port Jackson, Parramatta, Sydney and all its Dependencies London, Paternoster Row.
- Bird, C.F.M. and Frankel, D. 1991 Chronology and explanation in western Victoria and south-east South Australia. *Archaeology in Oceania* 26(I): 1-16.
- Blacktown City Council (1995). Malmo House Photograph. Photograph.
- Bowdler, S. 1970 Bask Point: the excavation of a southeast Australian shell midden showing cultural and economic change. Unpublished B.A (Hons) thesis, University of Sydney
- Blacktown City Council, (undated). "Timeline for Rooty Hill District", retrieved on 19 April 2011 from <http://www.blacktown.nsw.gov.au/our-city/history/the-city/rooty-hill.cfm>.
- Brunker, R L and Rose, G (1967). 1:500 000 Geological Survey of New South Wales Map for the Sydney Basin, retrieved on 19 April 2011 from http://www.dpi.nsw.gov.au/data/assets/image/0005/287204/Sydney_500k.jpg.
- Burke, H. and C. Smith (2004). The Archaeologist's Field Handbook. Crows Nest, Allen and Unwin.
- Chapman, G.A. and Murphy C.L. (1989), *Soil Landscapes of the Sydney 1:100 000 sheet*. Soil Conservation Service of N.S.W., Sydney, pages 30-33.
- Clark, N. R. and D. R. Jones (1991). Penrith 1:100 000 geological map sheet, 9030, Department of Minerals and Energy, New South Wales.
- Collins, D. (1798). An Account of the English Colony of New South Wales, Volume 1, edited by B.H. Fletcher, A.H. & A.W. Reed in association with the
- Royal Australian Historical Society, , NSW. Terry Hills, Royal Australian Historical Society.
- DEC (2005). Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation, DEC.

Doelman, T., R. Torrence, et al. (2008). "Source selectivity: An assessment of Volcanic Glass Sources in the Southern Primorye Region, Far East Russia." Geoarchaeology: An International Journal **23**: 243-273.

Erskine, W D, Mahmoudzadeh, A, Browning, C M and Myers, C (2003). "Sedimentary Yields and Soil Loss Rates from Different Land Uses in Western Sydney, NSW", in *Australian Journal of Soil Research*, 2003, 41, 127-140pp.

Flannery, T. e. (1996). Watkin Tench 1788: Comprising A Narrative of the Expedition to Botany Bay and A Complete Account of the Settlement at Port Jackson

Melbourne, The Text Publishing Company.

Hiscock, P and Attenbrow, V (2002). Morphological Reduction Continuums in Eastern Australia: Measurement and Implications at Capertee 3, in S Ulm (ed), Barriers, Borders and Boundaries, *Tempus* 7, pp167-174.

Karskens, G. (2009). The Colony : A History of Early Sydney Crows Nest, Allen & Unwin.

Keith, D. (2006). Ocean Shores to Desert Dunes: The Native Vegetation of New South Wales and the ACT. Sydney, Department of Environment and Conservation NSW.

Kelleher Nightingale Consulting Pty Ltd (2007). Whalan Reserve Master Planning: Aboriginal Heritage Assessment, Environmental Partnership (NSW) Pty Ltd.

Lampert, R J (1971). Burrill Lake and Currarong. *Terra Australis* 1, Canberra, Australian National University

McDonald, J. (2005). Archaeological assessment of Indigenous Heritage values in the Dunheved Precinct of the St Marys Development, Mayrland Development Company.

McDonald, J. (2006). Heritage Impact Statement Western Sydney Parklands: Huntingwood West

McDonald, J and White, E (2010). "Lithic Artefact Distribution in the Rouse Hill Development Area", in Australian Archaeology, No. 70, June 2010 pp 29-38.

NSW State Heritage Office (2008). State Heritage Register.

NSW National Parks and Wildlife Service (1997). Aboriginal Cultural Heritage Standards and Guidelines Kit.

NSW National Parks and Wildlife Service (2002). National Biodiversity Audit - Biodiversity Strategy Case Study: Cumberland Plain subregion - Sydney Basin Bioregion, NSW, SB8:Cumberland, retrieved on 20 April 2011 from http://www.anra.gov.au/topics/vegetation/pubs/case_studies/sb8_casestudy.pdf.

NSW National Parks and Wildlife Service (2004). *Endangered Ecological Community Information: Cumberland Plain Woodland*, retrieved on 27 April 2011 from

<http://www.environment.nsw.gov.au/resources/nature/EECinfoCumberlandPlainWoodland.pdf>

Sharpe, A. (2002). Pictorial history Blacktown & District. Blacktown, Kingsclear Books Pty Ltd.

Stockton, E. D. and W. N. Holland (1974). "Cultural Sites and Their Environment in the Blue Mountains

" Archaeology and physical anthropology in Oceania **9**: 36-65.

Tench, W. (1789). Sydney's First Four Years: Being A Reprint Of A Narrative Of The Expedition To Botany Bay And A Complete Account Of The Settlement At Port

Jackson. Reprinted in 1961. . Sydney, Angus and Robertson in association with RAHS

Tench, W. (1996). Watkin Tench 1788. T. Flannery. Melbourne, The Text Publishing Company.

Zalewski, C (undated). "Mt Druitt - Australia: Airfield Circuit" , retrieved on 28 April 2011 from <http://theracingline.net/racingcircuits/racingcircuits/index.htm>.

10.0 Plates



Plate 1: SU2(b), looking south towards northern end of the main hospital



Plate 2: SU5, looking north from SU6 toward the southern facade of Blacktown hospital's main building



Plate 3: SU6 looking south, area between doctor's accommodation and PECC/Bungarabee house



Plate 4: Erosion scar between SU5 and SU6, looking south toward SU6



Plate 5: Car Park, SU6



Plate 6: SU4 looking east; Maddie's cottage on the right



Plate 7: SU4, looking west with Maddie's cottage and swimming pool at left.



Plate 8: District views from SU6 to the north. SU5 can be seen centre shot, with the main hospital building behind

Appendix I

Legislative Requirements

Summary of Statutory Controls

The following overview of the legal framework is provided solely for information purposes for the client, it should not be interpreted as legal advice. RPS will not be liable for any actions taken by any person, body or group as a result of this general overview, and recommend that specific legal advice be obtained from a qualified legal practitioner prior to any action being taken as a result of the summary below.

COMMONWEALTH

Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (ATSHP Act), Amendment 2006
The purpose of this Act is to preserve and protect all heritage places of particular significance to Aboriginal and Torres Strait Islander people. This Act applies to all sites and objects across Australia and in Australian waters (s4).

It would appear that the intention of this Act is to provide national baseline protection for Aboriginal places and objects where State legislation is absent. It is not to exclude or limit State laws (s7(1)). Should State legislation cover a matter already covered in the Commonwealth legislation, and a person contravenes that matter, that person may be prosecuted under either Act, but not both (s7(3)).

The Act provides for the preservation and protection of all Aboriginal objects and places from injury and/or desecration. A place is construed to be injured or desecrated if it is not treated consistently with the manner of Aboriginal tradition or is or likely to be adversely affected (s3).

The Australian Heritage Commission Act 1975

The Australian Heritage Commission Act 1975 established the Australian Heritage Commission which assesses places to be included in the National Estate and maintains a register of those places. Places maintained in the register are those which are significant in terms of their association with particular community or social groups and they may be included for social, cultural or spiritual reasons. The Act does not include specific protective clauses.

The Australian Heritage Council Act 2003 together with The Environment Protection and Biodiversity Conservation Act 1999 (Amended) includes a National Heritage List of places of National heritage significance, maintains a Commonwealth Heritage List of heritage places owned or managed by the Commonwealth and ongoing management of the Register of the National Estate.

STATE

It is incumbent on any land manager to adhere to state legislative requirements that protect Aboriginal Cultural heritage. The relevant legislation in NSW includes but is not limited to:

National Parks & Wildlife Act 1974 (NPW Act)

The NPW Act provides statutory protection for all Aboriginal heritage, places and objects (not being a handicraft made for sale), with penalties levied for breaches of the Act. This legislation is

overseen by the Office of the Environment & Heritage (OEH) (formerly Department of Environment, Climate Change and Water (DECCW)), now part of the Department of Premier & Cabinet. Part 6 of this Act is the relevant part concerned Aboriginal objects and places, with the Section 86 and Section 90 being the most pertinent. In 2010, this Act was substantially amended, particularly with respect to Aboriginal cultural heritage requirements. Relevant sections include:

Section 86

This section now lists four major offences:

- (a) A person must not harm an object that the person knows is an Aboriginal object;
- (b) A person must not harm an Aboriginal object;
- (c) For the purposes of s86, “circumstances of aggravation” include (a) the offence being committed during the course of a commercial activity; or (b) that the offence was the second or subsequent offence committed by the person.
- (d) A person must not harm or desecrate an Aboriginal place.

Offences under s86 (2) and (4) are now strict liability offences, i.e., knowledge that the object or place harmed was an Aboriginal object or place needs to be proven. Penalties for all offences under Part 6 of this Act have also been substantially increased, depending on the nature and severity of the offence.

Section 87

This section now provides defences to the offences of s86. These offences chiefly consist of having an appropriate Aboriginal Heritage Impact Permit (AHIP), not contravening the conditions of the AHIP or demonstrating that due diligence was exercised prior to the alleged offence.

Section 87A & 87B

These sections provide exemptions from the operation of s86: Section 87A for authorities such as the Rural Fire Service, State Emergency Services and offices of the National Parks & Wildlife Service in the performance of their duties, and s87B for Aboriginal people performing traditional activities.

Section 89A

This section provides that a person who knows of an Aboriginal object or place and does not advise the Director-General of that object or place within a reasonable period of time, is guilty of an offence.

Section 90

This section authorises the Director-General to issue an AHIP.

Section 90A-90R

These sections govern the requirements relating to applying for an AHIP. In addition to the amendments to the Act, DECCW issued three new policy documents clarifying the requirements with regards to Aboriginal archaeological investigations: *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* and *Code of Practice for Archaeological Investigations in NSW*. The Consultation

Requirements formalise the consultation with Aboriginal community groups into four main stages, and include details regarding the parties required to be consulted, and the methods of establishing the necessary stakeholders to be consulted, advertisements inviting Aboriginal community groups to participate in the consultation process, requirements regarding the provision of methodologies, draft and final reports to the Aboriginal stakeholders and timetables for the four stages. The Due Diligence Code of Practice sets out the minimum requirements for investigation, with particular regard as to whether an AHIP is required. The Code of Practice for Archaeological Investigation sets out the minimum requirements for archaeological investigation of Aboriginal sites.

Aboriginal Heritage Impact Permits (AHIP)

DECCW encourages consultation with relevant Aboriginal stakeholders for all Aboriginal Heritage assessments. However, if an Aboriginal Heritage Impact Permit (AHIP) is required for an Aboriginal site, then specific DECCW guidelines are triggered for Aboriginal consultation.

Aboriginal Cultural Heritage Consultation Requirements for Proponents

In 2010, the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (ACHCRs) were issued by DECCW (12th of April, 2010). These consultation requirements replace the previously issued *Interim Community Consultation Requirements* (ICCR) for Applicants (DEC 2004). These guidelines apply to all AHIP applications prepared after April 12, 2010; for projects commenced prior to April 12, 2010 transitional arrangements have been stipulated in a supporting document, Questions and Answers 2: Transitional Arrangements.

The ACH Consultation Requirements 2010, include a four stage Aboriginal consultation process and stipulates specific timeframes for each stage. Stage 1 requires that Aboriginal people who hold cultural information are identified, notified and invited to register an expression of interest in the assessment. Stage 1 includes the identification of Aboriginal people who may have an interest in the project area and hold information relevant to determining the cultural significance of Aboriginal objects or places. This identification process should draw on reasonable sources of information including: the relevant DECCW EPRG regional office, the relevant Local Aboriginal Land Council(s), the registrar, Aboriginal Land Rights Act 1983, the Native Title Tribunal, Native Title Services Corporation Limited, the relevant local council(s), and the relevant catchment management authority. The identification process should also include an advertisement placed in a local newspaper circulating in the general location of the project area. Aboriginal organisations and/or individuals identified should be notified of the project and invited to register an expression of interest (EoI) for Aboriginal consultation. Once a list of Aboriginal stakeholders has been compiled from the EoIs, they need to be consulted in accordance with ACH Consultation Requirements Stages 2, 3 and 4.

For projects commenced before the 12th of April, 2010, Section 1 (Q1) of the transitional arrangements indicates that if Aboriginal consultation was commenced prior to the 12th of April 2010 (including advertising and notification of stakeholders) then consultation is to be continued under the previous ICCR guidelines. *Interim Community Consultation Requirements (ICCR) for Applicants* (DEC 2004) required a three stage process of which timeframes were stipulated for specific components. Stage 1 required the notification and registration of interests. Notification included an advertisement in a local print media, as well as, as contacting the Local Aboriginal Land Council(s), the registrar of Aboriginal Owners, Native Title Services, local council(s) and the

Department of Environment and Conservation. Stage 1 also required the invitation for expressions of interest (Eoi) to be sent to interested Aboriginal parties and an Aboriginal stakeholder list compiled. Stage 2 required the preparation of an assessment design to be sent to the Aboriginal stakeholders for comment and review. Stage 3 required that the assessment report be provided to registered Aboriginal stakeholders for review and comment.

ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 (EP&A ACT)

This Act regulates a system of environmental planning and assessment for New South Wales. Land use planning requires that environmental impacts are considered, including the impact on cultural heritage and specifically Aboriginal heritage. Within the EP&A Acts, Parts 3, 4, and 5 relate to Aboriginal heritage.

Part 3 regulates the preparation of planning policies and plans. Part 4 governs the manner in which consent authorities determine development applications and outlines those that require an environmental impact statement. Part 5 regulates government agencies that act as determining authorities for activities conducted by that agency or by authority from the agency. The National Parks & Wildlife Service is a Part 5 authority under the EP&A Act.

In brief, the NPW Act provides protection for Aboriginal objects or places, while the EP&A Act ensures that Aboriginal cultural heritage is properly assessed in land use planning and development.

Part 3A of the EPA relates to major projects, and if applicable, obviates the need to conform to other specific legislation. In particular, s75U of the EPA Act explicitly removes the need to apply for s87 or s90 permits under the NPW Act. This means that although Aboriginal cultural heritage is considered during the planning process, a permit is not required to disturb or destroy an Aboriginal object or place. However, the Director-General of Planning must nonetheless consult with other government agencies, including OEH/DECCW and National Parks & Wildlife, prior to any decision being made. Aboriginal consultation under part 3A is required under the *draft 2005 Part 3A EP&A Act Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation*. This document stipulates that the ICCR process should be adhered to.

THE HERITAGE ACT 1977

This Act protects the natural and cultural history of NSW with emphasis on non-indigenous cultural heritage through protection provisions and the establishment of a Heritage Council. Although Aboriginal heritage sites and objects are primarily protected by the National Parks & Wildlife Act 1974 (NPW Act), Amended 2001, if an Aboriginal site, object or place is of great significance, it may be protected by a heritage order issued by the Minister subject to advice by the Heritage Council.

Other legislation of relevance to Aboriginal cultural heritage in NSW includes the NSW Local Government Act (1993). Local planning instruments also contain provisions relating to indigenous heritage and development conditions of consent.

Appendix 2

Aboriginal Consultation

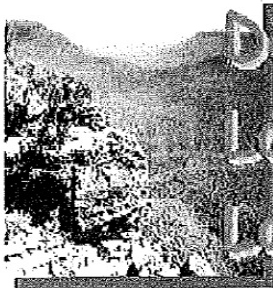
Aboriginal Consultation Log

6/01/2011	1	Big 7 Identification letters sent out	Mail	Responses due on 20/01/2011
11/01/2011	11	Advert appeared in Blacktown Sun	Newspaper	Responses due on 25/01/2011
10/01/2011	11	National Native Title Tribunal responded to big 7 letters	Email	
19/01/2011	10	AN rang DECCW Paramatta for list of ACS groups for study area	Phone	DECCW sent their list on the 21/01/2011
27/01/2011	11	Blacktown council sent list of Western Sydney Aboriginal Stakeholder Groups	Email	all Aboriginal stakeholder groups were noted
28/01/2011	11	Office of Registrar responded	Mail	
23/02/2011	11	Eol letters sent out	Mail	Responses due by 9/3/2011
28/02/2011	11	Steve Randall of Deerubbin LALC registered interest	Phone	Eol Noted
2/03/2011	1	Sandra Lee of Darug Tribal Aboriginal Corporation	Phone	Eol Noted
2/03/2011	1	Gordon Morton & Celestine Everingham of Darug Aboriginal Cultural Heritage Assessments registered interest	Fax	Eol Noted
8/03/2011	1	Gordon Workman of Darug Land Observations registered interest	Email	Eol Noted - please email when other letters go out
8/03/2011	1	Scott Franks of Yarrowalk registered interest	Email	Eol Noted
14/03/2011	11	Darug Custodian Aboriginal Corporation	Fax and Mail	Eol Noted - (late)
16/03/2011	11	Methodology letters sent out to stakeholders	Mail	Responses due 13/04/11
25/03/2011	11	Response to methodology received by AB from Darug Custodian Aboriginal Corporation	Email	
29/03/2011	11	Response to methodology received by AB from Darug Aboriginal Cultural Heritage Assessments		
31/03/2011	11	Response to methodology received by AB from Darug Tribal Aboriginal Corporation	Mail	
14/04/2011	11	DF rang Deerubbin LALC to get charge-out rates	Phone	4724-5600
14/04/2011	11	DF rang DTAC to get charge-out rates	Phone	9622 4081
14/04/2011	11	DF rang DACHA to get charge-out rates	Phone	4567 7421
14/04/2011	11	DF rang DCAC to get charge out rates	Phone	0415 770 163
14/04/2011	11	DF rang DLO to get charge-out rates	Phone	0415 663 763
14/04/2011	11	DF rang Yarrowalk to get charge-out rates	Phone	0404 171 544
15/04/2011	11	DF rang Deerubbin to book survey, was told to submit by email	Phone	4724 5600
15/04/2011	11	Email to Deerubbin to request availability for survey	Email	staff@deerubbin.org.au

18/04/2011	Email from Deerubbin to DF confirming availability and supplying insurance details	Email	deborah.farina@rpsgroup.com.au
18/04/2011	DF rang DTAC to invite to site visit	Phone	9622 4081
18/04/2011	DF rang DACHA to invite to site visit	Phone	4567 7421
18/04/2011	DF rang DCAC to invite to site visit	Phone	0415 770 163
18/04/2011	Email to Deerubbin replying re site visit time	Email	srandall@deerubbin.org.au
18/04/2011	Email to DTAC confirming site visit date/time	Email	darug_tribal@live.com.au
18/04/2011	Fax to DACHA confirming site visit date/time	Fax	4567 7421
18/04/2011	Email to DCAC confirming site visit date/time	Email	mulgokiwi@bigpond.com
18/04/2011	Email from DCAC stating they are awaiting new certificate of currency, will get to us prior to site visit	Email	deborah.farina@rpsgroup.com.au
19/04/2011	Call from John Reilly of DTAC requesting meeting place and parking details	Phone	02 8270 8300
19/04/2011	Fax received from DACHA attaching Certificates of Currency for workers comp, public liability	Fax	02 8270 8399
20/04/2011	Email from DF to Steve Randall of DLALC attaching maps, details of meeting place/time	Email	srandall@deerubbin.org.au
20/04/2011	Email from DF to DTAC attaching maps, details of meeting place/time, requesting insurance certificates of currency	Email	darug_tribal@live.com.au
20/04/2011	Email from DF to DCAC attaching maps, details of meeting place/time, requesting insurance details	Email	mulgokiwi@bigpond.com
20/04/2011	Fax to DACHA attaching maps, details of meeting place/time	Fax	4567 7421
20/04/2011	Email from DF to Steve Randall of DLALC advising of PPE requirements	Email	srandall@deerubbin.org.au
20/04/2011	Email from DF to DTAC advising of PPE requirements	Email	darug_tribal@live.com.au
20/04/2011	Email from DF to DCAC advising of PPE requirements	Email	mulgokiwi@bigpond.com
20/04/2011	Telephone call to Sandra Lee of DTAC requesting certificates of currency	Phone	9622 4081
20/04/2011	Telephone call to Leanne Watson of DCAC requesting details of certificates of currency, left message	Phone	4577 5181 & 0415 770 163
20/04/2011	Telephone call to DACHA advising of PPE requirements	Phone	4567 7421
21/04/2011	Fieldwork with Leanne Watson (DCAC), Dennis Hardy (DTAC), Gordon Morton (DACHA) and Steve Randall (DLALC) (DLALC separately).	Personal	-
2/06/2011	Letter to DLALC enclosing draft report	Mail	PO Box 3184, MT DRUITT NSW 2770
2/06/2011	Letter to DTAC enclosing draft report	Mail	PO Box 441, BLACKTOWN NSW 2148

2/06/201	1	Letter to DACHA enclosing draft report	Mail	90 Hermitage Drive, Kurrajong Heights 2758
2/06/201	1	Letter to DCAC enclosing draft report	Mail	PO Box 81, WINDSOR NSW 2756
2/06/201	1	Letter to Yarrawalk enclosing draft report	Mail	PO Box 76, CARINGBAH NSW 1495
2/06/201	1	Letter to DLO enclosing draft report	Mail	PO Box 571, PLUMPTON NSW 2761
6/06/201	1	Letter from DACHA supporting recommendations of report	fax	02 8270 8399
10/06/20	11	Telephone call from John Riley of DTAC supporting and agreeing with recommendations of report	Phone	02 8270 8300
16/06/20	11	Letter from DCAC supporting recommendations of draft report	Letter	Email

Correspondence from Aboriginal Stakeholder



Deerubbin
Local Aboriginal
Land Council

Level 2, 9 Tindale Street
PENRITH NSW 2750

PO Box 3184
Mt Druitt Village
NSW 2770 AUSTRALIA

T: (02) 4724 5600
F: (02) 4722 9713
E: Staff@deerubbin.org.au
W: <http://www.deerubbin.org.au>

Health Infrastructure
Aurora Projects
Level 6, 50 Berry Street
NORTH SYDNEY NSW 2060

Reference: 2191

28 April 2011

SUBJECT: PROTECTION OF ABORIGINAL CULTURAL HERITAGE
Proposed Extensions
Mt Druitt and Blacktown Hospitals

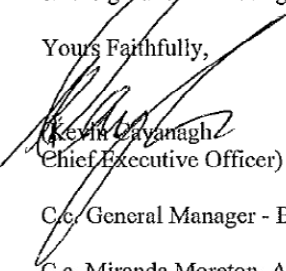
Attention: Brody Atterly,

A representative of the Deerubbin Local Aboriginal Land Council inspected the areas for proposed development at Mt Druitt & Blacktown Hospitals on Thursday, 21 April 2011. An Aboriginal cultural heritage assessment was undertaken to evaluate the likely impact the proposed developments have on the cultural heritage of the land.

Our representative reports that, because of high ground disturbance at both hospitals, no Aboriginal cultural material (in the form of stone artefacts, for example) were found during the assessment.

Deerubbin Local Aboriginal Land Council therefore has, no objection to the future developments of at both Mt Druitt & Blacktown Hospitals Mt Druitt or Blacktown Hospitals on the grounds of Aboriginal cultural heritage.

Yours Faithfully,


(Kevin O'Leary)
Chief Executive Officer

C.c. General Manager - Blacktown City Council

C.c. Miranda Moreton, Aboriginal Heritage & Planning Officer – Dept. of Environment,
Climate Change & Water

C.c. Deborah Farina, Archaeologist – RPS Group

**Darug Aboriginal Cultural
Heritage Assessments**

ABN 51734106483

Gordon Morton

Mob: 0422 865 831

Fax: 45 677 421

Celestine Everingham

90 Hermitage Rd., Kurrajong Hills, 2758

Ph/Fax: 45677 421

Mob: 0432 528 896

6. 6. 11

Attention:

Dekona Farnor

N. P. S.

re Blacktown / MT Druett Hospitals

DACA have reviewed your report on the above sites and we support your conclusions and Recommendations. We feel no archaeological constraints exist on both these sites and we support the application for any permits for the project

Yours Sincerely,
C. Everingham

G. W. Morton

DARUG CUSTODIAN ABORIGINAL
CORPORATION

PO BOX 81 WINDSOR 2756

PH: 45775181 FAX: 45775098 MOB: 0415770163

ABN: 81935722930

mulgokiwi@bigpond.com

16th June 2011

Attention: Deborah Farina.

SUBJECT: Deborah,

Dear Deborah,

The Darug Custodian Aboriginal Corporation have received and reviewed the report prepared by RPS for the Blacktown and Mt Druitt hospitals.

We support the findings and recommendations set out within this report as this area has been heavily disturbed by previous land use and development.

We would also like to recommend that some information signage be included in this new upgrade/ development at these hospitals as they are both situated in very significant Darug areas and are visited by many people who live in these areas.

Please contact us with all enquiries on the above contacts.

Regards


Leanne Watson

Appendix 3

AHIMS Search Results

AHIMS Web Services (AWS)

Your Ref Number : PR112828-1

Extensive search - Site list

Client Service ID :68588

Note: This Excel report shows the sites found in AHIMS on the 30/04/2012. If this date is not the same as the original date of the Search Results letter obtained during the Basic Search, then the search results might be different. The PDF version of this report will always coincide with the Basic Search Results letter.

SiteID	SiteName	Contact	Datum	Zone	Eastings	Northings	Context	SiteStatus	SiteFeatures	SiteTypes	Permits	Reports	Recorders
45-5-2548	Prospect Hill 5		AGD	56	307100	6256650	Open	Valid	Artefact : -	Open			Mrs.Angel
45-5-2549	Prospect Hill 6		AGD	56	307600	6256850	Open	Valid	Artefact : -	Open		98283	Mrs.Angel
45-5-2017	Belvis 7 (Bella Vista)		AGD	56	310040	6263800	Open	Valid	Artefact : -	Open		4153,98	Michael
45-5-0469	Bungarribee 14 O.T.C.Doonside		AGD	56	302750	6258800	Open	Valid	Artefact : -	Open		1018,98	Jim
45-5-0472	South Blacktown 5 Blacktown		AGD	56	302910	6259710	Open	Valid	Artefact : -	Open		1018	Jim
45-5-0473	South Blacktown 1 Blacktown		AGD	56	303370	6257780	Open	Valid	Artefact : -	Open		1018	Jim
45-5-0476	South Blacktown 2 Blacktown		AGD	56	303380	6258180	Open	Valid	Artefact : -	Open		1018	Jim
45-5-0477	South Blacktown 8 Blacktown		AGD	56	304050	6258890	Open	Valid	Artefact : -	Open		1018	Jim
45-5-0478	South Blacktown 10 Blacktown		AGD	56	304630	6259610	Open	Valid	Artefact : -	Open		1018	Jim
45-5-1081	CSIRO/ISF2;		AGD	56	308420	6256810	Open	Valid	Artefact : -	Isolated	1434,18	98283	Stephanie
45-5-1086	Vardys Road;		AGD	56	309140	6262740	Open	Valid	Artefact : -	Open		98740	Michael
45-5-1087	Vardys Road PS;		AGD	56	309340	6262700	Open	Valid	Artefact : -	Open		98740	Michael
45-5-1088	Foundry Road;		AGD	56	310500	6261620	Open	Valid	Artefact : -	Open		98740	Michael
45-5-1090	Grantham Reserve;		AGD	56	308060	6259240	Open	Valid	Artefact : -	Open			Michael
45-5-1091	Chopin Street;		AGD	56	310280	6261700	Open	Valid	Artefact : -	Open		98740	Michael
45-5-0348	Grantham Creek 1 Grantham Poultry		AGD	56	308320	6259710	Open	Valid	Artefact : -	Open		260,101	Michael
45-5-0271	Doonside 8 (Doonside)		AGD	56	303105	6262620	Open	Valid	Artefact : -	Open		260,101	Jim
45-5-0936	Powers Lane 2;		AGD	56	309640	6263790	Open	Valid	Artefact : -	Open		98740	Denis
45-5-0937	Powers Lane 3;		AGD	56	309440	6263780	Open	Valid	Artefact : -	Open	1398	98740	Denis
45-5-1093	Mitchell High School;		AGD	56	306880	6259640	Open	Valid	Artefact : -	Open			Michael
45-5-1095	Pendle Hill Park;		AGD	56	309500	6257000	Open	Valid	Artefact : -	Open			Michael
45-5-1098	Blacktown Creek;		AGD	56	307040	6259680	Open	Valid	Artefact : -	Open			Michael
45-5-1106	Breakfast Creek 1;		AGD	56	304620	6263760	Open	Valid	Artefact : -	Open			Michael
45-5-2360	EC 4(3);		AGD	56	302800	6260750	Open	Destroyed	Artefact : -	Open	3425		Kerry
45-5-2361	EC 1(5);		AGD	56	306560	6257400	Open	Valid	Artefact : -	Open			Kerry
45-5-2362	EC 2(5);		AGD	56	304750	6258050	Open	Valid	Artefact : -	Open			Kerry
45-5-2363	EC 3(5);		AGD	56	304770	6257690	Open	Valid	Artefact : -	Open			Kerry
45-5-2364	EC 4(5);		AGD	56	304750	6257920	Open	Valid	Modified Tree	Scarred			Kerry
45-5-0451	Bungarribee 1 Blacktown		AGD	56	303640	6260350	Open	Valid	Artefact : -	Open		945,959	Jim
45-5-0457	Bungarribee 4 Blacktown		AGD	56	303540	6260490	Open	Valid	Artefact : -	Open		947,101	Jim
45-5-0458	Bungarribee 5 Blacktown		AGD	56	303620	6260600	Open	Valid	Artefact : -	Open		947,101	Jim
45-5-0461	Bungarribee 6 Blacktown		AGD	56	303302	6262260	Open	Valid	Artefact : -	Open		1018	Jim
45-5-0297	Doonside 6 (Doonside)		AGD	56	303102	6262609	Open	Valid	Artefact : -	Open		260,101	Jim
45-5-0224	Kerry Road;Blacktown;		AGD	56	304500	6261100	Open	Valid	Artefact : -	Open			Jim
45-5-0839	Greystanes Creek 1;Toongabbie;		AGD	56	308810	6258350	Open	Valid	Artefact : -	Open			DoctorJo
45-5-0840	Greystanes Creek 2;Toongabbie;		AGD	56	308750	6258130	Open	Valid	Artefact : -	Open			Michael
45-5-0489	Bungarribee Bungarribee Hill		AGD	56	303640	6260350	Open	Valid	Artefact : -	Open		1018	Jim
45-5-2712	PAD-05-19		AGD	56	309250	6263790	Open	Valid	Artefact : -	Open		98740	Robynne
45-5-2891	site REL 1		AGD	56	307200	6256850	Open	Valid	Artefact : -				Andrew
45-5-2892	site REL 2		AGD	56	306875	6256625	Open	Valid	Artefact : -				Andrew
45-5-2893	site REL 3		AGD	56	306750	6256550	Open	Valid	Artefact : -				Andrew
45-5-2894	site REL 4		AGD	56	306625	6256850	Open	Valid	Artefact : -				Andrew
45-5-3069	CSIRO 4	S	AGD	56	308118	6256658	Open	Valid	Potential		3161,33		ERM
45-5-3153	CSIRO 2/3 Complex	T Russell	AGD	56	308469	6256800	Open	Valid	Artefact : -				Doctor.Ti
45-5-3233	Site A - Precinct A at Eastern Creek	S	AGD	56	303050	6257250	Open	Valid	Artefact : 3				Andrew
45-5-3192	PL-OS-1	T Russell	AGD	56	309040	6263940	Open	Valid	Artefact : 3				Robynne
45-5-3193	ML-OS-2	T Russell	AGD	56	309170	6264000	Open	Valid	Artefact : 8				Robynne
45-5-3245	PA-1 (Site A)		AGD	56	303280	6257570	Open	Valid	Artefact : -		2552		Andrew
45-5-3226	PB-2 (not a site)		AGD	56	304250	6257550	Open	Not a Site	Modified Tree				Andrew
45-5-3227	PB-1		AGD	56	304350	6257450	Open	Valid	Artefact : -		2498,25	100563	Andrew
45-5-3323	Western Sydney PAD4	Searle	GDA	56	310500	6260350	Open	Valid	Potential			100554	Navin
45-5-3308	HE IF1	S	GDA	56	306034	6257504	Open	Valid	Artefact : 1				Mr.Paul
45-5-3309	NBP1	Searle	GDA	56	304933	6257910	Open	Valid	Artefact : 5			100503	Mr.Paul
45-5-3310	NBP2	Searle	GDA	56	304845	6257685	Open	Valid	Artefact : 3			100503	Jim
45-5-3686	Blacktown Ck 3		GDA	56	306900	6260200	Open	Valid	Artefact : -				Michael
45-5-3687	Blacktown Ck 4		GDA	56	306750	6258650	Open	Valid	Artefact : -				Michael
45-5-3688	Blacktown Ck 5		GDA	56	306690	6258100	Open	Valid	Artefact : -				Michael
45-5-3689	Blacktown Ck 6		GDA	56	306520	6257820	Open	Valid	Artefact : -				Michael
45-5-3690	Greystones Ck 3		GDA	56	308800	6257950	Open	Valid	Artefact : -				Michael
45-5-3700	Breakfast CK 2		GDA	56	304380	6263850	Open	Valid	Artefact : -				Michael
45-5-3703	Kings Langley 1		GDA	56	309840	6263990	Open	Valid	Artefact : -				Michael
45-5-3704	Kings Langely 2		GDA	56	309840	6263960	Open	Valid	Burial : -				Michael
45-5-3705	Kings Langley 3		GDA	56	310100	6263350	Open	Valid	Artefact : -				Michael
45-5-3706	Kings Langley 4		GDA	56	309850	6264000	Open	Valid	Artefact : -				Michael
45-5-3707	Kings Langley 5		GDA	56	309350	6263650	Open	Valid	Artefact : -				Michael
45-5-3881	OTC6		AGD	56	302800	6260100	Open	Valid	Artefact : -		3292		Miss.Amy
45-5-3882	OTC8		AGD	56	302900	6259840	Open	Valid	Artefact : -		3292		Miss.Amy
45-5-3970	BC1 (Prospect)		GDA	56	306723	6257399	Open	Valid	Artefact : -				Mary
45-5-3971	BC2 (Prospect)		GDA	56	306664	6257329	Open	Valid	Artefact : 1				Mary
45-5-3972	BCPAD1		GDA	56	306750	6257350	Open	Valid	Potential				Mary
45-5-4110	ASHLAR 1		GDA	56	305432	6262502	Open	Valid	Artefact : 1				Doctor.Sa
45-5-4111	ASHLAR 2		GDA	56	305691	6262905	Open	Valid	Artefact : 1				Doctor.Sa

Report generated by AHIMS Web Service on 30/04/2012 for David White for the following area at Datum :GDA, Zone : 56, Eastings : 303848 - 309661, Northings : 6257896 - 6263023 with a Buffer of 1000 meters.Additional Info : Archaeological Assessment. Number of Aboriginal sites and Aboriginal objects found is 72

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Appendix 4

Glossary of Site Types

Glossary of Site Types

The following is a brief description of most Aboriginal site types.

Artefact Scatters

Artefact scatters are defined by the presence of two or more stone artefacts in close association (i.e. within fifty metres of each other). An artefact scatter may consist solely of surface material exposed by erosion, or may contain sub-surface deposit of varying depth. Associated features may include hearths or stone-lined fireplaces, and heat treatment pits.

Artefact scatters may represent:

- Camp sites: involving short or long-term habitation, manufacture and maintenance of stone or wooden tools, raw material management, tool storage and food preparation and consumption;
- Hunting or gathering activities;
- Activities spatially separated from camp sites (e.g. tool manufacture or maintenance); or
- Transient movement through the landscape.

The detection of artefact scatters depends upon conditions of surface visibility, including vegetation cover, ground disturbance and recent sediment deposition. Unfavourable conditions obscure artefact scatters and prevent their detection during surface surveys.

Bora Grounds

Bora grounds are a ceremonial site associated with initiations. They usually comprise two circular depressions in the earth, and may be edged with stone. Bora grounds generally occur on soft sediments in river valleys, although they may also be located on high, rocky ground in association with stone arrangements.

Burials

Human remains were often placed in hollow trees, caves or sand deposits and may have been marked by carved or scarred trees. Burials have been identified eroding out of sand deposits or creek banks, or when disturbed by development. The probability of detecting burials during archaeological fieldwork is extremely low.

Culturally Modified Trees

Culturally modified trees include scarred and carved trees. Scarred trees are caused by the removal of bark for use in manufacturing canoes, containers, shields or shelters. Notches were also carved in trees to permit easier climbing. Scarred trees are only likely to be present on mature trees remaining from original vegetation. Carved trees, the easiest to identify, are caused by the removal of bark to create a working surface on which engravings are incised. Carved trees were used as markers for ceremonial and symbolic purposes, including burials. Although, carved trees were relatively common in NSW in the early 20th century, vegetation removal has rendered this site type extremely rare. Modified trees, where bark was removed for often domestic use are less easily identified. Criteria for identifying modified trees include: the age of the tree; type of tree

(the bark of many trees is not suitable, also introduced species would be unlikely subjects); axe marks (with the need to determine the type of axe - stone or steel – though Aborigines after settlement did use steel); shape of the scar (natural or humanly scarred); height of the scar above the ground (reasonable working height with consideration given to subsequent growth).

Fish Traps

Fish traps comprised arrangements of stone, branches and/or wickerwork placed in watercourses, estuaries and along coasts to trap or permit the easier capture of sea-life.

Grinding Grooves

Grinding grooves are elongated narrow depressions in soft rocks (particularly sedimentary), generally associated with watercourses, that are created by the shaping and sharpening of ground-edge implements. To produce a sharp edge the axe blank (or re-worked axe) was honed on a natural stone surface near a source of water. The water was required for lubricating the grinding process. Axe grinding grooves can be identified by features such as a narrow short groove, with greatest depth near the groove centre. The grooves also display a patina developed through friction between stone surfaces. Generally a series of grooves are found as a result of the repetitive process.

Isolated Finds

Isolated finds occur where only one artefact is visible in a survey area. These finds are not found in apparent association with other evidence for prehistoric activity or occupation. Isolated finds occur anywhere and may represent loss, deliberate discard or abandonment of an artefact, or may be the remains of a dispersed artefact scatter. Numerous isolated finds have been recorded within the project area. An isolated find may flag the occurrence of other less visible artefacts in the vicinity or may indicate disturbance or relocation after the original discard.

Middens

Shell middens comprise deposits of shell remaining from consumption and are common in coastal regions and along watercourses. Middens vary in size, preservation and content, although they often contain artefacts made from stone, bone or shell, charcoal, and the remains of terrestrial or aquatic fauna that formed an additional component of Aboriginal diet. Middens can provide significant information on land-use patterns, diet, chronology of occupation and environmental conditions.

Mythological / Traditional Sites

Mythological and traditional sites of significance to Aboriginal people may occur in any location, although they are often associated with natural landscape features. They include sites associated with dreaming stories, massacre sites, traditional camp sites and contact sites. Consultation with the local Aboriginal community is essential for identifying these sites.

Rock Shelters with Art and / or Occupation Deposit

Rock shelters occur where geological formations suitable for habitation or use are present, such as rock overhangs, shelters or caves. Rock shelter sites generally contain artefacts, food remains and/or rock art and may include sites with areas of potential archaeological deposit, where

evidence of rock-art or human occupation is expected but not visible. The geological composition of the project area greatly increases the likelihood for rock shelters to occur.

Stone Arrangements

Stone arrangements include lines, circles, mounds, or other patterns of stone arranged by Aboriginal people. These may be associated with bora grounds, ceremonial sites, mythological or sacred sites. Stone arrangements are more likely to occur on hill tops and ridge crests that contain stone outcrops or surface stone, where impact from recent land use practices has been minimal.

Stone Quarries

A stone quarry is a place at which stone resource exploitation has occurred. Quarry sites are only located where the exposed stone material is suitable for use either for ceremonial purposes (e.g. ochre) or for artefact manufacture.