



VIRTUS HERITAGE



GLENDENNING ROAD DATA CENTRE

*2 Glendenning Road,
Glendenning, NSW*

Archaeological Assessment

FINAL | February 2025

Prepared for LCI Consultants

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Acknowledgement of Country

Virtus Heritage acknowledges the Traditional Custodians of the land on which this project was undertaken and pays respect to Elders past, present and emerging.

Content Warning

Aboriginal and Torres Strait Islander people are warned that this publication may contain names and images of deceased people, descriptions of traumatic historic events and parts of Country that have been impacted by development.

This report includes the topics of forcible removal of children, dispossession and assimilation relating to the Blacktown Native Institution and colonisation. It also includes reference to unauthorised destruction of Aboriginal cultural heritage sites.

Disclaimer and cultural restrictions

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All queries related to the content, or to any use of this report must be addressed to Dr Mary-Jean Sutton.

Executive Summary

Virtus Heritage Pty Limited (hereafter 'Virtus Heritage') was engaged by LCI Consultants (LCI), to prepare an Aboriginal Cultural Heritage Assessment (ACHA), including an Archaeological Assessment (AA) to support a State Significant Development (SSD) Application for a development at 2 Glendenning Road, Glendenning NSW, legally described as Lot 2 DP 1137162 (hereafter referred to as 'the project area', and shown in **Figure 1**). It is zoned E4 General Industrial under the Blacktown Local Environmental Plan 2015.

This report is the Archaeological Assessment, which is an Appendix (**Appendix A**) to the ACHA. The purpose of this report is to provide LCI Consultants with archaeological advice on the potential impact of their proposal to Aboriginal archaeological sites and to meet the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010) for Archaeological Reports – (Requirements 1 to 11).

PROPOSAL

The project area comprises a total area of 10.44ha and exhibits a primary frontage to Glendenning Road at the western boundary and a secondary frontage to Woodstock Avenue is located along the southern boundary. Western Sydney Parklands sits at the eastern boundary.

The proposed development is known as the Glendenning Road Data Centre and includes the construction and operation of three (3) data centre buildings and associated vegetation clearance, access changes, landscaping, fencing and infrastructure, services, and utilities.

The proposed works will be constructed over three (3) stages. The proposed works will involve ground disturbance and will impact known Aboriginal objects and areas likely to contain Aboriginal objects.

ENVIRONMENTAL CONTEXT

The project area once contained a low ridge line and spur with gentle slopes, characteristic of the Blacktown residual and South Creek alluvial soil landscapes. Drainage lines within the project area once flowed from its slopes to tributaries of and to Eastern Creek, which is located 150m east of the project area. The permanent freshwater creek and the vegetation groups of the project area would have provided suitable habitats for a vast range of plant and animal species with utility and cultural value to the traditional Dharug people of the area. The project area is situated in a landscape known to contain Aboriginal objects.

The project area has been extensively modified through vegetation clearance, poultry farming and agricultural work, substantial earthworks and landform modification, creek line modification, transmission lines, service and utility installation and industrial development.

Based on the available borehole data (AECOM 2023, Martens 2024) the survival of A horizon soils appears to be limited to the southern portion of the project area within the remnant low ridge line, spur and slope. Artefacts in this area may be on the surface and buried (McDonald 2001). Previous archaeological investigations (Kohen 2001, McDonald 2005, Brown 2008) have indicated that at least in the southern part of the project area, Aboriginal objects were redistributed by earthworks across the project area and are retained in fill. Uncontrolled fill is present across the north of the project area, however no Aboriginal objects have been identified in this area. Any Aboriginal objects outside of the remnant low ridge line, spur and slope are likely to have been significantly displaced from earthworks and by fill.

ARCHAEOLOGICAL CONTEXT

Six Aboriginal cultural heritage sites containing stone artefacts are registered within AHIMS and are located within the project area:

- Southeast Plumpton 6 Rooty Hill (45-5-0483) an artefact scatter, also known as SEP/6. This site was partially salvaged in 2001 under AHIP 941. Kohen (2001) reports part of this site was buried during earthworks. This site is still Valid in AHIMS.
- South East Plumpton 5 (45-5-0456), an artefact scatter, also known as SEP/5. The site was partially salvaged by Kohen in 2001 under AHIP 941. Subsequent artefacts were recorded at and near this site (McDonald 2005, Brown 2008). This site is still Valid in AHIMS.
- South Plumpton 4 (45-5-0474) an artefact scatter, also known as SEP/4. This site was partially salvaged by Kohen in 2001 under AHIP 941. This site is still Valid in AHIMS.
- WN1f1 (45-5-2461), an isolated artefact. The status of this site is 'valid' on the AHIMS database.
- WN2 (45-5-2462), an artefact scatter. The status of the site is valid in AHIMS.
- Glendenning Road 1 (45-5-2776), an artefact scatter. The AHIMS database identifies this site as 'valid'.

Over 140 stone artefacts have been recorded in the project area across surveys and salvage surface collections, including artefacts identified during monitoring of earthworks, in cuts, fill and spoil heaps (Kohen 1985, 1987, 1989, 2001, McDonald CHM 1999, 2001, 2005, Navin Officer Heritage Consultants 2000, Brown 2008). The southern portion of the project area and its associated ridge line and spur has previously been assessed as having a high likelihood of Aboriginal objects, with archaeological integrity ranging from low to high (McDonald CHM 1999, 2001, 2005, Kohen 2001, Brown 2008). Brown (2008) identified the land within 150m of Eastern Creek and 100m from known sites as having archaeological potential.

Archaeological investigations and testing by Jo McDonald (1999, 2001) and salvage by Kohen (2001) indicate that the low ridge line and spur in the project area were part of a much larger site complex once containing culturally modified trees and is thought to have extended from Eastern Creek to the top of the low ridge. This site complex is considered of high archaeological significance and value. Additional sites and areas of archaeological potential within 200 metres of the project area include: South East Plumpton 6.5 (45-5-2777), Sept1000/B (45-5-3105), Sept2000/A (45-5-3104), Southeast Plumpton 3 (45-5-0475), and EC132kVPAD01 (45-5-3643), areas of archaeological potential associated with Woodstock Avenue, "Area of Archaeological Potential" (Brown 2008) and Blacktown DCP 2015's Known Archaeological Site and Area of Archaeological Sensitivity.

SURVEY RESULTS

A pedestrian archaeological survey was undertaken on Tuesday 17 September 2024 by representatives of Virtus Heritage. Deerubbin LALC and Dharug Custodian Aboriginal Corporation confirmed their attendance prior to fieldwork, however, were unable to attend on the day.

An additional site survey was undertaken on 1 October 2024 by representatives of Virtus Heritage, Kamilaroi-Yankuntjatarra Working Group and LCI. Uncle Steven Randall (Deerubbin LALC) also attended site and shared his knowledge of previous work and many sites in the local area.

The surveys targeted areas of exposure and recorded changes in landform elements, as per the project methodology and survey strategy outlined in **Section 7.1**.

Six additional Aboriginal objects were identified within the project area during the archaeological assessment. As with stone artefacts identified within the project area by McDonald (2005) and Brown (2008), the stone artefacts during the survey were identified in areas that had previously been surveyed or salvaged, indicating there remains a high likelihood of Aboriginal objects within parts of the project area that have been heavily disturbed. Revised areas of low, moderate and high archaeological potential were mapped across the project area.

SIGNIFICANCE ASSESSMENT

Despite a high degree of disturbance across much of the project area, the diverse range of stone artefact materials, types and technologies recovered from the salvage collections in the project area, the spatial patterning of raw material types and the presence of unmodified silcrete pebbles and angular fragments

were assessed by Kohen and McDonald to be of high archaeological significance (Kohen 2001, McDonald 2005). Any intact natural soil profiles and archaeological deposits are considered of archaeological value

IMPACT ASSESSMENT

The design has sought to minimise impacts to heritage sites – buildings, hardstand surfaces and disturbance works have largely been located outside areas of high and medium archaeological potential where feasible. The areas of high and medium potential shown on Figure 9 are mostly stormwater and transmission tower easements and the development includes demolition of an existing building in this area and revegetation with locally occurring plant communities. Southern building demolition and rehabilitation is also proposed.

Positive aspects of the development and design considerations to avoid areas of heritage value were considered by the proponent, including revegetation and land care.

The proposed activity will directly and indirectly impact on known Aboriginal cultural heritage sites and known Aboriginal objects (45-5-0483, 45-5-0456, 45-5-0474, 45-5-2776, 45-5-2461, 45-5-2462) and areas of low moderate and high archaeological potential. Currently, limited works are proposed in areas of high archaeological potential, it is anticipated this would be limited to fencing, revegetation and land care. The proposed activity has the opportunity to create exclusion zones to protect a percentage of land within areas of moderate and high archaeological potential and areas containing Aboriginal objects (i.e. 45-5-0483, 45-5-0456, 45-5-0474, 45-5-2776, 45-5-2461, 45-5-2462). Areas of moderate potential will be harmed by the extensions to existing pipelines and headwater drain. Management and mitigation measures are required to avoid, minimise and mitigate harm to known and likely Aboriginal objects and heritage values.

Additional sites and areas of archaeological potential are located immediately adjacent the project area (45-5-0475, Blacktown DCP 2015 Known Archaeological site and Area of Archaeological Sensitivity, Area of Archaeological Potential (Brown 2008) and areas of archaeological potential associated with Woodstock Avenue). proposed works must be managed in order to avoid and minimise impacts to these sites.

MANAGEMENT RECOMMENDATIONS

Management options and recommendations are outlined for this proposal in **Section 10** and **Section 11** of this report. The management recommendations of this assessment consider the archaeological (scientific values) as set out in The Burra Charter and the requirements of Heritage NSW for the Archaeological Survey Report (Archaeological Assessment). The ACHA to which this report is appended includes management recommendations which consider the social (cultural), spiritual, aesthetic and historic values of The Burra Charter. **The proponent must consider the ACHA recommendations in conjunction with the recommendations of the Archaeological Assessment.**

Based on the description of project impacts provided by LCI Consultants, the results of the survey, Aboriginal consultation to date, and previous archaeological research, the following recommendations are made:

Recommendations

1	Aboriginal Cultural Heritage Management Plan	Prior to the commencement of construction works, an Aboriginal Cultural Heritage Management Plan (ACHMP) must be prepared and submitted to the Department for approval. The ACHMP should include: 1. Roles and responsibilities for undertaking actions within the ACHMP 2. Include protocols for continued consultation with Registered Aboriginal Parties throughout the remainder of the project, including: a. Processes, timing and methods for the involvement of Registered Aboriginal Parties in cultural heritage works. b. Processes outside of internal areas once operational will be considered to allow reasonable access to members of the
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Recommendations

		Aboriginal community Aboriginal cultural heritage sites within the project area throughout the life of the Glendenning Data Centre project 3. If not previously completed, discussion and identification of any areas of feasible design optimisation with the RAPs to avoid or further minimise harm to identified Aboriginal sites, objects, places and values. 4. Detail description and methods to conserve portions of areas of high and moderate archaeological potential and Aboriginal objects and heritage values within it (i.e. 45-5-0483, 45-5-0456, 45-5-0474, 45-5-2776, 45-5-2461, 45-5-2462). This may include sediment and erosion control to minimise the risk of erosion and further displacement of Aboriginal objects and archaeological deposits, fencing of sites put in place with a qualified archaeologist or experienced RAP site officer, land care and/or ongoing monitoring to ensure the effectiveness of controls and the site's retention during, and following construction. 5. Detail descriptions and methods to avoid any inadvertent impacts to known Aboriginal objects and/or sites and areas of archaeological potential outside of the construction activities (for example, 45-5-0475, Aboriginal sites and deposits along Woodstock Avenue, area of archaeological potential (Brown 2008), Known archaeological sites and areas of archaeological sensitivity in the Blacktown DCP 2015). This should include, but not be limited to: i. Works specific Aboriginal Cultural Inductions to be undertaken by the general contractor for all ground disturbing works and activities that could harm Aboriginal objects or areas of archaeological and cultural sensitivity. - o The general contractor shall ensure that these cultural inductions is developed and /or delivered by a heritage consultant with Aboriginal heritage expertise, or by the Local Aboriginal Land Council. - o The induction shall indicated Aboriginal objects or sites could be revealed during works, where they would likely be found (by use of site diagrams) and present photos of what they will look like in situ and isolation. The induction shall also inform staff and contractors what to do if they find an Aboriginal object or site. ii. Erosion and sediment control. iii. Fencing and clear marking of heritage sites and zones of interest in close proximity to proposed works. This should be done with an experience Sites Officer of Registered Aboriginal Parties or a qualified archaeologist. iv. If needed, any additional requirements identified by the Aboriginal community through consultation. v. A suitable program of monitoring to ensure the effectiveness of these control measures should also be outlined, including locations, methods, personnel and timing.
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Recommendations

		6. Include an archaeological research design and methodology that outlines methods, staging and procedures for: a. A requirement for all salvage works to be carried out under the supervision of a qualified archaeologist and representatives of the Registered Aboriginal Parties (RAPs) for the project. b. Archival recording of all Aboriginal cultural heritage sites and Aboriginal objects within the project area before and after construction, including: i. a requirement for AHIMS Site Card update to be completed for all Aboriginal sites in the project area to update them on their current condition and attach site records to previous permits and reports. ii. Aboriginal Site Impact Recording Forms to be completed for any Aboriginal objects if impacted by the proposed development in accordance with any future SSD consent. c. Surface collections in areas of low, moderate and high archaeological potential where impacts cannot be avoided. d. Archaeological salvage excavations in areas of high archaeological potential where impacts cannot be avoided. e. Community collection in areas of low, moderate and high archaeological potential where impacts cannot be avoided. f. Triggers for archaeological salvage should intact archaeological deposits be identified in areas of low and moderate archaeological potential. g. Triggers for undertaking archaeological salvage during any historical archaeological investigations. h. Documentation, attribute recording, analysis and reporting on all Aboriginal objects identified in the project area. Consideration should be given to undertaking usewear and residue analysis on a sample of utilised stone artefacts. i. Processing of chronological, soil and environmental samples recovered during any archaeological salvage excavations. j. The short term and long term care of Aboriginal objects and materials within or recovered from the project area. To date, Registered Aboriginal Parties have indicated a preference for Aboriginal objects and material to be retained on site. 7. Procedures for undertaking further Aboriginal cultural heritage assessment, investigation and mitigation of any areas of the project that have changed following completion of the ACHA and/or during the final design and construction phases of the project; 8. Processes for reviewing, monitoring and updating the ACHMP as the project progresses, including incorporating any mitigation measures identified in the ACHA being prepared and in accordance with the requirements of any future project approval conditions. 9. A heritage-interpretation strategy and plan is recommended to be integrated into the ACHMP, to mitigate harm to cultural values by providing direction for and interpretive opportunities for the project both for users on site and off site (for example users of surrounding footpaths), if it can be achieved within the security requirements for the
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Recommendations

		proposal. This strategy should be made available for consultation and feedback with the RAPs.
2	Construction Environmental Management Plan	The Construction Environment Management Plan (CEMP), or equivalent, should incorporate key elements of the ACHMP and must incorporate: • Cultural Awareness Training and Heritage Induction that includes: ○ An Unexpected Finds Procedure for Aboriginal Objects. ○ Unexpected Human Remains Procedure ○ A briefing on the possible identification of Aboriginal sites and objects during construction, including mapped heritage exclusion zones and briefed on their responsibility according to the provisions of the NPW Act 1974, in the event that unknown objects are uncovered during proposed works. ○ The contact phone numbers of Heritage NSW regional archaeologist, EnviroLine 131 555, and Deerubbin LALC. ○ The relevant contact phone number of the Environmental Officer / Site Supervisor responsible for this project in case unknown objects are uncovered during excavation. ○ The penalties for moving Aboriginal objects needs to be made clear and given due consideration. ○ An outline of the types of unexpected heritage objects and their legal protection • Registered Aboriginal Parties should be provided the opportunity to input into or deliver cultural awareness training and heritage inductions by the general works contractor as noted earlier.
3	Provision of information to other land users	Copies of the ACHMP, updated site cards and any SSD consent conditions should be provided to other land users of the project area (for example Endeavour Energy and Sydney Water)

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Definitions

Abbreviations	Description
AA	Archaeological Assessment
ACHA	Aboriginal Cultural Heritage Assessment
ACHCR	Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010)
AHD	Australian Heritage Database
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
AIATSIS	Australian Institute of Aboriginal and Torres Strait Islander Studies
ALRA	Aboriginal Land Rights Act 1976
AR	Archaeological Report, Archaeological Assessment
CABAH	Australian Research Council Centre of Excellence for Australian Biodiversity and Heritage
CHMP	Cultural Heritage Management Plan
Code of Practice, COP	Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010)
DA	Development Application
DD	Due Diligence
DD Code, Due Diligence Code	Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW 2010)
DPC	NSW Department of Premier and Cabinet
DPIE	NSW Department of Primary Industry and Environment
EP&A Act	Environmental Planning and Assessment Act 1979
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
GIA	Guide to investigating, assessing and reporting on Aboriginal Cultural heritage in NSW (OEH 2011)
HNSW	Heritage NSW
ILUA	Indigenous Land Use Agreement
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan

Abbreviations	Description
LGA	Local Government Area
NNTT	National Native Title Tribunal
NPW ACT	National Parks and Wildlife Act 1974
NPW Reg	National Parks and Wildlife Regulation 2019
NPWS	NSW National Parks and Wildlife Service
NTA	Native Title Act 1983
OEH	NSW Office of Environment and Heritage (now Heritage NSW)
PAD	Potential Archaeological Deposit
PBC	Prescribed Bodies Corporate
RAP	Registered Aboriginal Party
RAPs	Registered Aboriginal Parties
RD&M	Research Design and Methodology
REF	Review of Environmental Factors
RNTBC	Registered Native Title Body Corporate
S.139	Section 139
S.140	Section 140.
S.170	Section 170
SHI	State Heritage Inventory
SHR	State Heritage Register
SoHI	Statement of Heritage Impact
SSD	State Significant Development
SSI	State Significant Infrastructure
The Burra Charter	The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance, 2013 (Australia ICOMOS 2013)
UNESCO	United Nations Educational, Scientific and Cultural Organization

1 Introduction

Virtus Heritage Pty Limited (hereafter 'Virtus Heritage') was engaged by LCI Consultants, to prepare an Aboriginal Cultural Heritage Assessment (ACHA), including an Archaeological Assessment (AA) to support a State Significant Development (SSD) Application for a development at 2 Glendenning Road, Glendenning NSW (hereafter referred to as 'the project area', shown in **Figure 1**). The project area is within the Blacktown Local Government Area (LGA).

The proposed development is known as the Glendenning Road Data Centre and includes the construction and operation of three (3) data centre buildings and associated infrastructure, with a total power consumption of 202.4 MW.

This report constitutes the Archaeological Assessment component required for the ACHA process. The ACHA was compiled to support an SSD application. The objectives of the ACHA are:

- to investigate and assess the impacts of the proposed construction of the Glendenning Data Centre on Aboriginal objects, places and cultural heritage values within the project area; and
- provide appropriate management and mitigation strategies.

This report has been compiled to meet Requirements 1 to 11 of the Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (hereafter referred to as CoP) (DECCW 2010) for Archaeological reports.

In general, the aims of this Archaeological Assessment are to:

- present an analysis of background data to assist in forming a predictive model and context to allow for the assessment of archaeological potential and archaeological significance of the project area;
- document the field investigations undertaken within the project area to best practice standards;
- describe the archaeological heritage values of the project area including a description and significance assessment of Aboriginal objects recorded;
- determine how the significance of the values of the project area would be affected by the proposal;
- consider potential harm from the proposal to Aboriginal objects and identified cultural heritage values within the project area;
- document measures to avoid, mitigate and/or manage harm to Aboriginal objects and identified cultural heritage values, where necessary; and
- detail any requirements for an AHIP or further archaeological investigation.

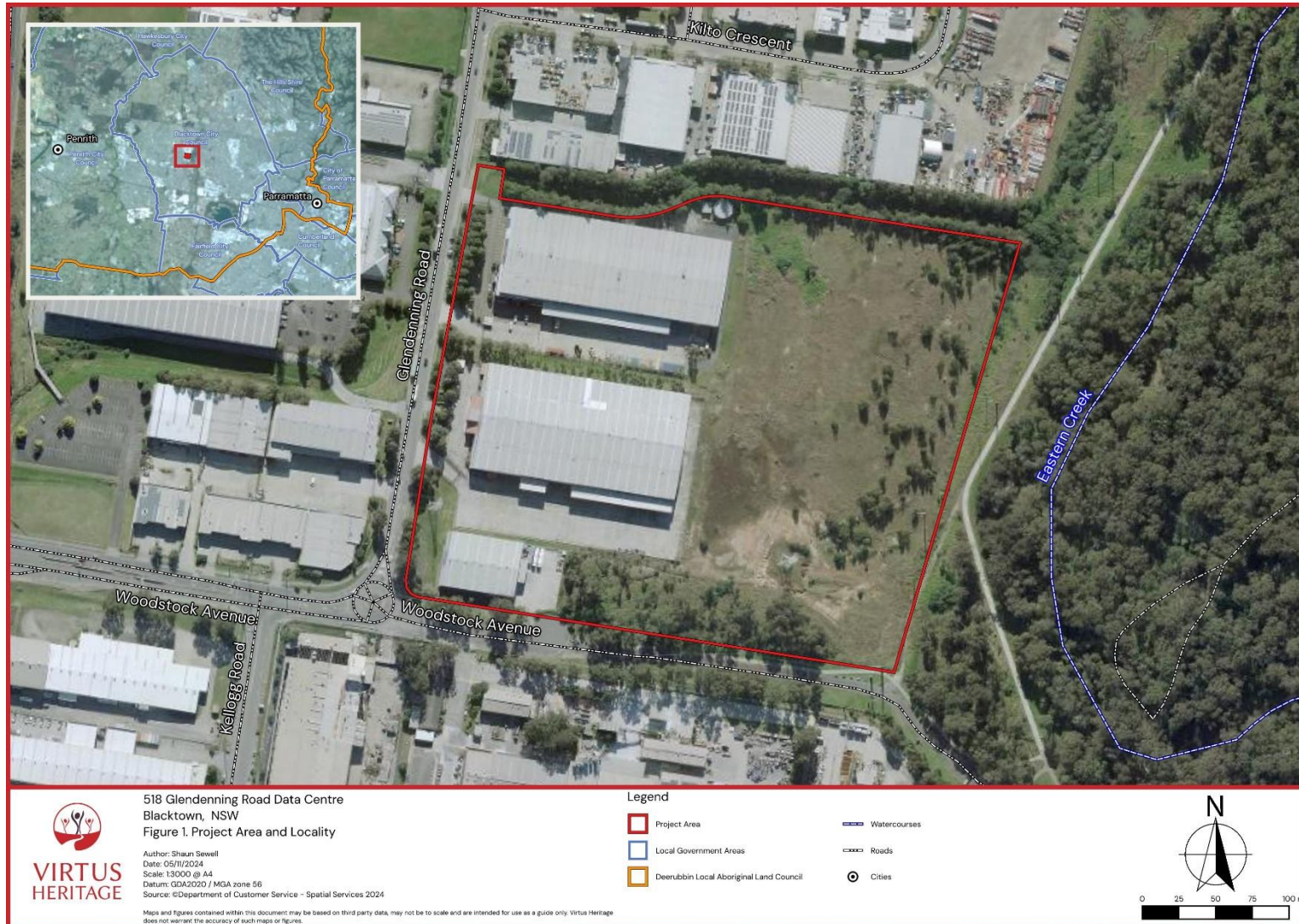


Figure 1. Locality Map and Project Area.

1.1 REPORT STRUCTURE

Table 1 provides a summary of the reporting requirements outlined in the CoP and where these requirements are addressed in the structure of this report.

Table 1. CoP Report Requirement and this Report's Relevant Report Section.

CoP Report Requirement	Where this Requirement is addressed in the Report
Requirement 1: Review previous archaeological research	Section 4 and Section 5
Requirement 2: Review the landscape context	Section 3
Requirement 3: Summarise and discuss the local and regional character of Aboriginal land use and its material traces	Section 5
Requirement 4: Predict the nature and distribution of evidence	Section 6
Requirement 5: Archaeological survey	Section 7
Requirement 6: Site definition	Section 7
Requirement 7: Site recording	Section 7
Requirement 8: Location information and geographic reporting	Section 7
Requirement 9: Record survey coverage data	Section 7
Requirement 10: Analyse survey coverage	Section 8
Requirement 11: Archaeological Report content and format	Entire report

1.2 PROJECT TEAM AND ACKNOWLEDGEMENTS

This report was compiled by Lilith Malcolm (Archaeologist, Virtus Heritage; B. Arts Archaeology, University of Sydney) and Clare Anderson (Principal Archaeologist, Virtus Heritage; B. Arts Prehistoric and Historical Archaeology, University of Sydney). Assistance with Environmental section was undertaken by Caroline Ephraums (Consultation and Administrative Coordinator, Virtus Heritage; B. Education Primary, Queensland University of Technology; B. Science, Marine University of New England). Fieldwork was undertaken by Clare Anderson and Lilith Malcolm. Consultation was coordinated by Anya Graubard (Anthropologist/Heritage Consultant, Virtus Heritage; B. Arts Anthropology, University of Nebraska-Lincoln) and Lilith Malcolm. GIS mapping was undertaken by Shaun Sewell (Senior GIS analyst, Virtus Heritage; B.A. IT, Queensland University of Technology).

Quality review was undertaken by Dr. Mary-Jean Sutton (Director, Virtus Heritage; B. Arts Prehistoric and Historical Archaeology, University of Sydney, PhD University of Queensland) and Clare Anderson. Project information and description of works detailed in **Section 2.0** was provided by LCI Consultants.

The representatives of Registered Aboriginal Parties (RAPs) who were involved in fieldwork and consultation, which forms the basis of this assessment, are presented in **Table 2**.

We would like to acknowledge the assistance of the following individuals for the completion of this report:

- Uncle Steven Randall, Deerubbin Local Aboriginal Land Council
- Kadibulla Khan, Kamilaroi-Yankuntjatjara Working Group
- Ben Avallone, LCI Consultants
- Martin Ferguson, LCI Consultants

Table 2. Representatives of Registered Aboriginal Parties Involved in Consultation.

Name of Contact	Registered Aboriginal Party
REDACTED	REDACTED
Dharug Custodian Aboriginal Corporation	Justine Coplin
Didge Ngunawal Clan	Lilly Carroll and Paul Boyd
Kamilaroi Yankuntjatjara Working Group	Phil Khan, Stefeanie Khan, Kadibulla Khan
Wailwan Aboriginal Group	Philip Boney
Long Gully Cultural Services	Ethan Trewlynn
Thomas Dahlstrom	Thomas Dahlstrom
Yulay Cultural Services	Arika Jalomaki (Manager)
Muragadi Heritage Indigenous Corporation	Jesse Johnson
Wallanbah Aboriginal Site Conveyancing	Kelvin Boney
Deerubbin Local Aboriginal Land Council	Kevin Cavanagh, Uncle Steven Randall
Waawaar Awaa Aboriginal Corporation	Rodney Gunther and Barry Gunther
Wurrumay Pty Ltd	Vicky Slater and Kerrie Slater
Konanggo Aboriginal Cultural Heritage Services (KACHS)	Robert Young and Aunty Pamela Young
Amanda Hickey Cultural Services	Amanda Hickey
Aragung Aboriginal Cultural Heritage Site Assessments	Jamie Eastwood
B.H. Heritage Consultants	Ralph Hampton and Nola Hampton
Butucarbin Aboriginal Corporation	Jennifer Beale
Freeman and Marx	Clive Freeman and Julie
Goobah Development PTY LTD (Murrin Clan/Peoples)	Basil Smith
Guntawang Aboriginal Resources Incorporated	Wendy Morgan
Koori Digs Services	Korri Currell
Thawun Aboriginal Consultancy	Jason Mitchell
RAW Cultural Healing	Raymond Weatherall
Gali Heritage Consultants	Helen Slater
Bill Trewlynn	Bill Trewlynn
Woka Aboriginal Corporation	Steven Johnson
Paul Webb	Paul Webb
Yurrandaali	Bo Field
Darug Aboriginal Resource Centre	Thelmerie Rudd

1.3 PROJECT LIMITATIONS

This report is limited to the assessment of project impacts described in information provided by LCI Consultants and mapped in this report. Virtus Heritage takes no responsibility for errors within NSW Environment and Heritage's Aboriginal Heritage Information Management Systems (AHIMS) data, Australian Heritage Database (AHD), Land and Property Information (LPI) Heritage data (State Heritage Register [SHR], SHR curtilages and Heritage Conservation layers for relevant LGAs) and has assumed information provided by these agencies and government departments is accurate, however, we have made best efforts to ensure this information is verified and cross checked wherever possible.

2 Description of the Project

The following section provides a description of proposed works based on information recorded during the survey and provided by LCI Consultants and Willowtree Planning.

2.1 CURRENT SITE

The subject site is located at 2 Glendenning Road, Glendenning and is legally described as Lot 2 DP 1137162. It is zoned E4 General Industrial under the Blacktown Local Environmental Plan 2015.

The subject site comprises a total area of 10.44ha and exhibits a primary frontage to Glendenning Road at the western boundary for approximately 295m. A secondary frontage to Woodstock Avenue is located along the southern boundary, for a length of approximately 335m.

The subject site comprises three (3) existing warehouse buildings that undertake various operations, including storage and logistics and a transport vehicle centre. The buildings are positioned toward the Glendenning Road frontage and cover approximately one half of the subject site. The remainder of the subject site to the rear is vacant and contains a mix of grass, native vegetation and sporadic trees. A patch of mature native vegetation exists along the southern boundary, which is identified as outstanding biodiversity value. An established landscaping strip is located along the Glendenning Road frontage, providing some screening of the existing buildings.

Vehicle access is obtained via four (4) vehicle crossings off Glendenning Road, which provide separate access for the two (2) large tenants. Vehicle access is also provided off Woodstock Avenue for the southern tenant.

The subject site is traversed by overhead 132kV transmission lines and towers, managed by Endeavour Energy. A drainage reserve also exists directly north of the subject site, which is managed by Blacktown City Council.

The subject site is surrounded by industrial land to the north, west and south (refer to the site context in Figure 2). Directly adjoining the subject site to the east is the Nurragingy Reserve, which falls under the jurisdiction of the Western Parklands. The Eastern Creek is located within the reserve and runs along the eastern boundary of the subject site. The closest residential area is located approximately 400m to the west of the subject site on the opposite side of the Westlink M7 Motorway.

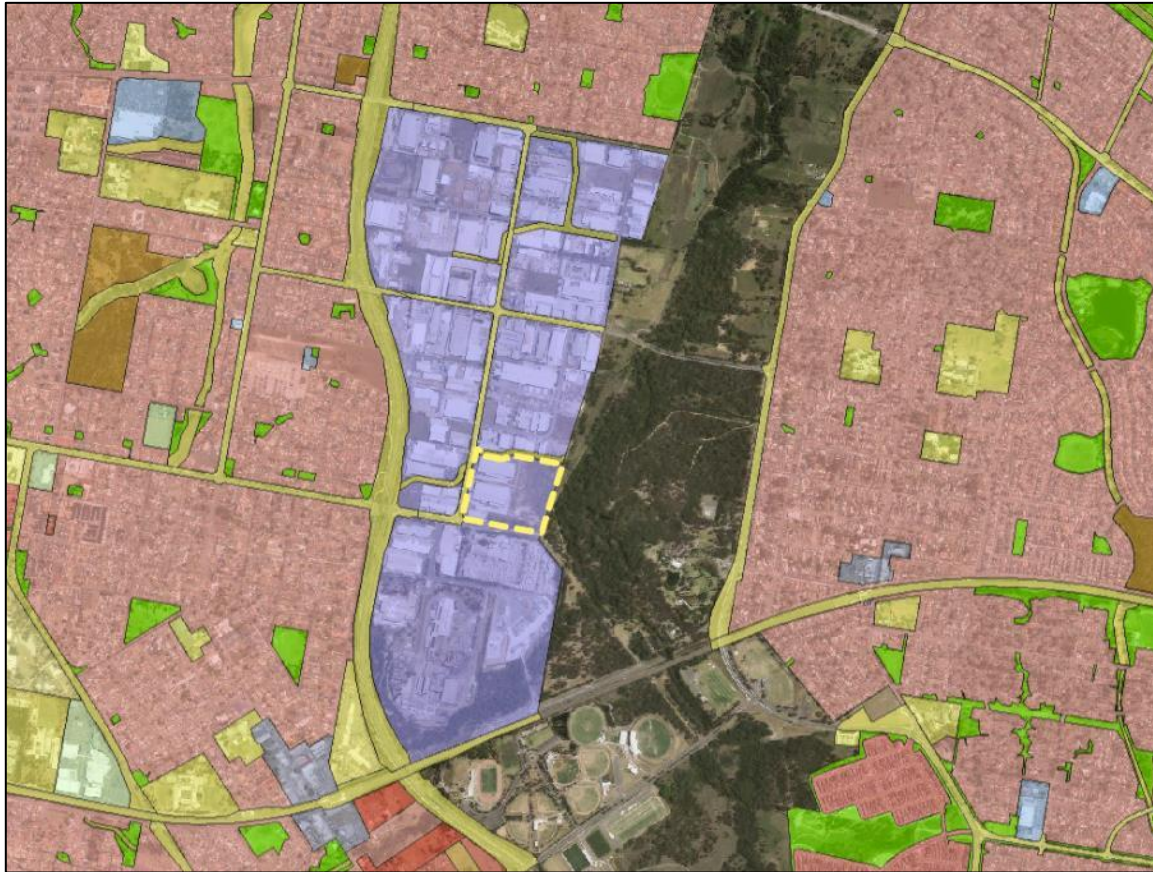


Figure 2. Site Context and Zoning (Source: Blacktown Local Environmental Plan, 2024).

2.2 PROPOSED DEVELOPMENT

The proposed development is known as the Glendenning Road Data Centre and includes the construction and operation of three (3) data centre buildings and associated infrastructure, with a total power consumption of 202.4 MW.

The proposed development seeks consent for the following aspects of development:

- Site preparation and establishment works including:
 - Bulk earthworks to create proposed site levels;
 - In-ground building services and utility work;
 - Clearance of trees and vegetation within the proposed development extent;
- Construction and operation of three (3) data centre buildings, known as DC01, DC02 and DC03, comprising:
 - A total Gross Floor Area (GFA) of 50,233m² (DC01 – 19,985m², DC02 – 10,263m² and DC03 – 19,985m²);
 - A maximum building height of 45.3m, including five (5) storeys for each building;
 - Three (3) internal substations;
 - A total data capacity of 202.4MW (DC01 – 79.2MW, DC02 – 44MW and DC03 – 79.2MW);
 - Total diesel fuel storage of 2,736,030L within underground bulk fuel storage tanks and generator day tanks;
 - 97 back-up generators across the full development;
 - External plant and equipment (including water tanks and pump rooms);
 - Installation of evaporative cooling units
- Three (3) vehicle crossovers to Glendenning Road and internal access roads;

- Security fencing surrounding the development, including a controlled entry and exit point;
- 165 on-site car parking spaces (including 6 accessible parking spaces and 12 EV parking spaces);
- Landscaping across the subject site;
- Hours of operation being on a 24 hours per day, seven (7) days per week basis.

The proposed works would be constructed in three (3) stages, as follows:

- **Stage 1:** The first stage would include the construction of DC01, located at the rear of the subject site. The three existing site buildings would be demolished.
- **Stage 2:** The second stage would involve the construction of DC02.
- **Stage 3:** The construction of DC03.

2.3 PROJECT IMPACTS

The following impacts are proposed based on information provided by LCI Consultants to date. The locations of the proposal are provided on a still yet to be finalised plan in **Appendix B**. The construction of buildings, plant and infrastructure as well as the removal of fill across the site will involve earth moving machinery across large sections of the project area.

Exclusion Zones

The current actions are proposed within or immediately adjacent the Endeavour Energy Easement and high biodiversity value area:

- A retaining wall
- Security fencing
- Land care and management.

Geotechnical investigations

For the purposes of this assessment, it is assumed that further geotechnical investigations may occur as part of the project and would involve ground disturbance.

Trenching

For the purposes of this assessment, it is assumed that trenching and ground disturbance will be required within the project area for services and utility installation and maintenance. The design and placement of these items is yet to be finalised.

Underground Tanks, Flood and Storm Water Management

For the purposes of this assessment, it is assumed that earthworks involving cut, fill and trenching will be required within the construction footprint for the placement of underground tanks, drains, services and utilities and the placement of water retention basins. The design and placement of these items is yet to be finalised.

The potential impacts related to the main area of high sensitivity in the south, were avoided and consideration incorporated into the design.

The current development plans in the southern area appear are mainly landscape / biodiversity enhancement work, including demolition of the building and rehabilitation in the south and minor drainage.

Pilings and Footings

The client has advised that detailed bulking and cut / fill quantities for footings, underground tanks, basements, trenching and the like has not been included in the cut and fill assessment, but impacts should be expected for DC2 and DC3 for the entire area below both structures. Piling for DC1 may vary depending on geotechnical testing results.

For planning purposes, a depth ranging between 10m -20m should be assumed.

Fencelines and Fencing

The project area will be stripped of all fill and vegetation in areas of the proposed construction, this may also include the removal of some mature trees and the excavation of root balls using heavy machinery and tree lopping is limited to the extent necessary for the proposal and replacement planting is being undertaken. Trimming only is being undertaken for security reasons where possible.

Final locations of internal fences and site boundaries are yet to be finalised. Footing depths to between 1 – 1.3m with a 6.5cm diameter will be used and fencing dependent on security requirements can be placed anywhere across the project area.

Machinery to be used will include a local excavator and will involve clearing and levelling prior to construction.

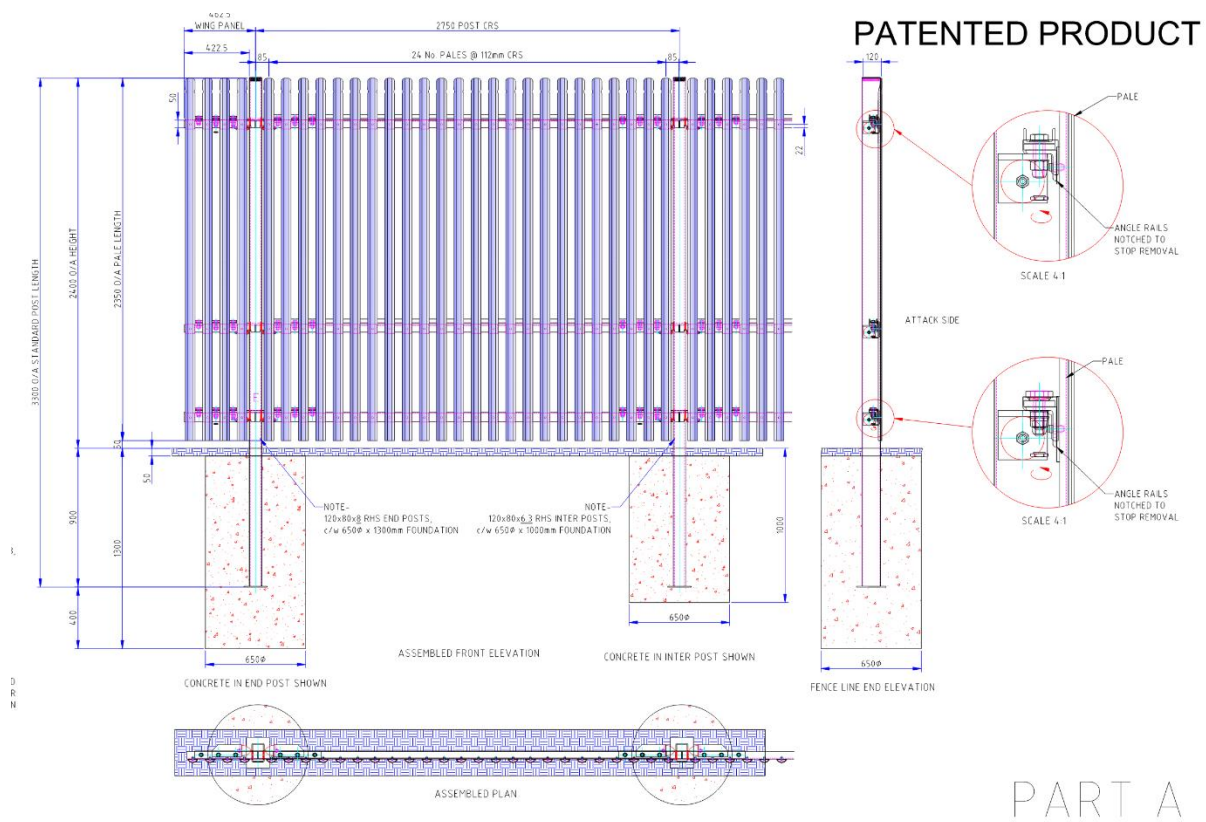


Figure 3. Example of typical fence construction requirements. Source: LCI Consultants.

Earthworks

Information provided to date by LCI Consultants (email 30 September 2024) indicating the maximum depth and indicative areas of earthworks including machinery used is reiterated below.

- A nominal 200mm depth allowance for strip topsoil throughout the site, including a minimum 500mm stripped depth to the existing and proposed building areas has been included in the stripped topsoil calculations only.
- A boxing out of 405mm to the data centre floor slab has been allowed for in the cut and fill calculations in accordance with structural details on drawing vdm-01-001-dr-s-5101.
- A boxing out of 580mm to the data centre generator floor slabs has been allowed for in the cut and fill calculations in accordance with structural details on drawing vdm-01-001-dr-s-5101.
- A boxing out of 550mm (tbc) to water tank and fire pump room/fire tank slabs has been allowed for in the cut and fill calculations in accordance with Structural details on drawings vdm-01-001-dr-s-1107 and vdm-01-001-dr-s-4100.
- A boxing out of 350mm (tbc) to the Guardhouse slab has been allowed for in the cut and fill calculations in Accordance with structural details on Drawing vdm-01-001-dr-s-4200.
- An assumed boxing out of 350mm to the Endeavour energy control room slab has been allowed for in the cut and fill Calculations. Detail to be confirmed by Others.
- Boxing out to all circulation pavements and concrete hardstands have been Applied in accordance with the pavement Plan details shown on sheet acr-00-xx-dr-c-0002.
- A boxing out of 100mm to all landscaped Areas has been allowed for in the cut and Fill calculations.
- Detailed bulking and cut / fill quantities for footings, underground tanks, Basements, trenching and the like has not Been included in the cut and fill Assessment.
- All topsoil and site-won excavated materials shall be stockpiled on the development site where practical and utilised effectively to encourage appropriate revegetation. Refer to Landscape drawings for details.
- Excess Materials to be disposed or reused off-site to be confirmed by general contractor during construction.
- All disturbed earthworks areas to be stabilised with a minimum 75mm of friable Sandy-loam soil an approved drought -tolerant hydroseed variety.

Machinery to be used will include:

- *Excavator*
- *Backhoe*
- *Bulldozer*
- *Grader*
- *Wheel Tractor Scraper*
- *Trencher*
- *Loader*
- *B Double tipper*
- *Haulage truck*

For the purposes of this assessment, it has been assumed that earthworks will occur across the project area outside of the electricity easement and high biodiversity area to depths exceeding 1.5m in depth.

Infrastructure comprising civil works and utilities servicing

The project works as described by LCI Consultants is iterated below in summary:

The proposed development is known as the Glendenning Road Data Centre and includes the construction and operation of three (3) data centre buildings and associated infrastructure, with a total power consumption of 202.4 MW.

The proposed development seeks consent for the following aspects of development:

§ Site preparation and establishment works including:

- o Bulk earthworks to create proposed site levels;
- o In-ground building services and utility work;
- o Clearance of trees and vegetation within the proposed development extent, where necessary;

§ Construction and operation of three (3) data centre buildings, known as DC01, DC02 and DC03, comprising:

- o A total Gross Floor Area (GFA) of 50,233m² (DC01 – 19,985m², DC02 – 10,263m² and DC03 – 19,985m²);
- o A maximum building height of 45.3m, including five (5) storeys for each building;
- o Three (3) internal substations;
- o A total IT capacity of approximately 193.6MW (DC01 – 79.2MW, DC02 – 35.2MW and DC03 – 79.2MW);

§ Total diesel fuel storage of 2,736,030L within underground bulk fuel storage tanks and generator day tanks;

§ 97 back-up generators across the full development;

§ Installation of evaporative cooling units;

§ External plant and equipment (including water tanks and pump rooms);

§ Three (3) vehicle crossovers to Glendenning Road and internal access roads;

§ Security fencing surrounding the development, including a controlled entry and exit point;

§ 165 on-site car parking spaces (including 6 accessible parking spaces and 12 EV parking spaces);

§ Landscaping across the subject site;

§ Hours of operation being on a 24 hours per day, seven (7) days per week basis.

The proposed works would be constructed in three (3) stages, as follows:

§ Stage 1: The first stage would include the construction of DC01, located at the rear of the subject site. The three existing site buildings would be demolished.

§ Stage 2: The second stage would involve the construction of DC02.

§ Stage 3: The construction of DC03.

2.4 SUMMARY

The proposed activity will involve extensive earthworks and will harm known and likely Aboriginal objects throughout the project area. Further discussion of potential project impacts to Aboriginal archaeological heritage is presented in **Section 9** and **Section 10** of this report.

3 Environmental and Landscape Context

This section provides a summary of the environmental and landscape context of the project area and the surrounding locality including soils, geology, landforms and hydrology, previous land use history and fauna and flora. Understanding the environmental and landscape context is important for understanding the survival of any Aboriginal objects in the archaeological record and to predict landforms that were favourable for Aboriginal occupation.

In accordance with Requirement 2 of the CoP, this section provides a summary of the environmental and landscape context for the project area and the surrounding locality. Understanding the environmental and landscape context is important for understanding the survival of any Aboriginal objects in the archaeological record and in predicting the landforms that were favourable to Aboriginal occupation.

3.1 GEOLOGY AND SOILS

Geology of the project area is mapped as Bringelly Shale within the MinView database (Geological Survey n.d.). The Bringelly Shale is part of the Wianamatta group of sedimentary rocks in the Sydney Basin and consists of shale, carbonaceous claystone, laminate, lithic sandstone and on occasion coal (Australian Geomechanics Society n.d.). Bringelly Shale disintegrates when it comes into extensive contact with water (Australian Geomechanics Society n.d.).

The project area is mapped predominantly within the Blacktown soil landscape with the north-east of the project area in the South Creek Soil landscape (NSW Department of Planning, Industry and Environment n.d.). Soil types present within the project area are Sodosols and some Kurosols.

Sodosol soils are known for having very low agricultural potential with high sodality leading to high erodibility, poor structure and low permeability (Soil Science Australia n.d.). The soils can lead to the post depositional movement of Aboriginal objects if present. Kurosols are highly acidic and therefore can adversely impact the potential of any organic Aboriginal objects (e.g. wooden implements) surviving *in situ*.

Aboriginal objects can be found in all soils and landforms across Australia and are known to be preserved in both South Creek and Blacktown soils. The likely frequency of Aboriginal objects preserved in these soils varies based on landform, topography, distance from water and degree of past land use and disturbance.

South Creek alluvial soils can be deeply layered sands, silts and clays overlying bedrock or relict soils. They are known to have a high potential to contain Aboriginal objects and are characterised by floodplain landforms, subject to inundation, erosion and aggradation events. These events affect the archaeological integrity of Aboriginal objects. Terraces and elevated terrain near watercourses are more likely to retain objects *in situ*.

Blacktown residual soils often retain Aboriginal objects, particularly in the A Horizon soils. These soils tend to be shallower than those found in the South Creek soil landscape.

Geotechnical investigations were completed by AECOM 2023 and Martens 2024 and provided to Virtus Heritage on 25 September 2024. This report provided a preliminary geotechnical model which reviewed the existing ground investigation information to assess the anticipated ground conditions across the site (the current project area) and provides an indication of the degree of impact from past land use and disturbance to original soil profiles that might contain Aboriginal objects.

According to Martens (2024:9), the following profiles exist:

Unit A: Fill comprising silty clay, encountered up to 3.0 m below ground surface level (mbgl). The fill was assessed as typically moderately to well compacted although some weaker layers were present. It is assumed this fill was placed under “uncontrolled” conditions.

Unit B: Alluvial soil encountered in the northern portion of the site, comprising:

Unit B1: Stiff silty clay encountered up to 5.2 mbgl (BH104).

Unit B2: Very stiff silty clay (with hard band / layer at some isolated location), encountered up to 9.0 mbgl (BH102).

The thickness of the alluvium (South Creek soils) increases towards the east. Alluvial soil was not encountered in the southern portion of the site (Blacktown soils).

Unit C: Residual soil comprising:

Unit C1: Stiff silty clay encountered up to approximately 10.5 mbgl (BH102).

Unit C2: Very stiff silty clay (with hard band / layer at some isolated locations), encountered up to 6.0 mbgl (BH104).

Unit C3: Residual hard silty clay, encountered in BH107 up to approximately 2.5 mbgl.

A thin layer of soft silty clay was encountered just below groundwater level, (below 9.0 mbgl), in the north eastern portion of the site (BH102). We infer that seepage of groundwater from the nearby creek has likely reduced the strength of the soil at this level. Residual soil was not encountered in BH108.

Unit D: Weathered shale / laminite, encountered from between 1.3 mbgl and 11.4 mbgl, typically comprises:

Unit D1: Class V shale / laminite, encountered up to 10.4 mbgl.

Unit D2: Class IV shale / laminite, encountered up to 12.2 mbgl.

Unit D3: Class III shale / laminite, encountered up to 13.82 mbgl.

The distributions of boreholes and soil profiles are presented in **Table 3** and

Figure 4. Distribution of geotechnical investigations across the project area.

CTP testing undertaken by AECOM (2023), indicate topsoil survival to depths around 0.5m at CTP15 on the southern boundary within the Blacktown soils. This area is associated with known Aboriginal objects and retains archaeological potential.

The test pit and borehole data indicate the absence of original A horizon soils, with residual B1–C3 stiff silty clay alluvium and residual soil units surviving ~1.3–3m below imported fills across the majority of the project area (Martens 2024). Alluvium has been identified on the site to depth of 9m. The alluvium consists of stiff to hard clay with some fine to coarse grained gravel, medium and high plasticity, with moderate to high shrink–swell potential’ (AECOM 2023:18). The high clay content of the project area may have impacted the depositional condition of stone artefacts, if extant, and contributed to movement. If Aboriginal objects have survived north of CTP1 (AECOM 2023, as cited in Martens 2024), these objects are likely to have been significantly displaced through land use, earthworks and imported fill.

Based on the available borehole data, the survival of A horizon soils appears to be limited to the southern boundary within a ridge spur and slope. Artefacts in this area may be on the surface and buried, eroding down slope or displaced by earthworks and past land use.



Figure 4. Distribution of geotechnical investigations across the project area (Martens 2024).

Table 3: Summary of soil profiles (taken from Martens 2024: Table 2, Table 3).

Unit	Layer	Depth mbgl (mAHD)							
		BH101 (34.3 mAHD)	BH102 (33.8 mAHD)	BH103 (34.5 mAHD)	BH106 (33.8 mAHD)	BH107 (33.8 mAHD)	BH108 ¹ (34.7 mAHD)	BH109 ¹ (34.8 mAHD)	BH110 ¹ (33.7 mAHD)
0	Pavement							0-0.15m	0.2m
A	Fill: Silty CLAY	0.0 – 2.10 (34.3 – 32.2)	0.0 – 3.0 (33.8 – 30.8)	0.0 – 1.5 (34.5 – 33.0)	0.0 – 1.5 (33.8 – 32.3)	0.0 – 0.5 (33.8 – 33.3)	0.2 – 1.3 (34.5 – 33.4)	0.15 – 0.8 (34.65 – 34.0)	0.2 – 1.5 (33.5 – 32.2)
B1	Alluvial: Stiff Silty CLAY	-	-	-	-	-	-	-	1.5 – 2.9 (32.2 – 30.8)
B2	Alluvial: Very Stiff Silty CLAY	2.10 – 3.50 (32.2 – 30.8)	3.0 – 9.0 (30.8 – 24.8)	1.5 – 2.5 (33.0 – 32.0)	-	-	-	-	-
C1	Residual: Stiff Silty CLAY	3.50 – 5.0 (30.8 – 29.3)	9.0 – 10.5 (30.8 – 23.3)	-	-	-	-	-	
C2	Residual: Very Stiff Silty CLAY	5.0 – 6.2 (29.3 – 28.1)	-	2.5 – 3.0 (32.0 – 31.5)	1.5 – 4.8 (32.3 – 29.0)	-	-	0.8 – 2.1 (34.0 – 32.7)	2.9 – 4.0 (30.8 – 29.7)
C3	Residual: Hard Silty CLAY	-	-	-	-	0.5 – 2.5	-	-	-

3.2 TOPOGRAPHY, LANDFORMS AND HYDROLOGY

The eSpade database (NSW Department of Planning, Industry and Environment n.d.) provides geomorphic and vegetation data for NSW. This database maps part of the project area within the Blacktown landscape. The topography of this landscape is described as exhibiting local relief of 10–30m and slopes generally <5%. Topsoils in this profile can be moderately deep (<1m); however, these tend to be shallower on hillcrests and slopes. Much of this landscape has been modified by development, however a small portion of ridge spur and slope survive in the southern part of the project area.

A northeast portion of the project area is within the South Creek soil landscape (NSW Department of Planning, Industry and Environment n.d.). This landscape is typically characterised by sloping alluvial plains, occasional terraces, floodplains, valley flats and drainage depressions of the channels on the Cumberland Plain. Similarly, the topography of this landscape is described as exhibiting gentle slopes of <5% and a local relief of <10m. The limitations of this landscape include seasonal waterlogging, permanently high-water tables, surface movement potential, water erosion hazard and flood hazard. Within the project area, the landforms within the South Creek soil landscape have been extensively modified and have included the modification of a spur and drainage line into the level to very gently included landform present today. This modified landform appears to be between 1 and 3m above the original terrain mapped in digital elevation models prior 1990. The western portion of the project area contains existing commercial infrastructure including buildings and car parks and associated infrastructure.

The project area is located approximately 150m to the west of Eastern Creek. Aerial imagery from the 1950s indicate tributaries to Eastern Creek were originally present within the north-east corner of the project area prior to the creek line being modified to flow to the north of the project area and to the east. Areas within 200m of a water source are within a sensitive landform under the Due Diligence CoP. The Eastern Creek is part of the Hawkesbury–Nepean Catchment River system, and feeds into the larger South Creek at a confluence approximately 14 kilometres north of the project area near the suburb of South Windsor. South Creek is a tributary of the Hawkesbury River. Although flooding events may have contributed to the movement and deposition of Aboriginal objects, there is potential for focal material culture relating to Aboriginal occupation to be present within the project area, particularly within the eastern and southern edges of the project area close to Eastern Creek, Nurranginy Reserve and elevated terrain associated with spurs overlooking water sources.

3.3 CLIMATE, FLORA AND FAUNA

The project area falls within the Sydney Bioregion, characterised by warm summer without a dry season.

The project area has been mostly cleared of the woodland and open forest that were once present. Parts of the project area have been revegetated with native flora such as *Casuarina*.

Based on eSpade2 database (NSW Department of Planning, Industry and Environment n.d.) and Mitchell (2002), if original vegetation was intact, it is predicted to contain vegetation communities associated with:

- Grey Box (*Eucalyptus moluccana*)
- Forest Red Gum (*Eucalyptus tereticornis*)
- Narrow-Leaved Ironbark (*Eucalyptus crebra*)
- Thin-Leaved Stringybark (*Eucalyptus eugenioides*)
- Cabbage Gum (*Eucalyptus amplifolia*)
- Broad-Leaved Apple (*Angophora subvelutina*)

With grassy to shrubby understorey, that would have likely been dominated by Australian Boxthorn (*Bursaria spinosa*), Swamp Oak (*Casuarina glauca*) and Paperbark (*Melaleuca sp.*) (Mitchell 2002).

The permanent freshwater creek to the east would have provided suitable habitats for a vast range of amphibians, reptiles and mammals, including platypus, echidnas, water birds, fish species, turtles, frogs, edible bivalves and crustaceans.

The four native vegetation communities within the Northern Nurragingy Reserve (Cumberland Plain Woodland, River Flat Eucalypt Forest, Swamp Oak Floodplain Forest and Riparian herbfield) adjacent to the project area contains 126 plant species naturally occurring and 108 non-Australian species. Native fauna recorded within the reserve include one mollusc species, four frog species, eight reptile species, 98 species and seven mammal species.

Despite the current disturbance to the project area native vegetation, due to urbanisation and historical land activities, the ecosystems outlined above would have provided Aboriginal people access to a range of flora and fauna for food, medicine and other economic uses.

Willowtree (2024:1) has identified that ‘a patch of mature vegetation’ exists along the southern boundary of the project area, which is identified as outstanding biodiversity value’.

3.4 PREVIOUS LAND USE HISTORY

The project area is situated in Dharug land and contains material evidence of past Aboriginal land use through stone artefacts and archaeological deposits. Dharug land use is discussed further in Section 4.

An analysis of historical aerals, maps and photographs was undertaken on images from 1835, 1872, 1929, 1942, 1956, 1965, 1970, 1978, 1986, 1998, 2000, 2005, 2008, 2011 has been undertaken to examine past land use and the extent of disturbance within the project area (refer to **Table 4** and **Figure 5** to **Figure 22**).

The project area has been subject to grazing, orchardry, vegetation clearance, fencing, poultry farming and other agricultural activities, construction of dams, modification of drainage lines, service and utility installation (electricity, water), substantial earthworks and land modification, construction of dwellings and industrial structures. Given these ground disturbances are associated with the project area and its immediate surroundings, it is likely that Aboriginal occupation deposits have been impacted and potentially removed from this history of previous land use, especially in the modified landforms to the north of the remnant low ridgeline and spur.

Table 4. Review of Historical Maps, Photos and Imagery

Year	Land Use Description
1835–1872	The project area is within grazing land of the Rooty Hill Station, which was transferred into the Church and School Corporation by 1829, then put up for sale in 1865. The project area was leased to Edward Weston around the mid-1800s.
1872	The project area fell within land sold to Walter Lamb, a grazier, around ~1872. The description on the parish map of the time notes “Box Forest”. This was later sold to his brother. A subdivision advertisement c.1894 depicts structure located in or near the project area. A ‘cottage’ is depicted on the creek side of Lot 60 (Virtus Heritage 2024: 22). The Lambs were known for grazing and orchardry.
1929	By the early 1920s, Hugh Williams Owen owned Lot 58, Lot 59 and the western portion of Lot 60. By 1929, a marker representing a structure and access way can be seen in the centre of the project area on maps of Glendenning. Probate packages indicated the property comprised a weatherboard cottage, three rooms and kitchen, iron roof, poultry houses, fencing and land clearing (Virtus Heritage 2024: 28)
1942	The earliest aerial photograph of the project site depicts a dwelling and numerous outhouses and sheds, located in Lot 59 and the western portion of Lot 60. An access way can be seen linking the buildings to Glendenning Road. This corresponds with the structure and access way depicted on the 1929 map (Figure 7) and is the property owned by Hugh Williams Owen. There is no visible evidence of a cottage in the eastern portion of Lot 60, which appears unused. Agricultural infrastructure is present including fences,

Year	Land Use Description
	access tracks, plantings, a dams and modified drainage line. Minimal vegetation present within the project area around the eastern and southern perimeters towards Eastern Creek.
1956	A house and agricultural infrastructure is present including fences, access tracks, plantings, a dam and modified drainage line. Further modification and earthworks have occurred. Minimal vegetation present within the project area around the eastern and southern perimeters towards Eastern Creek.
1965	By 1965, a dam has been built in Lot 59 however there appears to be less structures in the cluster of buildings associated with the Owen family. The main structure, which was likely the weatherboard cottage is now not visible. A high-voltage transmission tower has been built in the centre of the eastern portion of Lot 60.
1970	By 1970, the dam and a few sheds are all that remain on lot 58, 59 and 60, alongside the telecommunications tower. Vegetation remains relatively unchanged since the 1940s. Minor fencing changes have occurred.
c.1970	The project area is depicted c.1970 from a slightly different aerial angle. The dam is apparent in the centre of the photo, with a scattering of sheds remaining from the Owen family. The transmission tower can be seen in the back, right-hand corner of the property and Glendenning Road runs along the foreground of the picture.
1978	Towards the end of the 1970s, fewer sheds remain, and the access track appears less prominent, suggesting that the property is not being regularly used as a residence.
1986	Built structures have decreased since 1956. Three structures appear to remain on the site alongside the telecommunications tower and the dam. There is some evidence of material, possible dumping, in the far southeast corner of the project area. Continued increase in urbanisation in the surrounding landscape.
1998	The project area exhibits signs of land clearing and earthworks, including extensive modification of drainage lines on the margins of the project area. Parts of the project area, particularly the southern and western parameters, appear unchanged from 1956. Increased urbanisation can be identified within the surrounding landscape.
2000	Construction works have commenced in the project area. with the creation of new access tracks and earthworks associated with the construction of warehouse structures. Vegetation has covered some areas that have previously been cleared. Subsequent to this historical aerial, Kohen (2001) completed a site inspection, obtained an AHIP for investigations and undertook partial archaeological salvage.
March 2005	In this year, Jo McDonald (2005) completed an archaeological assessment of the project area for Transmit Management Pty Ltd for a warehouse development.
2005	The project area appears to have been subject to extensive earthworks and almost cleared in full, the exception of the southern boundary. Commercial infrastructure has also been established on the project area. Vegetation is only present along the southern boundary and minimally long the eastern boundary of the project area.
2008	Photos from Brown (2008) archaeological survey of a proposed transmission line upgrade shows the degree of earthworks across the project area.
2011	The current warehouses on the site have been constructed, with concrete carparks and surfaces. The eastern part of the project area appears to have experienced further earthworks and vegetation loss. Additional road works have occurred along Woodstock Avenue

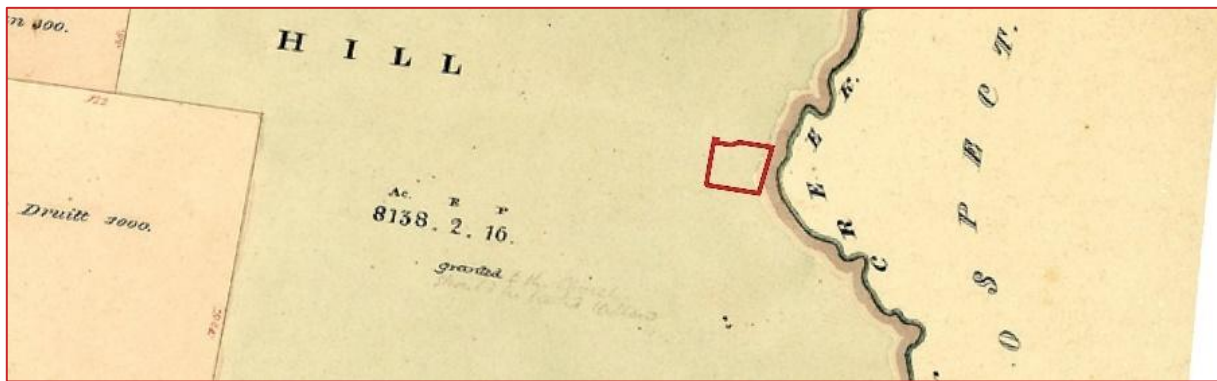


Figure 5. Project area defined in red on 1835 map of Rooty Hill government stock farm which had been reduced in size and transferred to the Church and School Corporation by 1829 (light green area). Base map: Historical Land Records Viewer, Parish of Rooty Hill, 1835, Sheet:1.



Figure 6. Crown Plan showing the 165-acre allotment purchased by Walter Lamb in 1872, which encompasses the project area (shown in red). It was one of many allotments in the area taken up by Lamb for his pastoral pursuits. Base map: NSW Land Registry Service, Crown Plan 51-2030, Dec. 1871.



Figure 7. 1929 Blacktown map showing a dwelling and access way in the centre of the project area, defined in red. This was the weatherboard cottage and poultry sheds owned by Hugh Owen. Source: Australian Section Imperial General Staff, Australia 1:63360, 1929.



Figure 8. 1942 Historic Aerial



Figure 9. 1956 Historical Aerial.



Figure 10. 1965 Historical Aerial.



Figure 11. 1970 Historical Aerial.

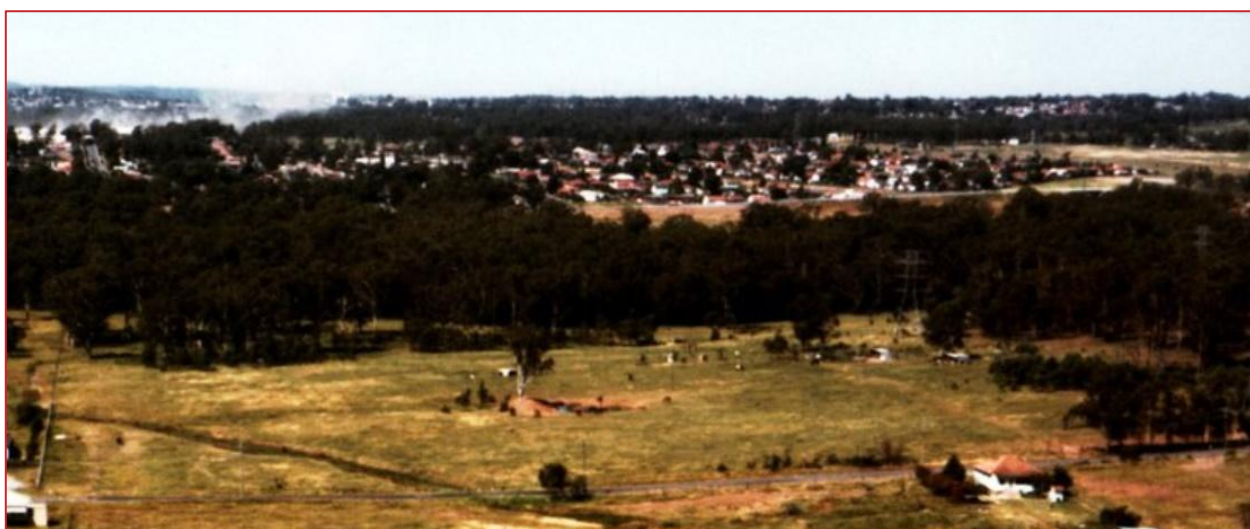


Figure 12. c.1970 Historic Aerial. Source: Blacktown City Council. Reference No.: 014211.



Figure 13. 1978 Historical Aerial



Figure 14. 1986 Historical Aerial.



Figure 15. 1998 Historical Aerial.



Figure 16. 2000 Historical Aerial.



Figure 17. View looking west from the break of slope of the low ridge line on the southern boundary of the project area (Source: Jo McDonald 2005: 12). The slope and electricity easement has been substantially modified since this date.



Figure 18. View looking east across the southern boundary of the project area, looking NE across area identified by Jo McDonald as a PAD, with transmission line and eastern creek in the background (Source: Jo McDonald 2005: 12). This terrain has been substantially altered.



Figure 19. The culvert and land depicted above in 2005 now contains a water retention basin and warehouse (Jo McDonald 2005: 13)



Figure 20. 2005 Historical Aerial.



Figure 21. The project area, looking west and north-east (Source; Brown 2008: 37). The warehouse assessed by Jo McDonald (2005) has been constructed.



Figure 22. 2011 Historical Aerial.

3.5 SUMMARY

The project area once contained a low ridge line and spur with gentle slopes, characteristic of the Blacktown residual and South Creek alluvial soil landscapes. Drainage lines within the project area once flowed from its slopes to tributaries of and to Eastern Creek, which is located 150m east of the project area. The permanent freshwater creek and the vegetation groups of the project area would have provided suitable habitats for a vast range of plant and animal species. The project area is situated in a landscape known to have been occupied by Dharug people and contains Aboriginal objects.

This landscape has however, been extensively modified through grazing, orchards, vegetation clearance, fencing, poultry farming and other agricultural activities, construction of dams, modification of drainage lines, service and utility installation (electricity, water), substantial earthworks and land modification, construction of dwellings and industrial structures. The project area is also susceptible to flooding and surface movement.

If Aboriginal occupation deposits were present in the past they may have been impacted and/or in a secondary depositional context. The land use history has impacted the potential for Aboriginal objects and sites within this cultural landscape to retain stratigraphic or spatial integrity.

Geotechnical test pit and borehole data undertaken by AECOM (2023) and Martens (2024) indicate the absence of original A horizon soils across the majority of the project area, with residual B1-C3 stiff silty clay alluvium and residual soil units surviving ~1.3–3m below fill (Martens 2024). Previous archaeological investigations along the southern part of the project area indicate that fills are a mixture of imported fill and redistributed natural soils in that area (Kohen 2001). No data has been identified which indicates the method of fill placement and removal in the northern part of the project area. Alluvium has been identified on the site to depth of 9m. The alluvium consists of stiff to hard clay with some fine to coarse grained gravel, medium and high plasticity, with moderate to high shrink-swell potential' (AECOM 2023:18). If Aboriginal objects have survived north of CTP1 (AECOM 2023, as cited in Martens 2024), these objects are likely to have been significantly displaced through land use, earthworks and fill.

Based on the available borehole data, the survival of A horizon soils appears to be limited to the southern boundary within a ridge spur and slope. Artefacts in this area may be on the surface and buried, eroding down slope or displaced at varying depths as a result of earthworks and past land use.

4 Archaeological Context

In accordance with Requirement 1a and 1b of the CoP this section presents the archaeological context of the project area and broader region. The purpose of this section is to provide a summary of archaeological sites and previous investigations to establish a baseline for what is known about Aboriginal cultural heritage in the project area. The information presented in this section will inform the archaeological significance of the project area.

4.1 STATUTORY HERITAGE REGISTER SEARCHES

This section of the report provides a summary of the results of relevant statutory heritage register searches.

Native Title Tribunal

A Native Title search was conducted of the National Native Title Tribunal (NNTT) webmap on 13 May 2024 of the Blacktown LGA to identify if any Native Title claims or Indigenous Land Use Agreements exist over the project area. The search did not identify any results for this search area

Aboriginal Heritage Information System (AHIMS)

The Aboriginal Heritage Information Management System is a database of registered Aboriginal sites within NSW, administered by the Department of Premier and Cabinet (DPC). This database has a number of limitations in that it can often reflect a pattern of previous development and heritage studies rather than providing a complete picture of Aboriginal occupation and site distribution, is known to contain errors and only provide point based records, rather than necessarily showing the full spatial extent of recorded sites and areas of archaeological sensitivity.

Searches were conducted of the AHIMS register on 27 May 2024 for Aboriginal heritage sites recorded within and in proximity to the project area. The search covered the area datum:

- Datum: GDA, Zone: 56
- Latitude: -33.7702 to -33.7524
- Longitude: 150.8352 to 150.8661

A total of 44 Aboriginal sites and Aboriginal objects were listed within the search area (refer to **Figure 23**, and **Appendix A**). The majority of recorded sites comprised isolated stone artefacts, artefact scatters (75%), Potential Archaeological Deposit (22%). One culturally modified tree was recorded in the search area.

Table 5. Summary of AHIMS Features within the Search Area.

Site Type	Frequency	Percentage
Artefact	33	75%
Potential Archaeological Deposit (PAD)	10	22%
Modified Tree (Carved or Scarred)	1	2%
Total	44	100

Of the 44 sites identified in the search area, six are located within the project area (refer to **Figure 23**) and are described in detail below.

Southeast Plumpton 6 Rooty Hill (45-5-0483)

Southeast Plumpton 6 Rooty Hill (45-5-0483), also referred to as SEP/6, was recorded by Jim Kohen in 1985 in the project area. 16 stone artefacts were identified within a 15m x 5m area parallel with Glendenning Road and just north of Woodstock Avenue. These artefacts included five silcrete cores, a quartzite hammerstone and seven silcrete flakes with retouch or reuse. Kohen interpreted the site as part of a larger site complex extending from Eastern Creek to the ridgetop (refer to **Appendix A**).

The site was illegally impacted ~2000. An AHIP (AHIMS 941) was issued against the site in 2001 and archaeological salvage undertaken (Kohen 2001). Further stone artefacts were recovered as a result of the salvage (**Figure 24**). Kohen (2001) notes that the site was buried during earthworks.

In 2005, Jo McDonald identified additional stone artefacts in the vicinity of South East Plumpton 6 (45-5-0483) and South East Plumpton 5 (45-5-0456) (**Figure 24**).

Subsequent impacts to Southeast Plumpton 6 Rooty Hill (45-5-0483) have reduced its archaeological integrity. It is unclear whether an AHIP was issued subsequent to McDonald's assessment and prior to 2010 to enable the construction of the warehouse in this area.

South East Plumpton 5 (45-5-0456)

South East Plumpton 5 (45-5-0456), also referred to as SEP/5, was recorded by Jim Kohen in 1985 and is located approximately 49m from 45-5-2776, within the vicinity of the project area (refer to **Appendix A**). A total of 60 stone artefacts were identified immediate adjacent to a track (an easterly extension of Woodstock Avenue). This scatter was interpreted as part of complex extending from Eastern Creek up to the top of a low ridge. Kohen identified seven large trees within 200m of this site were identified with having symmetrical flake scars up to 60cm long. The integrity of this site has been impacted by disturbance and development. The AHIMS database has stated this site status as 'valid'.

South East Plumpton 5 (45-5-0456) has had a long history of archaeological recording and impacts, with its interpreted boundaries having changed several times.

- McDonald CHM (1999:1) reported that AHIMS sites has been 'collected and [is] reportedly held at Macquarie University. The culturally modified trees were not relocated McDonald CHM (1999:20). McDonald reported that the track was subsequently bulldozed and widened in the late 1980's, and again upgraded and overlain with an imported sand/sandstone deposit in 1996/7'. It is unclear if these notes relate to the portions of the site within the project area.
- The site was illegally impacted ~2000. An AHIP (AHIMS 941) was issued against the site in 2001 and archaeological salvage undertaken (Kohen 2001). Further stone artefacts were recovered as a result of the salvage.
- Jo McDonald (2001) identified an area of high archaeological sensitivity which encompassed South East Plumpton 5 (45-5-0456) and Glendenning Road 1 (45-5-2776) and immediately adjacent WN1f1 (45-5-2461).
- In 2005, Jo McDonald identified additional stone artefacts in the vicinity of South East Plumpton 6 (45-5-0483) and South East Plumpton 5 (45-5-0456). It is unclear whether an AHIP was issued subsequent to McDonald's assessment and prior to 2010 was issued to enable the construction of the warehouse in this area.
- In 2008, Brown identified an additional eight artefacts in proximity to the transmission tower and attributed these to 45-5-0456. Brown (2008) further identified areas of archaeological potential within the project area on the basis of a 100m buffer around known sites and 150m from Eastern Creek.

Southeast Plumpton 4 (45-5-0474)

Southeast Plumpton 4 (45-5-0474), also referred to as SEP/4, is centred approximately 3.5m south of the project area, parallel to Woodstock Avenue. Fourteen artefacts, including one silcrete core, two chert flakes and three quartz fragments, were identified on a rise 200m west of Eastern Creek and recorded by Jim Kohen in 1985. This scatter was interpreted as part of complex extending from the creek up to the top of a low ridge, incorporating SEP/4, SEP/5 and SEP/6 (refer to **Appendix A**).

This site had already been impacted by earthworks and a transmission line installation. The site was illegally impacted ~2000. An AHIP (AHIMS 941) was issued against the site in 2001 and archaeological salvage undertaken (Kohen 2001). Further stone artefacts were recovered as a result of the salvage. Subsequent impacts to this site have reduced its archaeological integrity. The status of this site is still 'valid', as identified on the AHIMS database.

Brown (2008) further identified areas of archaeological potential, incorporating parts of this site, on the basis of a 100m buffer around known sites and 150m from Eastern Creek (**Figure 24**).

Glendenning Road 1 (45-5-2776)

Glendenning Road 1 (45-5-2776) includes two stone artefacts that were recorded by Navin Officer Heritage Consultants in 2000 along an unformed track, approximately 25m north-east and 8m east respectively of "Tower 26". The artefacts were visible in a small area of exposed ground within the project area (refer to **Appendix A**). The archaeological report for this assessment was not available on AHIMS. The status of this site is 'valid', as identified on the AHIMS database. **Figure 24** maps this site within an area of 'High Archaeological Sensitivity' identified by McDonald CHM (2001:4, Figure 2). Brown (2008) further identified areas of archaeological potential, incorporating this site, on the basis of a 100m buffer around known sites and 150m from Eastern Creek (**Figure 24**).

WNIf1 (45-5-2461)

WNIf1 (45-5-2461) was recorded by Michael Green in 1999 within the project area (**Appendix A**). One silcrete artefact was identified along the margins of a track, half-way down the hillslope towards Eastern Creek approximately 62m from South East Plumpton 5 (45-5-0456) and approximately 57m from WN2 (45-5-2462) at the base of the slope. The status of this site is 'valid', as identified on the AHIMS database. A polygon of an area of 'High Archaeological Sensitivity', which includes this site, was identified by McDonald CHM (2001:4) and is identified in **Figure 24**.

WN2 (45-5-2462)

WN2 (45-5-2462) includes 16 artefacts that were recorded by Michael Green in 1999 within the project area. This site was identified on the alluvial flats at the base of the low ridge the runs out from Woodstock Avenue approximately 50-80m west of Eastern Creek. McDonald CHM (1999:1-2) describes this open artefact scatter as being 'recorded on the alluvial flats immediately south of the fenceline crossing the track'. Like AHIMS 45-5-0456, this site has been impacted by 'bulldozing and subsequent filling' (McDonald CHM 1999:20). Kohen describes these artefacts are 'part of an in situ stratified deposit' (refer to **Appendix A**). However, the extent of disturbances that have impacted this site since Kohen's initial survey reduces the integrity of this deposit. The status of this site is 'valid', as identified on the AHIMS database.

Brown (2008) further identified areas of archaeological potential an area inclusive of this site on the basis of a 100m buffer around known sites and 150m from Eastern Creek.

Table 6 provides additional information on AHIMS sites that are not within the project area, but are within proximity include (refer to **Figure 23, Appendix A**).

Table 6. Additional AHIMS sites in Proximity to the Project Area.

AHIMS site	Additional information
South East Plumpton 6.5 (45-5-2777)	An artefact site that has been 'Partially Destroyed' located approximately 53m west of project area. This site card is not available on AHIMS. No additional information regarding this site has been identified during background research for this project.
Sept1000/B (45-5-3105)	This site was recorded as an 'Isolated Find' in 2000. The site is 'Valid' according to the AHIMS database and is located approximately 100m west of project area. The site card state 'Both the literature review and the field inspection indicated that the areas in which the two isolated artefacts were located had been subject to fill placement and compaction' (refer to Appendix A). Reports referenced in the site card were unable to identified or obtained. Through analysis of historical aerals and the site card, it appears industrial development and urbanisation has impacted this site.
Sept2000/A (45-5-3104)	This site was recorded as an 'Isolated Find' in conjunction with AHIMS site 45-5-3105 in 2000 and is located approximately 106m from the project area. Reports referenced in the site card were unable to be identified or obtained. Through the analysis of historical aerals and the site card, it appears industrial development and urbanisation has impacted this site.
Southeast Plumpton 3 (45-5-0475)	This site is located approximately 113m east of the project area. This 'open artefact scatter' was recorded in 1985 and has a 'valid' site status on the AHIMS database. 'This scatter appears to be part of a complex extending from the creek up to the top of a low ridge' (refer to Appendix A). Although no polygon or mapped area of archaeological sensitivity was included in this site card, McDonald CHM (2001:4) has identified an area of 'High Archaeological Sensitivity' relating to this site. Figure 24 shows this area in relation to the current project area.
EC132kVPAD01 (45-5-3643)	This site is a potential archaeological deposit located approximately 158m northeast of the project area. The status of this site is 'valid' according to the AHIMS database. The site card has an attached map that highlights an 'Area of Arch Potential'. The current project area is not included in this map. Brown (2008), associated with this site card, identified an area of archaeological potential that extends into the project area.
Glen Trib (45-5-3699)	This site is 's small open campsite situated on south side of a tributary of Eastern Creek' (refer to Appendix A), approximately 205m southwest of the project area. The status of this site is 'valid' according to the AHIMS database. The site card notes the site has been disturbed by 'industrial development', 'rubbish dumping and future' (refer to Appendix A). Additionally, through historical analysis it appears industrial development and urbanisation has impacted this site.
EC132kVPAD 02 (45-5-3644)	This site is a potential archaeological deposit located approximately 254m northeast of the project area. The status of this site is 'valid' according to the AHIMS database, and like 45-5-3643, it is unclear if the mapped 'Area of Arch Potential' extends into the current project area.

Figure 24 depicts the areas of archaeological potential and sensitivity identified in AHIMS and reports in AHIMS associated with the recorded sites (refer to McDonald CHM 2001:4, Brown 2008:20). These include an area of high archaeological sensitivity including parts of 45-5-2776 and 45-5-0456 and appears to have been defined by the presence of remnant vegetation and artefact distribution (McDonald CHM

2001:4) and an area of “archaeological potential” defined by Brown (2008) on the basis of “100m from known sites” and “150m from Eastern Creek” as sensitive landscape features.

Figure 24 is pivotal in understanding the archaeological potential and formulating the predictive model for this project (refer to **Section 6** for the predictive model).

Figure 23. AHIMS Site Search Results.

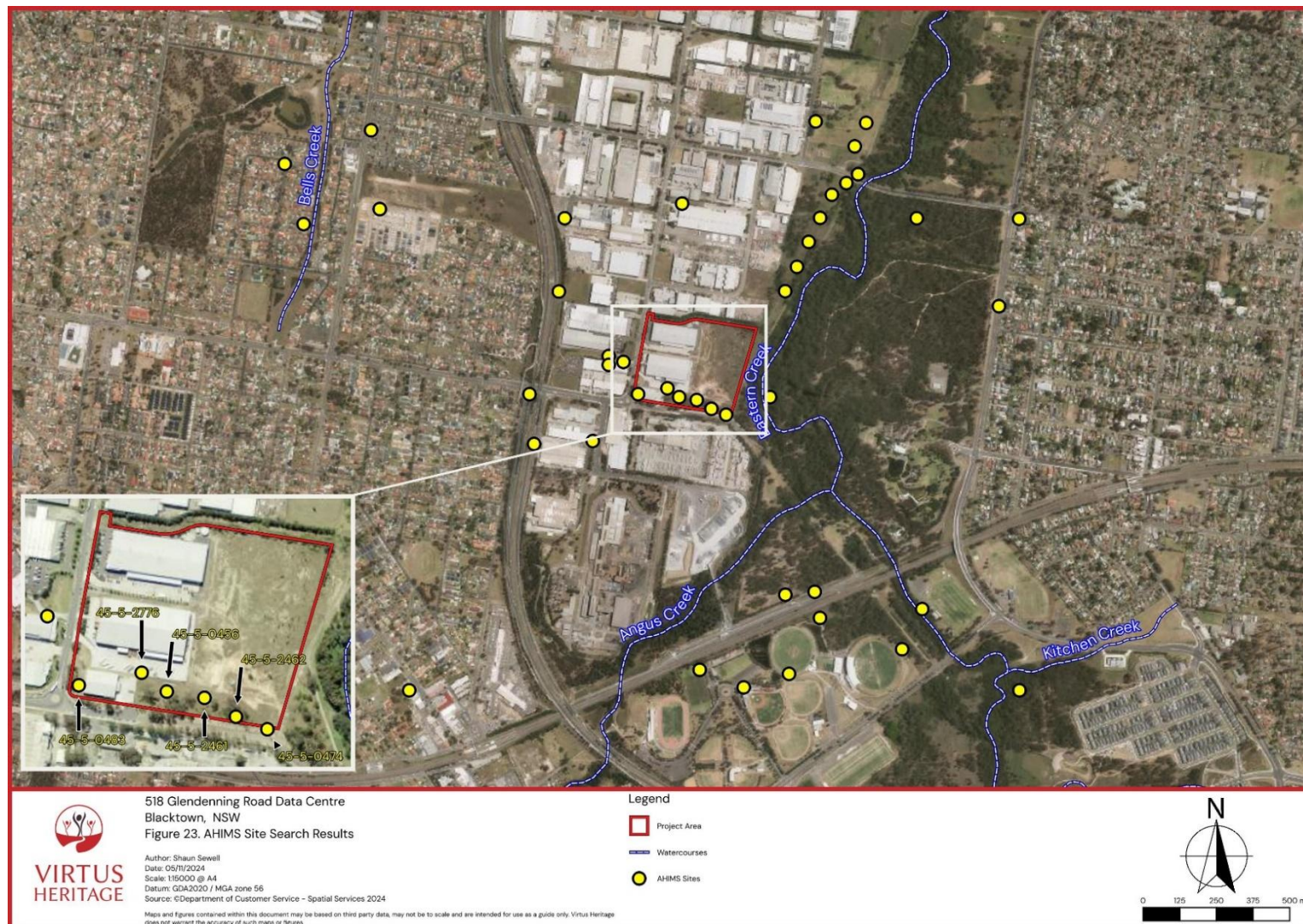
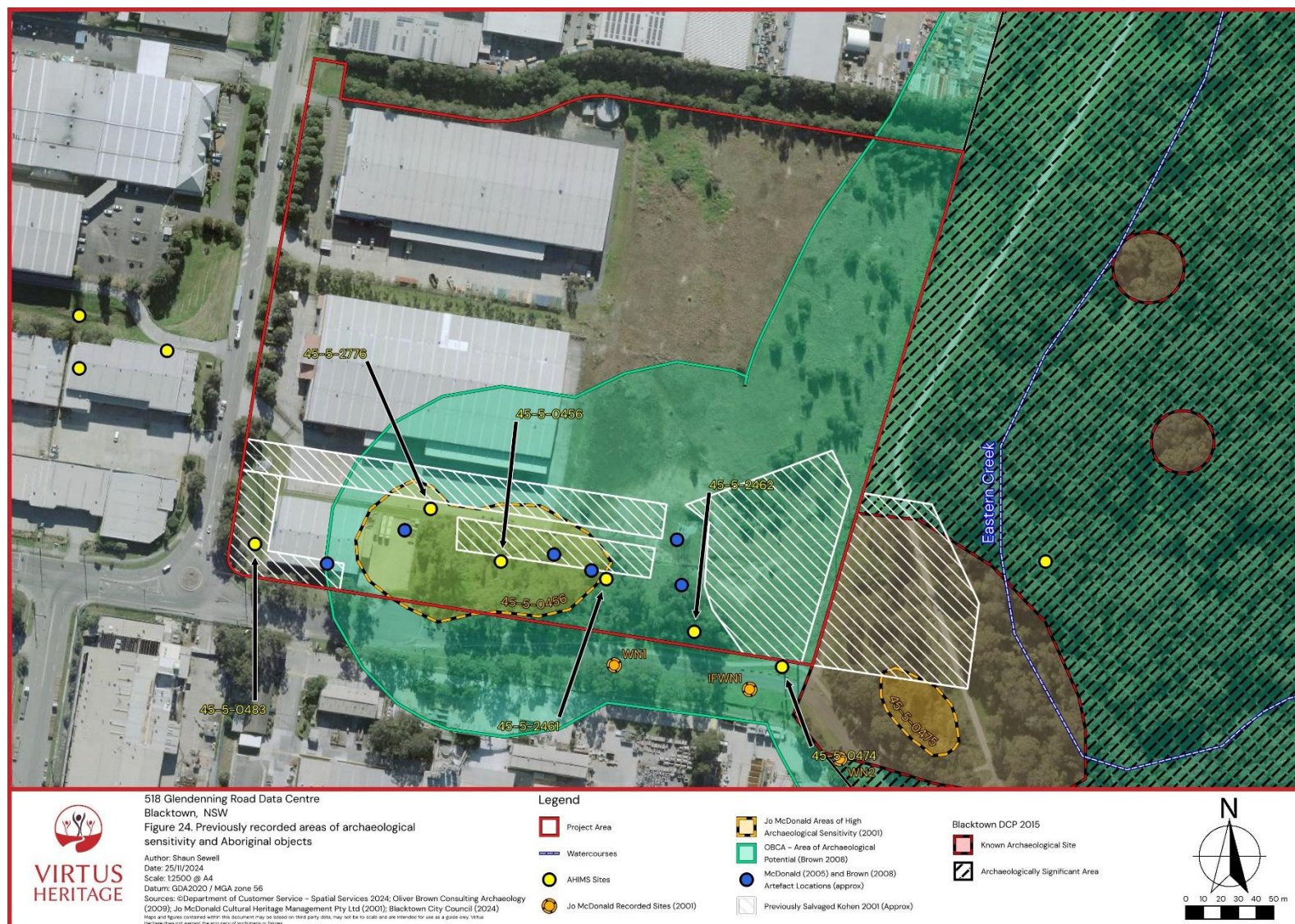


Figure 24. Previously Recorded Areas of Archaeological Potential and Aboriginal Objects in the Project Area.



Other Searches of Heritage Database

Table 7. Other Statutory Searches of Heritage Databases for the Project Area.

Heritage Database	About the Database	Search Area (LGA for example) and Search Date	Results of the Search
Australian Heritage Database	The Australian Heritage Database (AHD) is a Commonwealth administered heritage database that includes entries from the former Register of the National Estate and the current Commonwealth and National Heritage Lists.	This database was searched on 13 May 2024 for all Indigenous heritage items within the Blacktown Local Government Area.	There were 20 results for heritage items within Blacktown, none of which are within the project area.
State Heritage Inventory and State Heritage Register	The State Heritage Inventory (SHI) is a heritage database administered by the Heritage NSW (Department of Premier & Cabinet). This database includes heritage listings from local and regional planning instruments and heritage studies and State significant heritage items. Information and items listed in the State Heritage Inventory come from a number of sources. This means that there may be several entries for the same heritage item in the database. Search results are divided into three sections.	A search of the SHI was conducted on 13 May 2024 for all heritage items within the Blacktown Local Government Area.	The results were as follows:
	Section 1: Aboriginal Places – declared by the Minister for the Environment under the National Parks and Wildlife Act. This information is provided by Heritage NSW.	Section 1 Aboriginal places results: No Aboriginal places were listed within the Blacktown LGA.	No Aboriginal places are located in the project area.
	Section 2: State Heritage Register items – listed by the Heritage Council of NSW under the Heritage Act and includes items listed in Interim Heritage Orders. This information is provided by Heritage NSW.	Section 2 State Heritage Register items results: There are 23 Items under the NSW Heritage Act within the Blacktown LGA.	None of the items are located within the project area.
	Section 3: Heritage items – listed by local councils on Local Environmental Plans under the Environmental Planning and Assessment Act, and State government agencies under s.170 of the Heritage Act. This information is provided by local	Section 3 LEP items results: There are 191 Items listed within the Blacktown LGA.	None of the items are located within the project area.

Heritage Database	About the Database	Search Area (LGA for example) and Search Date	Results of the Search
	councils and State government agencies.		
Blacktown LEP, 2015	The Blacktown Local Environmental Plan (LEP) is a planning instrument administered by the City of Blacktown Council, which contains provisions and listings of items of environmental heritage including heritage, conservation areas and archaeological sites within Schedule 5.	The LEP was searched on 15 May 2024. The Blacktown LEP listed 117 Heritage items, none are within Glendenning. An additional 6 Archaeological sites are listed, none are within Glendenning.	None of the listed Heritage Items and conservation areas are within the project area. The relevant development control plan (DCP) for the project area is the Blacktown DCP 2015 (BDCP), which shows an 'Archaeologically Significant Area' outside of the project area (Figure 25) Blacktown LEP online mapping further shows a Proposed Object, DCP 2006 Amendment 3 – Map 13 which shows a proposed area of archaeological potential (Figure 27).
Indigenous Land Use Agreement (ILUA)	An ILUA is a voluntary agreement between Native Title parties and other people or bodies about the use and management of areas of land and/or waters. An ILUA can be made over areas where Native Title has been determined to exist.	A search of the Indigenous Land Use Agreement register was conducted on 15 May 2024. The search found no ILUAs in the project area.	
Aboriginal Heritage Impact Permit List	A search of the AHIP Public Register 2023–24 was conducted on 15 May 2024.	No Aboriginal Places were identified within the AHIMS extensive search area. There are no known Aboriginal Places within or in the vicinity of the project area.	
UNESCO World Heritage List	World Heritage Sites are cultural and/or natural sites considered to be of 'Outstanding Universal Value', which have been inscribed on the World Heritage List by the World Heritage Committee. These places are thought to have special importance for	A search of the UNESCO World Heritage List was conducted on 15 May 2024. The search found no heritage items located within or within proximity to the project area.	

Heritage Database	About the Database	Search Area (LGA for example) and Search Date	Results of the Search
	everyone and are listed to be protected for future generations.		
Aboriginal Places	A declared Aboriginal Place (as defined under the National Parks and Wildlife Act) that may or may not contain Aboriginal objects.	No Aboriginal Places were identified within the AHIMS extensive search area. There are no known Aboriginal Places within or in the vicinity of the project area.	

Blacktown DCP 2015

The relevant development control plan (DCP) for the project area is the Blacktown DCP 2015 (BDCP).

The BDCP identifies an 'Archaeologically Significant Area', which primarily refers to Aboriginal archaeology. BDCP (2015:25). This is shown in **Figure 25**.

The BDCP's 'Archaeologically Significant Area' follows the parameters of the 'Area of Archaeological Potential' (discussed above and illustrated in **Figure 24**) and appears to utilise the previous work of McDonald (CHM 2001:4, Figure 2). Registered AHIMS site 45-5-0475 (Southeast Plumpton 3) is associated with the 'Known Archaeological Site' (refer to **Figure 25**). This site was registered in 1985 as an open artefact scatter (refer to **Appendix A**). Archaeological salvage undertaken by Kohen (2001) also occurred in this area. No additional registered AHIMS sites are associated with the BDCP 2015's 'Known Archaeological Site', none are mapped within the project area. The BDCP (2015) does not identify any sites or areas of archaeological significance within the project area.

Blacktown LEP online mapping further shows a Proposed Object, DCP 2006 Amendment 3 – Map 13 which shows a proposed area of archaeological potential that coincides approximately with the low ridge line and spur and previously registered sites (**Figure 24**). This area does not appear to have been incorporated into the DCP 2015.

Section 4 of the BDCP notes that in areas that have been "substantially developed" highly significant archaeological sites are still found, and Aboriginal objects with archaeological significance, and that the provisions of the National Parks and Wildlife Act, 1974, and 2010 amendments still apply and must be met by proponents.

Figure 25. Archaeologically Significant Area as specified in the Blacktown DCP 2015.



4.2 PREVIOUS ARCHAEOLOGICAL RESEARCH

A review of the AHIMS library and online searches was undertaken to obtain copies of previous Aboriginal heritage studies and archaeological investigations within the locality of the project area. **Table 8** below summarises some of the key previous archaeological research undertaken within the project area. **Table 9** summarises archaeological research in the broader locality that was consulted for this assessment.

Table 8. Previous Archaeological Investigations within the Project Area.

Notes	Relevance of Findings to the Project Area
Kohen, 1985, 1989 Archaeological Survey of the project area and larger industrial estate, South East Plumpton/4 (45-5-O474), South East Plumpton 5 (45-5-O456) and South East Plumpton (45-5-O483) were identified in the project area. A second study was undertaken to assessment undertaken by Kohen in 1989, indicated that these sites had had 'significant disturbance'.	A total of 131 stone artefacts were recovered from the project area, 33 from 26 of the 50, 5 m intervals adjacent SEP 4 and SEP 6, seven from south south-western corner of the property, 12 from the western soil stockpile adjacent SEP/5, 52 artefacts from the bulldozed areas near the western end of the site and 34 from the stockpile outside the project area within the BDCP area of archaeological sensitivity. Artefacts were manufactures of silcrete, quartzite, chert, quartzite, hornfels and basalt. Artefact types included elouera adze flakes, microliths, blade cores, bipolar cores, a hammerstone, an edge-ground axe head, retouch and utilised flakes. The distribution of raw material types and artefact types across the site were indicative of different activities occurring different locations.
Haglund 1987 Archaeological survey and assessment of transmission line Laila Haglund undertook an archaeological survey and assessment of a transmission line that intersected the project area. No sites were registered in AHIMS within the project area because of this survey,	
Kohen 1997 Archaeological Survey for development by Transmit Management Ltd Additional artefacts were identified relating to South East Plumpton/4 (45-5-O474), South East Plumpton 5 (45-5-O456) and South East Plumpton (45-5-O483) and consultation undertaken with Deerubbin LALC and Darug Tribal Aboriginal Corporation. Subsequently Development was initiated without the issue of an AHIP.	Kohen identifies the ridgeline as a focal point of Aboriginal occupation a possible source of silcrete, with outcrops of silcrete along the eastern extension of Woodstock Avenue. Kohen reported unmodified pebbles and fragments of silcrete were also observed in the project area and interprets the assemblage as demonstrating trade links along the Nepean River. No artefacts were identified outside the collection areas and previously recorded sites. The previous assessments demonstrate the high archaeological potential and archaeological significance of Aboriginal objects within the project area, particularly along intact soils on the southern boundary as well as the potential for further stone artefacts to be present within the transmission line easement and within fill associated with the development. SEP/6 (45-5-O483)
Kohen 2000 Archaeological survey After Deerubbin LALC and DTAC identified the breach of the NPW Act. SEP4 and SEP5 were found to have been grossly impacted. An Aboriginal Heritage Assessment and Management Plan was undertaken and a consent to destroy South East Plumpton/4 (45-5-O474), South East Plumpton 5 (45-5-O456) and South East Plumpton (45-5-O483) with salvage of artefacts was lodged and approved with NPWS. No spatial information is recorded in DCCEEW's Aboriginal Heritage Impact Permit GIS dataset or public register for this site.	
Kohen and Knight 2001 Archaeological survey of the proposed subdivision Lot 12 DP 844530, Cnr of Woodstock Avenue and Glendenning Road, Glendenning NSW Part of the project area was assessed by Kohen and Knight during their survey of the proposed subdivision Lot 12 DP 844530, Cnr of Woodstock Avenue and Glendenning Road.	
Kohen 2001 Report on Consent to Destroy with Salvage Sites SEP/4, SEP5, SEP6, Cnr of Woodstock Avenue and Glendenning Road, Glendenning. Kohen completed salvage of the three sites with DTAC and provided copies of reports to DCAC and DTAC. Artefacts were observed exposed on the area between the overhead transmission line and the batter north of the transmission line; the two sites, SEP/4 and SEP/6, were covered with soil; stockpiles of soil existed	

Notes	Relevance of Findings to the Project Area
at the eastern and western ends of the study area; and artefacts were observed on the bulldozed area on the eastern end of Kohen's study area. • An east-west transect 250 m long was established between transmission line towers on north side as far as batter, and extending down the slope. Artifacts were collected every 5 m along transect i.e. 0-5m, 5-10m, etc. • An examination of stockpiled earth at the western end of the area, as it was being redistributed, was carried out • Surface collections were undertaken over the bulldozed area at south-eastern end of the site • Surface collections were undertaken in the grassed areas at south-western corner of the study area (site SEP/6 covered over by earthworks) • Monitoring and collection was carried out after spreading of the stockpile of soil at the eastern end of the study area These five areas were the only places artefacts were observed and recovered. In other areas, either there was no surface visibility because no disturbance had taken place, or there were no artefacts present. The establishment of the transect parallel with the overhead transmission line was intended to provide some assessment of the east-west spatial distribution across the area. The other collections were undertaken to recover whatever cultural material was exposed during the destruction of the sites, however sieving of spoil heaps was not undertaken.	may survive below the current landform as Kohen reported it was buried.
Navin Officer Heritage Consultants 2000 Transmission line survey This report was not available in AHIMS, through key term searches via Google or the Major Projects website	The assessment identified Glendenning Road 1 (AHIMS 45-2776).
Sinclair Knight Mertz 2001 Archaeological investigations and testing for the Western Sydney Orbital Also: • Proposed Western Sydney orbital, Summary of the EIS • Draft RTA Response to NPWS for the Western Sydney Orbital • Report on the Archaeological sub-surface testing within the Western Sydney Orbital Alignment	No additional Aboriginal objects were recorded within the project area, because of these assessments.
Jo McDonald 2005 Archaeological assessment undertaken for Transmit Management Pty Ltd development of a small warehouse on the intersection of Woodstock Avenue and Glendenning Road Jo McDonald undertook archaeological survey of the low ridge on the southern boundary of the project area. Five additional locations of stone artefacts were identified, this occurring after the Kohen (2001) salvage, some occurring within the location of the proposed warehouse. Visibility was generally low but artefacts were visible wherever exposures occurred. These deposits were assessed as having high archaeological potential and sensitivity with the potential for intact deposits. Subsurface archaeological investigation and an Aboriginal Heritage Impact Permit was recommended for the site.	Five additional stone artefacts were recorded in the project area. No spatial information is recorded in DCCEEW's Aboriginal Heritage Impact Permit GIS dataset or public register for the warehouse area. If an AHIP was issued over this area, it was likely prior to 2010. This assessment demonstrates that despite archaeological salvage and construction activities within the project area associated with the transmission line and works undertaken by Transmit Management Pty Ltd, that stone artefacts have survived within the project area.
Brown 2008 Proposed 132k Feeder power line between Glendenning and Quakers Hill [Total Earth Care] by Oliver Brown	Brown identified additional artefacts within the project area and identified

Notes	Relevance of Findings to the Project Area
Brown completed an archaeological survey immediately adjacent the project area of the transmission line to the east of the project area boundary, Eight stone artefacts were identified in the project area at the base of the electricity tower, EC132kV-1. These artefacts were intended to be registered with AHIMS 45—0456, however, there are no attachments associated with the site card in AHIMS. Leanne Watson (DCAC) suggested that the artefacts have been relocated to the site during the process of the destruction of areas to the north and west during the recent industrial development (Brown 2008: 20) Brown (2008) also mapped as areas of archaeological potential based on a criterion of a 100m buffer on known sites and 150m on Eastern Creek. The recommendation of the report was that the site be avoided.	areas of archaeological potential. The mapped areas of archaeological potential are a high level buffer and require further refinement in consideration of the specific soil and past land use history and disturbance in the project area. This assessment demonstrates that despite archaeological salvage and construction activities within the project area associated with the transmission line and works undertaken by previous land holders, that stone artefacts have survived and been displaced within the project area.

Table 9. Previous Archaeological Investigations within the Project Area

Notes	Relevance of Findings to the Project Area
Dallas. 1985. An Archaeological Survey of North Richmond, NSW Seven sites were identified during this field survey, five of which were axe-grinding sites and two open camp sites. AHIMS site 45-5-0456 is located within the current project area and is mentioned within this report according to the AHIMS database. However, no additional information regarding this site was obtained from this report. This assessment concluded that 'all the sites are located in or along the creek' and 'have been subject to varying degrees of disturbance' (Dallas, 1985:13).	This report was identified within the AHIMS database as report # 947. This assessment is relevant to the project area as it includes a portion of the current project area, within the same geological and soil landscape. Additionally, 45-5-0456 was identified during this assessment and is located within the current project area.
McDonald. 1986. Preliminary Archaeological Reconnaissance of the Proposed Schofields Regional Depot Previous research for this assessment identified Plumpton Ridge as a 'major silcrete outcrop on the Cumberland Plain', which was extensively utilised as a source of raw material (McDonald, 1986:1). AHIMS sites 45-5-0456 and 45-5-0483 are located within the current project area, and 45-5-0474 located approximately 3 metres south of the project area, are identified on the AHIMS database as associated with this report. No additional information is contained within this report. This assessment concluded that 'there was widespread surface archaeological evidence across the entire site, and that in the areas of low or no surface evidence, high proportions of sub-surface artefactual material existed' (McDonald 1986:102). The proposed development for this assessment was recommended not to proceed, and further research was required (McDonald 1986:107).	This report was identified within the AHIMS database as report # 1018. This assessment is relevant as it includes AHIMS sites 45-5-0456, 45-5-0483 located within, and 45-5-0474 located approximately 3 metres from the current project area are associated with this report. Additionally, this report provides further insight into the area of high archaeological sensitivity as mapped in Figure 3 of this report.

Notes	Relevance of Findings to the Project Area
Koettig. 1988. Survey for Aboriginal Sites Along the Proposed Road Between the Great Western Highway and Woodstock Ave, Rooty Hill. Report to the Department of Main Roads. AHIMS site 45-5-0747 is mentioned within this report and is located approximately 354m west of the current project area. This report found that 'the highest site densities are around swampy/marshy areas', and that '50% of sites are within 50m of a creekline' (Koettig, 1988:4).	This report was identified within the AHIMS database as report # 1547. This assessment is significant as it offers deeper insight into the environmental landscape immediately surrounding the project area.
Donlon 1988 Archaeological survey and monitoring of proposed Factory site at Plumpton Donlon undertook archaeological survey and monitoring of a factory area to the north of the project area. The study area was described as prone to flooding. The brown, yellow loam topsoil, interpreted by Donlon to have already been impacted by market gardens, was removed down to basal clays in this area. A yellow silcrete stone artefact was identified with consultation with Mr Gary Williams of the Western Metropolitan Regional Land Council.	The survey identified additional sites within the local area and contributes to an understanding of the archaeological model.
Crew. 1992. Aboriginal Site Survey Eastern Creek Open Space Corridor, Doonside NSW. Report to NSW Department of Planning, Sydney West Office. AHIMS site 45-1-0221 is identified within this report and is located approximately 738m from the current project area. This assessment identified 13 open campsites, with 'at least two of these sites... indicate the potential for sub-surface material to be located on the floodplain' (Crew, 1992:1). Additionally, this report states that 'it is clear from previous investigations that Eastern Creek is an area of high archaeological significance' (Crew, 1992:9).	This report was identified within the AHIMS database as report # 2440. This assessment is important as it offers a comprehensive insight into the landscape and landforms of the wider landscape surrounding the current project area.
Robynne Mills Archaeological and Heritage Services. 1997. An Aboriginal Heritage Study for the Olympic Softball Venue and Aquilina Reserve, Blacktown. Three open campsites were identified during the survey for this assessment. Of these sites, EC-OS-2 (45-5-2432) is located approximately 880 metres south of the current project area, and EX-OS-3 (45-5-2431) is approximately 997 metres southeast of the current project area. Both sites were identified within highly disturbed contexts and were assessed as having low archaeological significance. The third open campsite identified during this survey was EC-OS-1. This site name was not identified on the AHIMS Extensive search. Additionally, AHIMS site 45-5-0466 is associated with this report on AHIMS and is located approximately 940 metres southeast of the current project area. No information was provided about this site within this report.	This report was identified within the AHIMS database as report # 4188. This assessment is relevant as it located less than 1 kilometres from the current project area. Although the geology of this assessment is 'characterised by quaternary alluvium deposits derived from Wianamatta Shale', if is located within a flood plain area that 'has been built up over time by deposition from constant flooding from the Eastern Creek' (AHS 1997:6). This location provides further insight into the current project area and the regions impacts from flooding events.
Jo McDonald Cultural Heritage Management 1999. Survey for Prehistoric Archaeological Sites: Proposed Road into Nurranginy Reserve Blacktown, NSW.	This report was identified within the AHIMS database as report # 4600. This assessment is relevant to the project area as it includes a southern portion of the current project area

Notes	Relevance of Findings to the Project Area
This archaeological survey re-located AHIMS site 45-5-0456 which has been identified as 'part of a large open artefact scatter' comprised of 'over 60 artefacts', which were collected and are reportedly held at Macquarie University (McDonald CHM 1999:1). Additionally, during the survey for this assessment, AHIMS sites 45-5-2461 and 45-5-2462 (which are located within the current project area) were recorded. <i>Please note: AHIMS site 45-4-0456 status is 'valid' according to the AHIMS database. This appears to be a discrepancy as this report states the artefacts have been collected and are now held at Macquarie University.</i>	and is within the same geological and soil landscapes as the current project. It was concluded that the sites identified in this study were of moderate to high archaeological potential and sub-surface testing was 'required so as to better assess the significance of this site complex' (McDonald CHM 1999:25).
Jo McDonald Cultural Heritage Management Pty Ltd. 2001. Subsurface Testing for Prehistoric Archaeological Sites: Results of a Field Programme at the Proposed Access Road into Nurragingy Reserve, Blacktown, NSW. This subsurface investigation aimed to map and define the area of archaeological deposit associated with AHIMS site 45-5-0475 with greater accuracy. A total of 640 stone artefacts were recovered during these subsurface investigations. 'The results of these subsurface investigations in Nurragingy Reserve provide the first observations regarding the status of archaeological deposit in an area which has produced observations of surface artefacts since the mid-1980s' (McDonald CHM 2001:2).	This assessment is relevant to the project area as it is located immediately south of the project area, within the same low ridge line and spur landform and discusses sites identified within the AHIMS extensive search for the current project. The predictive model for this assessment identified 'low ridge lines, adjacent to water' as being the known preferred locales for sites within the Cumberland Plains and Blacktown locality (McDonald CHM 2001:12). As the current project area is located within a low relief landscape approximately 150m from Eastern Creek, this supports the predictive model for the current project. This study determined that despite a substantial portion of the site being covering in relocated fill, intact deposits remain subsurface. It was also noted that the proposed works would not 'for the most part impact on archaeological deposits that are either already significantly disturbed or remnants of primary archaeological horizons buried beneath fill' (McDonald CHM 2001:2). Through identifying that archaeological deposits are present within nearby disturbed contexts; this assessment offers a comprehensive insight into the landscapes and landforms in which sites are identified within the region. It highlights a greater potential for archaeological deposits at depths within such disturbed contexts. Additionally, Figure 24 of this report applies McDonald's Figure 2 which mapped previously identified areas of archaeological sensitivity to the current project (McDonald CHM 2001:4, Figure 2). Through the presence of remnant vegetation and recorded AHIMS site distribution, this figure highlights that a southern portion of the current project area is of high archaeological sensitivity. This information is crucial for developing an understanding of the archaeological landscape and for the creation of a predictive model.
Banksia Heritage and Archaeology. 2005. The Blacktown Native Institution, Plumpton: Archaeological Monitoring Report.	The assessment is relevant as it is located approximately 2.8km from the current project area. Additionally, this report provides additional insight into the national, state and local significance of the Blacktown Native Institution.

Notes	Relevance of Findings to the Project Area
This report details the results of the salvage and cultural excavations undertaken in association with a drain expansion on the site of the Blacktown Native Institution. No tangible Aboriginal sites or objects were recovered during this assessment. Large quantities of Plumpton silcrete were identified, however it was determined to be 'part of the natural distribution of this material, which outcrops to the north'.	
Andrew Knight. 2006. Archaeological Report: Stage 4 of the Assessment Process Including Monitoring of Surface Stripping and the Salvage of Cultural Materials. Eight stone artefacts, comprising of 3 flakes, 2 manuports and 2 'nondescript lithic fragments' were located within Knight's project area (Knight 2006:12). These artefacts have been registered as AHIMS site 45-5-2777, which is located approximately 53 metres west of this project area.	This report was identified within the AHIMS database as report # 100446 (Appendix A). This assessment is relevant to the project area as it is located immediately west of this project area, within the same geological and soil landscape as this project.
Navin Officer Heritage Consultants Pty Ltd. 2007. Blacktown Olympic Park Extension, Aboriginal Cultural Heritage Assessment. A Report to Corkery Consulting for Blacktown Council. AHIMS sites 45-5-3419 is mentioned in report and is located approximately 760m southeast from the current project area. This assessment identified six sites during fieldwork, which were comprised of artefact scatters, and associated with PADs. During the consultation for this assessment, it was noted by Dharug Custodian Aboriginal Corporation (DCAC) that: 'In this area the population was high due to the proximity of the Native Institute and the Maria Lock land grant it had been documented that large families stayed in this area as is already shown in the materials found. This information is still discussed with our elders that have been told about this area, this area was also an area that was continuously visited by other Aboriginal people due to the high population in this area' (Navin Officer: 2007:20).	This report was identified within the AHIMS database as report # 100842. This assessment is important as it provides comments made by Dharug Custodian Aboriginal Corporation regarding the significance of the site and the connection of the AHIMS sites to the wider community.
Dominic Steele Consulting Archaeology. 2010. Aboriginal Archaeological & Cultural Heritage Impact Assessment. 309-315 Rooty Hill Road North, Plumpton NSW – Proposed Residential Subdivision. AHIMS site 45-5-4060 is related to this report according to the AHIMS database. This site is located approximately 1,360m northwest of project area. One 'definitive' silcrete flake was identified during the site inspection for this assessment (DSCA, 2010:47).	This report was identified within the AHIMS database as report # 102275. This assessment is important as it offers a comprehensive insight into the landscape and landforms of the wider landscape surrounding the current project area. Additionally, this assessment is also within the Wianamatta Shale Group geological landscape.
Dominic Steele Consulting Archaeology. 2015. Aboriginal Archaeological Test Excavation Report. 266 Rooty Hill Road North, Plumpton NSW. AHIP# c0001362. AHIMS site 45-5-4490 is mentioned in this report according to the AHIMS database. This site is located approximately 985m from project area.	This report was identified within the AHIMS database as report # 103720. This assessment is relevant as it provides further insight into the archaeological landscape of the region.

Notes	Relevance of Findings to the Project Area
Test excavation for this assessment recovered four stone artefacts. This 'testing revealed a very low number and density occurrence of Aboriginal objects and/or silcrete materials that may have potentially been brought onto the site by people that were subsequently 'used' and discarded,' (DSCA, 2015:2). Additionally, it was concluded that 'no further archaeological test or salvage excavation of AHIMS #45-5-4490 [was] warranted' (DSCA, 2025:3).	
AMBS Ecology and Heritage. 2017. Blacktown City Council Animal Housing Facility: Aboriginal Cultural Heritage Assessment. Prepared for Blacktown City Council. AHIMS sites 45-5-3648, 45-1-0221, and 45-5-3649 are mentioned in this report according to the AHIMS database. These sites are located approximately 720m, 735m, and 800m from the current project area respectively. 45-1-0221 is located within this assessments study area, while 45-5-3648 and 45-5-3649 are located adjacent to the eastern boundary of this assessments study area.	This report was identified within the AHIMS database as report # 103874. This project is located within the South Creek soil landscape and is situated approximately 130m west of Eastern Creek. This is similar and comparable to the current project area. This assessment is significant as it offers deeper insight into the landscape immediately surrounding the project area.
GML Heritage. 2018. Blacktown Native Institution Heritage Impact Statement. AHIMS sites 45-5-4531 (open campsite), 45-5-0486 (open campsite) and 45-5-0398 (Aboriginal Ceremony and Dreaming site) were identified within the study area and were not discussed in depth within this assessment.	The assessment is relevant as it is located approximately 2.8km from the current project area. The Blacktown Native Institution is one of the first known places where Dharug and other First Nations children were forcibly removed from their families and communities and were institutionalised. 'The site is connected to dispossession, desecration due to colonisation, and the implementation of racially based government policies of "protection", assimilation, and removal, which continue to impact Ngurra and Aboriginal people today' (GML Heritage 2018).

4.3 REGIONAL CHARACTER

This section synthesises and discusses the previous archaeological research summarised in **Section 4.1** and **Section 4.2** and the environmental context of the region (presented in **Section 3**), in order to build a picture of the regional character of Aboriginal land use and potential archaeology, assist in predicting the types of sites that may be expected to be present in the project area (presented in **Section 5**), and help inform an analysis (presented in **Section 7**) of the survey results (**Section 6**).

Numerous studies have undertaken previous archaeological research within the project area and region and have been reviewed for this assessment (refer to **Table 8**), to provide a regional archaeological context for Aboriginal occupation.

The archaeological record provides material evidence of First Nations long occupation, while also exhibiting evidence of a culture that is dynamic and has changed through time. The existing archaeological record is constrained to tangible materials that were able to withstand deterioration over time. Consequently, the most common Aboriginal occupation site types are those containing stone artefacts. Through the archaeological analysis of these artefacts, including the raw materials used and the manufacturing techniques applied can be indicative of changes in social behaviour and organisation over time.

The earliest evidence for Aboriginal people in the Sydney region is from approximately 36,000 years ago from a site located along the Hawkesbury–Nepean River (McDonald & Williams 2021). Late Pleistocene/early

Holocene occupation of the region is evidenced by radiometric dates from both coastal and hinterland sites (Attenbrow 2010 as referenced in AECOM 2019).

Approximately 14,000 years ago, the 'large ice sheets that characterised the glacial period began to melt rapidly' (McDonald & Williams 2021). By approximately 9,000 years ago, the Australian sea level rose from 125 metres below to the current sea level. This resulted in the 'inundation of more than 2 million square kilometres' forcing occupation off sections of the Australian continent, including the Sydney Basin (McDonald & Williams 2021). Consequently, there are fewer sites along the southeast of Australia, including Sydney, that date to before this rise in sea level.

On the Cumberland Plain, Aboriginal worked stone is typically represented by locally derived materials, predominantly mudstone, silcrete and quartz. Ground stone hatchets were first identified within the Sydney region's archaeological record approximately 4,000 BP (Attenbrow 2010). From approximately 4,000 to 1,000 BP backed artefacts were observed more frequently within the archaeological record, with tool manufacturing techniques increasing in variety and increased evidence of bipolar flaking (McDonald 2008).

Dominic Steele Consulting Archaeology (2010:35) notes that most Aboriginal archaeological sites recorded in the western Sydney region are 'dated to within the last 2,500 to 3,000 years. Additionally, it was deduced that the early occupation of the Sydney region was 'not intensive nor included large groups of people, and that around 5,000–6,000 years ago (when the sea levels stabilised at the present levels) more intensive use of the landscape by Aboriginal people subsequently began' (Dominic Steele Consulting Archaeology 2010:35).

AECOM (2019:34) highlights that existing archaeological investigations and data for the Cumberland Plain show a tendency for the presence of open artefact sites along watercourses, including terraces, lower slopes, creek banks, and flood and drainage plains. '... assemblage size and complexity tend to vary significantly in relation to stream order and landform, with larger, more complex assemblages concentrated on elevated, low gradient landform elements adjacent to higher order water sources' (AECOM 2019:34).

This is furthered within McDonald (1999:10), who acknowledges the work of Kohen (1986) to state that 'the availability of water was the most important factor influencing the distribution of Aboriginal sites across the landscape'.

Silcrete has been identified widely within the Cumberland Plain as the dominant stone artefact raw material. McDonald (1986:22) states that the Plumpton Ridge 'is well known as an extensive silcrete quarry'. However, it was not confirmed if this quarry was widely used due to a lack of geological thin section analyses.

AMBS (2017) utilise previous archaeological research, including some of the research mentioned above, within the Cumberland Plain to illustrate key trends and formulate a predictive model for Aboriginal occupation patterns and site locations. This includes the follow (AMBS 2017:14–15):

- 'Complex sites are usually located close to permanent water sources'
- 'Site with large numbers of artefacts can occur on ridge tops and hill crests'
- 'Sites situated in alluvial soils retain the potential for stratified deposits'
- 'Artefact scatters are most linked to the close proximity of permanent water sources in areas such as creek and river banks and alluvial flats. Most of these sites are located within 100m of permanent fresh water'
- 'Artefact assemblages generally comprise a small proportion of formal tool types within the majority of assemblages dominated by unretouched flakes and debitage'
- 'Silcrete is the dominant raw material used for tool manufacture... Silcrete sources are located in the north western Cumberland Plain at places such as St Marys, Plumpton Ridge, Marsden Park, Schofields, Riverstone, Deans Park, Llandilo and Ropes Creek'

4.4 SUMMARY

The project area's connection with a low ridge line and spur and proximity to Eastern Creek increases the probability of tangible evidence of Aboriginal occupation to be identified within the project area. This is supported by the presence of previously recorded areas of archaeological potential containing six Aboriginal cultural heritage sites registered in AHIMS. Over 140 Aboriginal objects have previously been recorded within the southern part of the project area, associated with AHIMS registrations:

- South East Plumpton 4 (45-5-0474)
- South East Plumpton 5 (45-5-0456)
- Southeast Plumpton 6 Rooty Hill (45-5-0483)
- Glendenning Road 1 (45-5-2776)
- WN1f1 (45-5-2461)
- WN2 (45-5-2462)

As noted in the BDCP (2015:25) areas that have been "substantially developed", highly significant archaeological sites are still found, and Aboriginal objects with archaeological significance. Additionally, it can be assumed that the most likely site type to occur will be stone artefacts. This is particularly the case within the project area, where subsequent to the issue of AHIP 941 and archaeological salvage undertaken by Kohen (2001), additional stone artefacts were identified within the mapped areas of archaeological potential by Navin Officer Heritage Consultants (2000), McDonald CHM (2001, 2005) and Brown (2008). These additional artefacts were identified in low densities within areas of low, moderate and high disturbance, either visible on the surface or eroding from areas that had been extensively disturbed through earthworks. Parts of Southeast Plumpton 6 Rooty Hill (45-5-0483) may be buried below earthworks.

A diverse range of raw material, stone artefact types and technologies were present within the project area and in excavations immediately adjacent the project area. The distribution of stone artefacts within the project area were indicative of Aboriginal people undertaking a range of different activities across the low ridge and spur landforms. The archaeological values of the Aboriginal sites and objects within the areas of potential have previously been assessed to be of high significance and have played an early and significant role in the development of the current understanding of Aboriginal occupation in the Cumberland Plain.

5 Predictive Model

A predictive model for sites includes both analysis of the most likely site types to occur in a given area and predictions about where in the landscape sites might be likely to be located. The purpose of a predictive model is to “present a model, or series of testable statements, about the nature and distribution of evidence of Aboriginal land use within the project area” (DECCW 2010:10).

The predictive model of Aboriginal site distribution considers the location of previously recorded sites, and the results of assessments undertaken in the area, the availability of raw material and resources and is, by nature, broad in scope. The following summary provides an indication of the likely occurrence of various Aboriginal site types within the project area and surrounds.

With consideration to the environmental context, land use history, previous assessments and research undertaken in proximity to the project area, **Table 10** outlines the archaeological (scientific) predictions that can be made. The types of sites that may be encountered is not exhaustive but indicative of the main types of sites that could reasonably be expected to be identified in NSW.

Table 10 Predictive Model for Aboriginal Occupation within the Project Area.

Site Type/ Material Culture	Description	Relevance to the Project Area and Understanding Potential of Aboriginal occupation
<i>Isolated artefacts and open campsites (artefact scatters)</i>	Isolated artefacts and open camp sites (artefact scatters) are the locations of discarded stone artefacts, often material that has been discarded as part of making stone tools or over frequent episodes of occupation/visitation of an area. These sites are most likely to be found within 200 metres of a water course in well drained alluvial flats, alluvial terraces, lower slopes, and confluences where the landscape has not been heavily modified and on spurs, ridge lines and crests. All of Australia has potential for discarded Aboriginal stone tools unless areas are heavily modified, and soils have been removed. Stone tools have been found out of context in areas of imported fill, quarries, mining emplacement dumps, housing areas and caravan parkas and are often found in eroding A1 soils or any eroding alluvial or colluvial deposits. This site type is the most common site type in Australian and New South Wales, and the most highly recorded evidence of Aboriginal occupation.	Considering the project area’s proximity to Eastern Creek, remnant low ridge and spur, the density of AHIMS registered artefact sites within the AHIMS search area (75%, as shown in Table 5), six previously recorded sites and previous recorded areas of archaeological potential, isolated artefacts and artefact scatters are likely and likely also present within modified areas (as also noted in the BDCP 2015:24–25, McDonald 2005, Brown 2008). Artefacts may be manufactured of predominately silcrete and occasionally quartz, chert, quartzite, hornfels and basalt. Artefact types may include complete and broken flakes, cores, elouera adze flakes, microliths, blade cores, bipolar cores, a hammerstone, an edge-ground axe head, retouch and utilised flakes. The majority of the project area has the potential for stone artefacts. This potential is increased in the high areas of archaeological sensitivity mapped in Figure 24, and in areas where the ground has not been substantially impacted by previous land use history. The southern portion of the project area is the most likely to retain surviving soil profiles and therefore more likely to contain evidence of Aboriginal occupation. Artefacts in this area may be on the surface, buried, eroding down

Site Type/ Material Culture	Description	Relevance to the Project Area and Understanding Potential of Aboriginal occupation
		slope or displaced by earthworks and past land use.
<i>Culturally Modified Trees (Scarred/Carved Trees)</i>	Scarred trees and carved trees contain evidence of scars and carved patterns which can be attributed as having Aboriginal cultural origin. Scarred trees include the removal of bark from the trunk of the tree (usually with a stone axe) to make shields, canoes, implements and other types of items which leave a wound on the tree trunk. Carved tree contains carved patterns on the tree trunk and are often found in association with ceremonial grounds, burials, or cultural sites. Carved trees are a very rare site type.	Culturally modified trees make up 2% of the sites within the AHIMS search area (Table 5). Carved and scarred trees have a low potential to be identified within the project area based on the project areas relative lack of native vegetation, agricultural land use history, urbanisation, consultation to date and the analysis of previous archaeological research and historic aerals.
<i>Middens</i>	Middens usually contain the remains of fish, crustaceans, and molluscs consumed as part of Aboriginal people's diet; however, they may also contain charcoal, stone artefacts, bone, and other types of material used by Aboriginal people. Middens have been used as camp sites and it has been argued that these places have spiritual or ceremonial use. Middens and shell mounds are also known to contain cremated human remains or human burials, particularly in coastal environments. Some middens have also been used as evidence of the early aspects of domiculture. Middens can be sacred sites, with high cultural value. Middens occur within close proximity to freshwater and saltwater sources which have potential to contain mussels, oysters, and other types of edible bivalves. Middens are typically identified within sand dunes, beaches, terraces above watercourses, and inland, near lagoons and water holes.	Midden material may be identified within the project area due to the proximity to (approximately 150m from) Eastern Creek. However, due to the absence of sites containing shell within the AHIMS search area the likelihood of this site being identified within the project area is unlikely. Additionally, shell is less likely to have survived within the project area post deposition as a result of acidic soils and previous ground disturbance
<i>Petroglyphs (Rock Engravings)</i>	Petroglyphs (also referred to as Rock Engravings) are art sites where marks have been made in stone by Aboriginal people (for example, spirit figures, animals, implements and footprints).	Rock shelter sites with art will not be present in the project area based on the absence of suitable geology, previous land use history, previous archaeological research, and consultation to date.
<i>Rock shelter sites with Art and Potential Archaeological Deposit or Archaeological Deposits</i>	Rock shelter sites with art rock overhangs used for shelter by Aboriginal people and where smooth surfaces on the walls of the shelter (sandstone surfaces) are painted with ochres and pigments. Rock shelters with floor deposits are closed sites perfect for Aboriginal occupation and evidence of burials, stone tools and midden material maybe subsurface or extant.	Rock shelter sites with art are not likely to be found in the project area based on the absence of suitable geology, previous land use history, previous archaeological research, and consultation to date.
Aboriginal axe grinding grooves	Aboriginal axe grinding grooves are grooves most often found in sandstone where Aboriginal people have sharpened or manufactured stone axes and other implements and, in some cases, ground seed and grains in the sandstone forming 'bowls'. This site type can occur where suitable geology is present.	Grinding groove sites are not likely to be identified within the project area based on the absence of suitable geology, and consultation to date. However, there is potential for grinding grooves to be associated with Eastern Creek (located

Site Type/ Material Culture	Description	Relevance to the Project Area and Understanding Potential of Aboriginal occupation
		approximately 150m away), albeit outside of the project area.
<i>Stone quarries</i>	Stone quarries for artefact manufacture, are most likely found in areas of exposed bedrock, particularly in silcrete and basalt deposits.	There are no known stone quarries within the project area. Cortical silcrete and chert artefacts and non-diagnostic cortical silcrete angular fragments have previously been recorded in the project area, indicating that silcrete may be naturally occurring or a silcrete source is nearby.
<i>Burial Sites</i>	Burial sites or Aboriginal ancestral remains may be found in a variety of landscapes throughout NSW, although most frequently they are found in middens, sand dunes, lunettes, bordering dunes, river terraces and other sandy or soft sedimentary soils, as well as defined cemeteries or burial grounds, mounds, rockshelters and caves. They may be marked with stones, carved trees, or found in association with other sites such as middens. These sites are rare and have a very special importance to Aboriginal people. There are numerous examples in Australian and NSW of burials being found in highly modified contexts such as Narabeen carpark and foreshore for Narabeen man and underneath houses at Nambucca.	There are no known burial sites within the project area based on Aboriginal consultation to date, previous land use history, preliminary previous archaeological and historical research for this study. This site type is unlikely to be encountered within the project area.
<i>Ceremonial/bora grounds, earthworks and stone arrangements</i>	Ceremonial or Bora grounds, earthworks and stone arrangements are rare site types and sometimes difficult to identify as they are generally low constructions, usually less than a metre high, and may range from being very simple to more elaborate. They are made by the movement and mounding of earth or the arrangement of stones in circular, linear or figurative patterns, cairns and as paths. Bora grounds and stone arrangements are generally found on flat or gently sloping landforms but are known to exist in other contexts (e.g. cairns on hilltops and crests, or stone structures within rockshelters).	There are no known bora grounds or stone arrangements within or in the vicinity of the project area based on Aboriginal consultation to date, AHIMS database search and preliminary previous archaeological and historical research for this study. Stone arrangements and bora grounds are unlikely to survive within the project area due to previous land use history.

Potential Archaeological Deposits refer to soil profiles within landforms which are predicted to contain buried evidence of Aboriginal occupation. This buried evidence is most often stone artefact scatters which survive frequently in the archaeological record and may occur in both primary and secondary depositional environments. Nearly all soil landscapes and landform types in Australia are connected to Aboriginal occupation and have potential to contain evidence of such.

Artefacts are most commonly recorded in A unit soils (topsoils) and at great depth in B unit alluvial deposits. They occur also in other types of B unit subsoils and deposited between the cracks of C unit cracking clays, where artefacts have moved down the soil profile. Evidence of Aboriginal occupation occurs commonly in both natural secondary deposits as well as in many types of disturbed contexts. Due to the large number of environments and soils where artefacts can occur, deposits are considered to have archaeological potential unless the absence of artefacts is anticipated as a result of post-depositional factors. An infographic describing how PAD is identified and defined is found in **Appendix F** of the ACHA.

How archaeological potential is defined and to be assessed in this report is provided in **Table 11**.

Table 11. Definitions of Archaeological Potential.

Archaeological Potential	Definition
Low to Zero	Landforms that have been totally modified and have low to zero potential for any remaining original soil profile or intact archaeological deposits. This category includes existing roads, quarry areas or any area where the original soil profile (topsoil – A horizon) has been stripped and the landform completely modified. This landform may also include areas where there is no intact A horizon soils due to high levels of erosion.
Low	Landforms that may have been utilised by Aboriginal people in the past, but at a lower intensity relative to all surrounding landforms, resulting in a lower artefact density than all surrounding landforms. This category also includes landscape areas of low terrain integrity, where geomorphic processes or human action may have redistributed artefacts from their deposited locations, such as stripping of soil to create levees or excavation to create culverts, dams or bridges, resulting in site disturbance or destruction.
Moderate	Landforms that are predicted to have been utilised by Aboriginal people in the past, but not intensively or repeatedly. There is therefore potential for artefactual deposition, but at a lower frequency and density than in areas of high archaeological potential. This category may also refer to landforms known to be sensitive for higher levels of Aboriginal occupation but where prior ground surface disturbances has decreased the archaeological integrity and potential of finding evidence of Aboriginal occupation (for example, creek confluences, alluvial terraces where stratigraphic integrity may have decreased due to previous land use).
High	Landscape areas predicted to have been intensively or repeatedly utilised by Aboriginal people in the past, such as creek confluences, Pleistocene terraces, floodplains or elevated landforms above major watercourses or floodplains. In these areas, site and artefact density are expected to be higher than the surrounding landscape, and sites in these areas may possibly be more complex. Terrain integrity in these areas may be variable although prior ground surface disturbance should be low or non-existent. An important characteristic of areas of high archaeological potential is the research potential or the capacity of sites to provide valuable information on past Aboriginal land use.

5.1 SUMMARY

The project area has been subject to past land use disturbance, including land clearing, agricultural use and on-going urban development. The project area includes areas previously recorded as archaeological sensitive (refer to **Figure 27**) and is located on a sensitive landform (a remnant low ridge line and spur and within 200m of water), with numerous archaeological and cultural sites, and known to be utilised by Aboriginal people in the past. The previous archaeological research has shown that intact archaeological deposits can occur, even in disturbed contexts (refer to **Table 8**). Despite the past land use history, there is potential for archaeological deposits to occur in the project area, especially at depth if not removed by episodes of cut and fill and erosion, and there is the potential for out of context subsurface Aboriginal objects to be located in most part of the project area, regardless of disturbance as also noted in Section 4.1 of the BDCP (2015:24–25) and the results from McDonald CHM (2001).

6 Survey and Results

This section of the report provides a summary of the survey strategy for fieldwork, methods employed during fieldwork, the survey team and the results of the survey including sites and predictions for archaeological potential.

6.1 SURVEY STRATEGY

The survey strategy involved:

- Division of the entire project area into archaeological survey areas based on landforms, and previous land use history, following classifications and definitions outlined in the requirements of the Due Diligence CoP (DECCW 2010);
- Within each archaeological survey area, recording the different types of surface exposures (e.g. vehicle track, erosion scour), previous land use history and disturbance, natural features (e.g. presence of sandstone), soils, erosion, ground surface visibility, and geomorphic activity following the requirements of the Due Diligence CoP (DECCW 2010) and information or comments provided by Aboriginal parties involved in the survey;
- Completion of an Aboriginal heritage site recording form for each Aboriginal site or Potential Archaeological Deposit identified, which included all information required to fill in an AHIMS site card;
- Recording of any cultural information, information about Aboriginal resources or comments made by Aboriginal parties involved in the field survey on the management or cultural values of the project area; and
- Mapping and recording all archaeological survey areas and all identified Aboriginal sites and/or PADs within the project area using a handheld GPS and a digital camera.

6.2 SITE SURVEY

Fieldwork was conducted as per the project methodology and survey strategy as outlined in **Section 7.1**.

The project area survey was undertaken on Tuesday 17 September 2024 by Virtus Heritage representatives Clare Anderson (Principal Archaeologist) and Lilith Malcolm (Archaeologist). Representatives from Deerubbin LALC and Dharug Custodian Aboriginal Corporation were confirmed to attend the site survey, however, were unable to attend on the day.

An additional site visit was undertaken on Tuesday 1 October 2024 by Kadibulla Khan (Kamilaroi-Yankuntjatjara Working Group), Karan Sidhu (LCI Consultants) and Clare Anderson. Uncle Steve Randall (Deerubbin LALC) also attended site and shared his knowledge of Jo McDonald's work on Woodstock Avenue and the many sites in the local area.

The survey covered the project area with pedestrian survey and targeted areas of exposure and recorded changes in landform elements.

The survey included:

- Coverage of all environmental contexts within the project area;
- Focusing, where possible, on ground surface with higher archaeological visibility;
- Inspection of any mature trees for evidence of Aboriginal scarring;
- Inspection of any stone outcrops for evidence of quarrying; and
- Inspection of any sandstone bedrock for evidence of grinding grooves;
- Attempts to re-identify previously recorded Aboriginal cultural heritage sites and objects;

- Inspection of any areas identified by Registered Aboriginal Parties.

All survey areas and photographs were recorded using standardised recording methods based on CoP requirements.

6.3 SURVEY RESULTS

All six survey areas were surveyed on foot, focussing on the methodology outlined in **Section 7.1**. Descriptions of the results of survey are provided below with summaries of landform and effective survey coverage in **Section 6.3.1** and a summary of Aboriginal objects, sites and areas of archaeological potential identified during the survey in **Section 6.3.2**.

The survey was separated into six survey units including (refer to **Figure 26**):

- Survey Area 1: Existing industrial infrastructure
- Survey Area 2: Northern project area boundary
- Survey Area 3: Land within 200m of Eastern Creek (as shown in **Figure 24**)
- Survey Area 4: Moderately disturbed ridge line and biodiversity zone
- Survey Area 5: Highly disturbed ridge line, spur and slope
- Survey Area 6: Highly disturbed terrain

Figure 26. Survey Areas within the Project Area.



Survey Area 1 Results

Survey Area 1 contains existing industrial infrastructure, including three buildings (including DC02, DC03 and warehouse/hardstand) and associating car parking. There are existing subsurface utilities associated with this infrastructure, including large-scale drainage (see **Figure 27– Figure 28**). Ground surface visibility (GSV) is mostly concealed by concrete and existing buildings. Minimal GSV exists along modified grass surfaces located around the parameters of the buildings and along garden beds (see **Figure 27– Figure 28**). No natural soils were observed within Survey Area 1.

AHIMS site 45-5-2776, an artefact scatter, was previously recorded within this survey area. No Aboriginal objects in Survey Area 1 were observed. The recorded location of this site now comprises built structures and either it has been destroyed, displaced or is located further south in Survey Area 5 (**Figure 29**). The area slightly south of the recorded site within Survey Area 5 was also inspected. No AHIP associated with this site was identified on the AHIMS database during background research. Parts of the survey area was also previously mapped as having archaeological potential. If Aboriginal objects survive in this area, they will most likely have low archaeological integrity due to being displaced by earthworks.



Figure 27. View to east. Inspection of Survey Area 1, showing current industrial buildings and infrastructure.



Figure 28. View to west and east respectively. Inspection of Survey Area 1, showing subsurface utilities and modified landscape between existing industrial buildings.



Figure 29. Recorded location of 45-5-2776

Survey Area 2 Results

Survey Area 2 is comprised of the northern boundary of the project area, following a modified and landscaped drainage channel and sandstone block retaining wall. Infrastructure associated with the existing building includes road base, industrial tanks, large-scale subsurface drainage system, evidence of cut and fill (see **Figure 30** and **Figure 31**). GSV is largely obscured by road base, concrete and overgrown vegetation within this survey area. Small areas of exposure reveal imported inclusions including blue metal, brick, plastic and fill (see **Figure 30** and **Figure 31**).

No Aboriginal objects were identified in this survey area. Due to the level of landform modification, this area has low archaeological integrity and retains a low potential for the presence of archaeological materials.



Figure 30. View to east and north respectively. Inspection of Survey Area 2, showing industrial tank, subsurface drainage associated with industrial infrastructure.



Figure 31. View to north. Inspection of Survey Area 2, showing subsurface drainage and overgrown vegetation surrounding sandstone retaining wall.

Survey Area 3 Results

Survey Area 3 is contained within an 'Area of Archaeological Potential' defined by Brown (2008) and identified through mapping attached to AHIMS site card 45-5-3644 and EC132kVPADs (refer to **Figure 24**, and **Appendix A**). This area follows the eastern boundary of the project area and displays extensive earthworks and disturbance including, past removal of previous drainage line, vegetation removal, vehicle use, and introduced fill to create a modified level landform above the natural terrain. Visible soils contain introduced clays, blue metals, brick and gravels. Additionally, rehabilitation efforts were noted on the eastern slope possibly for stabilisation of the fill slope (see **Figure 32** to **Figure 35**). The fill in this area is described as uncontrolled, and it is not clear whether original soils containing artefacts may be mixed in with fill. Due to its proximity to Eastern Creek, Survey Area 3 is assessed to have moderate archaeological potential (moderate likelihood for Aboriginal objects to be present and low archaeological integrity due to the level and intensity of disturbance on the surface).



Figure 32. View to north west looking up to project area. Inspection of Survey Area 3, showing modified landscape of project area, elevated surface indicating fill deposit.



Figure 33. View to south west and north respectively. Inspection of Survey Area 3, showing overgrown vegetation and modified/elevated surface.



Figure 34. View to south and east respectively. Inspection of Survey Area 3, showing elevated surface/fill and native vegetation (possibly revegetation for erosion control).



Figure 35. View to south and east respectively. Inspection of Survey Area 3, showing vehicle damage, dumped material and overgrown vegetation.

During the additional site inspection, one pink silcrete retouched flake (GDC06) was located within Survey Area 3, approximately 15 metres from previously recorded artefacts (GDC01–GDC05 within Survey Areas 4 and 5 (**Figure 36**, **Figure 37**). This artefact (like GDC01–GDC05) is in proximity to other Aboriginal objects previously associated with 45–5–0456 and 45–5–2462 and has been displaced from its original context by erosion, earthworks or machinery use. It is located within an area that was previously salvaged by Kohen (2001).



Figure 36. Location of stone artefact (GDC06) in proximity to previous recordings for 45-5-0456 and 45-5-2462.



Figure 37. Pink silcrete retouched flake (thumbnail scraper) (GDC06).

Survey Area 4 Results

Survey Area 4 incorporates parts of McDonald CHM (2001) mapped ‘Area of High Archaeological Sensitivity’ (**Figure 24**). This area was defined through artefact distribution, the presence of vegetation and the elevated ridge slope and spur landform and relatively intact soils. It was noted during survey that this area has established vegetation. GSV is limited due to overgrown vegetation and leaf litter. In areas of exposure some inclusions were noted (see **Figure 38**, **Figure 39**). Spoil heaps were noted in an eastern section of this survey area, east of the telecommunications tower.



Figure 38. View to west and south-west respectively. Inspection of Survey Area 4, showing ridge line and established vegetation, leaf litter, and overgrown vegetation.



Figure 39. View to north and west respectively across project area from Survey Area 4.

AHIMS sites 45-2462 and 45-5-2461 were associated with this survey area and were not re-identified during this survey, most likely due to low visibility. A silcrete stone artefact (GDC04) was identified in proximity to 45-5-2462, 45-5-2461, 45-5-0456 and previous stone artefacts recorded by McDonald (2005) in this area and has been attributed to 45-5-0456 to be consistent with Brown (2008). Survey Area 4 retains high archaeological potential (high likelihood of Aboriginal objects with moderate archaeological integrity).



Figure 40. Silcrete stone artefact (GDC04), attributed to 45-5-456.

Survey Area 5 Results

Survey Area 5 holds low archaeological integrity, but a high likelihood for the presence of archaeological material to be identified out of context within this survey area (moderate archaeological potential). This area follows the erosion and disturbance exposures of the ridge spur and slope landform, comparatively to the more intact Survey Area 4. This survey area has sections minimal vegetation coverage, with predominantly small pockets of grass clumps, and an area of overgrown vegetation. Extensive erosion was noted during survey. Imported soil inclusions were present within this area. Spoil heaps were noted in the southwest of this survey area. It includes transmission line towers.



Figure 41. View to west and south respectively. Inspection of Survey Area 5, showing modified landscape.



Figure 42. View to east. Inspection of Survey Area 5, showing subsurface utilities



Figure 43. View to west and east respectively. Inspection of Survey Area 5, showing vehicle disturbance, erosion and GSV.



Figure 44. View to west. Inspection of Survey Area 5 showing vehicle damage, erosion and GSV.

No Aboriginal objects were visible at AHIMS site 45-4-0483, noting that this site is reported to have been buried with surface collection under AHIP 941, after unauthorised impacts. However, four artefacts were identified in Survey Area 5 area (GDC01, GDC02, GDC03, GDC03 and GDC05) in proximity to artefacts previously recorded by Brown (2008) and areas previously salvaged by Kohen (2001). The artefacts have been attributed to 45-5-0456 to be consistent with Brown (2008). These sites are out of context and likely eroded down slope.



Figure 45. View to south and east respectively. Inspection of Survey Area 5 showing existing building and drainage channel and approximate location of 45-50483.



Figure 46. View to south west and west respectively. Inspection of Survey Area 5 at approximate location of 45-5-0483 showing garden bed, introduced soil, fencing and some established vegetation.



Figure 47. View to south and south west respectively. Inspection of Survey Area 5 showing erosion and GSV with flag showing locations of stone artefacts.



Figure 48. View to north west. Inspection of Survey Area 5, showing disturbance, erosion and GSV. Mini rod positioned in location of stone artefact.

Survey Area 6 Results

Survey Area 6 is an area of highly disturbed terrain. Disturbances identified during survey and via background research include vegetation removal, generational agricultural use, imported fill deposits, vehicle damage, subsurface utilities, and illegal dumping (see **Figure 50** to **Figure 52**). No previously recorded sites on the AHIMS database are within this area. No additional sites were identified during survey. This survey area retains low archaeological potential and low integrity.



Figure 49. View to south and north respectively. Inspection of Survey Area 6 showing dumped material, overgrown grass and limited GSV.



Figure 50. View to north and south respectively. Inspection of Survey Area 6 showing subsurface utilities and surface disturbances.



Figure 51. View to north east. Inspection of Survey Area 6, showing imported inclusions, vehicle disturbances, and dumped material.



Figure 52. View to north and west respectively. Inspection of Survey Area 6, showing subsurface utilities, vehicle disturbance and dumped material.

Landforms, Visibility and Effective Coverage

This section presents and discusses the landforms within the project area and the visibility and effective coverage of the survey. This section is required to demonstrate that the survey data provides sufficient evidence for an evaluation of the distribution of objects across the landscape, considering archaeological potential. This information is essential to the assessment process and archaeological management recommendations.

During each transect/survey unit, the area surveyed was recorded (transect length by transect width). The general ground surface visibility and any exposures were also recorded to enable a calculation of survey coverage and effective visibility to be generated. **Table 12** below details the survey coverage and effective visibility for each of the survey units and **Table 13** provides a landform summary.

During the survey, ground surface visibility was at least 40% in exposures, but zero in areas where there was vegetation coverage. The project area is located on landforms which have been modified and impacted by former land use. Depending on the level of disturbance, the project area still has potential for extant evidence of Aboriginal occupation.

Additionally, through the site survey, the previously mapped 'Area of Archaeological Sensitivity' (as seen in **Figure 24**) has been refined. **Figure 53** shows the landforms present within the modified landscape and depicts the updated area of archaeological potential within the project area.

Table 12. Survey Coverage and Effective Visibility.

Survey Unit	Landform	Survey Unit Area (m ²)	Visibility (%)	Visibility (m ²)	Exposure (%)	Effective Coverage Area (m ²)	Effective Coverage (%)
Survey Area 1	Modified landform	42,579	10	4,258	10	426	1
Survey Area 2	Modified landform	6,035	20	1,207	20	241	4
Survey Area 3	Modified landform	18,542	20	3,708	25	927	5
Survey Area 4	Ridge line and spur	7,401	10	740	10	74	1

Survey Unit	Landform	Survey Unit Area (m ²)	Visibility (%)	Visibility (m ²)	Exposure (%)	Effective Coverage Area (m ²)	Effective Coverage (%)
Survey Area 5	Ridge slope	8,615	50	4,308	40	1,723	20
Survey Area 6	Modified landform	213,378	50	106,689	30	32,007	15
Total		104,510m ²	27	120,910m ²	23	35,398m ²	34%

† (= survey unit area x visibility % x exposure %)

†† (= effective coverage area/survey unit area x 100)

Table 13. Landform Summary – Sampled Areas.

Landform	Landform area (m ²)	Effective Coverage m ²	% Landform Effectively Covered	Number of sites	Areas of PAD
Ridge line, spur and slope (refer to Figure 53)	Approximately 16,016	1,797	11	4 stone artefact scatters	1
Modified landform	Approximately 88,494	33,601	38	2 stone artefact scatters	0

Aboriginal heritage sites within the project area

Table 14 provides a summary of Aboriginal cultural heritage sites, objects and areas of archaeological potential in the project area. **Figure 53** provides a revised plan of known Aboriginal objects, sites and areas of archaeological potential.

Table 14. Sites Recorded within the Project Area.

Site/PAD Name	Description Including Landform	Site Features	Survey unit	Landform
Previously Recorded				
45-5-O483	This site included 16 stone artefacts and is located within the current project area. The AHIMS site card identifies the landform as a ridge slope and spur (refer to Appendix A). An AHIP (940) is noted in AHIMS against this site but is not mapped within the AHIP spatial dataset provided by Environment and Heritage. No stone artefacts were visible during the survey. Kohen (2001) indicates that this site was buried beneath earthworks and surface collection completed. Since its initial recording, a building has been constructed approximately five metres to the east, the recorded location has been landscaped and now forms a garden bed with chip-bark mulch and an emergency muster point. The area in which the site is located is partially waterlogged and used as a drainage channel and electricity easement. There is the potential for further displaced stone artefacts in modified contexts to be present at this location.	Stone artefacts, Moderate archaeological potential	5	Low ridge line and spur

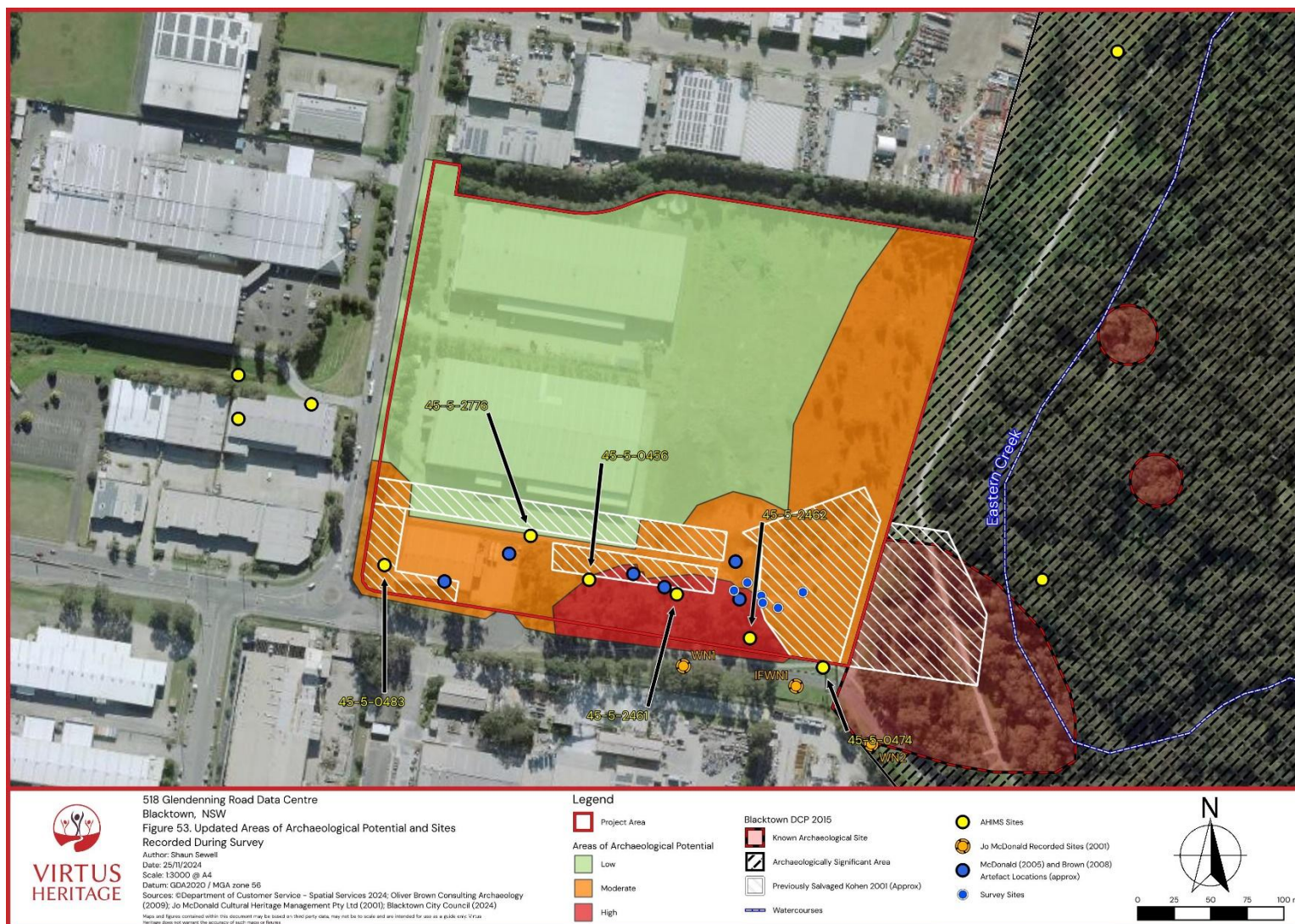
Site/PAD Name	Description Including Landform	Site Features	Survey unit	Landform
45-5-2776	This site includes two stone artefacts and is recorded within the current project area. The AHIMS site card describes the site as 'probably form[ing] part of a discontinuous artefact scatter along the broad spur line crest...' (refer to Appendix A). The stone artefacts were not relocated during the survey. This site's location is mapped within a concrete drain/car park and the surrounding area had limited visibility. It is possible that this site has been destroyed during the construction of the existing buildings and associated infrastructure or is located further south. There is the potential for further displaced stone artefacts in modified contexts to be present at and near this location.	Stone artefacts, Moderate archaeological potential	1	Ridge slope
45-5-0456	This site includes 60 stone artefacts and is located within the current project area. The AHIMS site card describes the landform as a ridge top and slope. Background research indicates that parts of this site had been 'collected' and is 'reported held at Macquarie University' (McDonald CHM 1999:1) under AHIP 941. Additional artefacts were recorded by Jo McDonald (2005) and Brown (2008). It is possible that some of the artefacts observed during the field inspection related to the Brown (2008) survey. Six stone artefacts were identified during the survey on the slopes of the low ridge, either on or eroding from the slope and in spoil heaps within the area previously salvaged by Kohen 2001 and may also relate to the recording of 45-5-00474. In some cases, these artefacts were visible in the fill and cuts associated with the electricity easement. These artefacts will be attributed to 45-5-0456 to be consistent with Brown (2008). • GDC01 A fine grained silcrete multiplatform core • GDC02 A complete silcrete flake • GDC03 A complete red silcrete flake • GDC04 A red silcrete angular fragment • GDC05 An exhausted bipolar chert flake • GDC06 A pink silcrete retouched flake (right-handed thumbnail scraper). This artefact was identified out of context and is located approximately 15 metres from the above artefacts (GDC01-GDC05). There is the potential for further stone artefacts in both relatively intact and modified contexts to be present at this location.	Stone artefacts, Areas of moderate and high archaeological potential	4 and 5	Ridge line and slope
45-5-2461	This site includes one silcrete artefact and is located within the current project area. The AHIMS site card records this site at the base of a hill slope. The location the site was recorded contained overgrown vegetation and limited GSV. This site was not relocated during survey. Additionally, signs of erosion were visible in vicinity of this site's recorded location. There is the potential for further stone artefacts in both relatively intact and modified contexts to be present at this location.	Stone artefacts, high archaeological potential	4	

Site/PAD Name	Description Including Landform	Site Features	Survey unit	Landform
45-5-2462	This site includes 16 artefacts and is located within the current project area. The AHIMS site card originally recorded this site on the alluvial flats at the base of the low ridge that runs out from Woodstock Avenue. Background research indicated this site has been impacted by 'bulldozing and subsequent filling' (McDonald CHM 1999:20). The extent of disturbances that have impacted the site since its initial recording reduces the integrity and potential of this site. Overgrown vegetation and leaf littered obscured GSV. There is the potential for further stone artefacts in both relatively intact and modified contexts to be present at this location.	Stone artefacts, high archaeological potential	4	Modified landform
45-5-0474	Southeast Plumpton 4 (45-5-0474), also referred to as SEP/4, is centred approximately 3.5m south of the project area, parallel to Woodstock Avenue. Fourteen artefacts, including one silcrete core, two chert flakes and three quartz fragments, were identified on a rise 200m west of Eastern Creek and recorded by Jim Kohen in 1985. 'This scatter was interpreted as part of complex extending from the creek up to the top of a low ridge, incorporating SEP/4, SEP/5 and SEP/6 (refer to Appendix A). This site had already been impacted by earthworks and a transmission line installation. The site was illegally impacted ~2000. An AHIP (AHIMS 941) was issued against the site in 2001 and archaeological salvage undertaken (Kohen 2001). Further stone artefacts were recovered as a result of the salvage. Subsequent impacts to this site have reduced its archaeological integrity. The status of this site is still 'valid', as identified on the AHIMS database. Stone artefacts were identified during the survey within areas salvaged by Kohen (2001).	Stone artefacts, moderate archaeological potential	3,4,5	Modified landform

Areas of archaeological potential

Low	Aboriginal objects are possible in these areas, displaced in uncontrolled fill, but survival of intact archaeological deposits and A Horizon soils is unlikely.	-	n/a	Modified landform
Moderate	Aboriginal objects are likely to occur in these areas due to their proximity to water, their relationship to the low ridge line and spur and known or previously recorded Aboriginal objects, however they are likely displaced due to erosion, past land use and disturbance.	Stone artefacts	n/a	Modified landforms within 150m of Eastern Creek, ridgeline spur and slope
High	Aboriginal objects are known or likely in this area and are associated with the potential for intact archaeological deposits and archaeological deposits of moderate integrity	Stone artefacts, Archaeological deposits	n/a	Ridge line, spur and slopes

Figure 53. Updated Areas of Archaeological Potential and Sites Recorded During Survey.



6.4 SUMMARY

The project area has been subject to past and ongoing land use disturbance including the construction of current industrial infrastructure, installation of the telecommunication tower, subsurface utilities, vehicle use and historic land use including generational agricultural use and vegetation removal. Survey Areas 1, 2, 3 and 4 had minimal GSV (between 10–20%) and effective coverage (1–5%) due to presence of concrete, road base and overgrown vegetation. Survey Areas 5 and 6 had greater visibility (50%) and greater effective coverage (15–20%) due to erosion and previous land use disturbances.

Previous archaeological research shows that Aboriginal sites are located throughout the Blacktown LGA, dominated by artefact sites. No mature trees were present within the project area, there was no evidence of scarring on any trees within the project area. The survival of A horizon soils may be limited to small areas on the southern boundary within the ridge slope and spur landform.

Six Aboriginal cultural heritage sites are located within the project area with valid status in AHIMS. Given the low surface visibility, it is unsurprising that not all sites were relocated during the survey (**Figure 53**). Six additional Aboriginal objects were identified during the archaeological assessment, mostly within erosional scars (refer to **Figure 53**). As with stone artefacts identified within the project area by McDonald (2005), the stone artefacts during the survey were identified in areas that had previously been surveyed or salvaged, indicating there remains a high likelihood of Aboriginal objects within parts of the project area that have been heavily disturbed. Revised areas of low, moderate and high archaeological potential were mapped across the project area.

7 Analysis and Discussion

Previous land use history has eliminated the possibility of scarred/carved trees being extant within the project area due to extensive tree clearing and the construction of industrial infrastructure and associated subsurface utilities. Artefact scatters and isolated finds are the most likely site type to occur in the project area. Other site types are unlikely to occur within the project area due to a lack of suitable geology and topography, and the significant extent of ground disturbance across most of the project area.

As previously noted in this report, over 140 stone artefacts have been recorded in the project area across surveys and salvage surface collections, including artefacts identified during monitoring of earthworks, in exposures, cuts, fill and spoil heaps (Kohen 1985, 1987, 1989, 2001, McDonald CHM 1999, 2001, 2005, Navin Officer Heritage Consultants 2000, Brown 2008). The southern portion of the project area and its associated ridge line and spur has previously been assessed as having high likelihood of Aboriginal objects, with archaeological integrity ranging from low to high (McDonald CHM 1999, 2001, 2005, Kohen 2001, Brown 2008). Brown (2008) identified the land within 150m of Eastern Creek as having archaeological potential.

Archaeological testing by Jo McDonald (1999) and salvage by Kohen (2001) indicate that ridge line and spur in the project area were part of a much larger site complex once containing culturally modified trees and is thought to have extended from Eastern Creek to the top of the low ridge. This site complex is considered of high archaeological significance and value. Additional sites and areas of archaeological sensitivity within 200 metres of the project area include: South East Plumpton 6.5 (45-5-2777), Sept1000/B (45-5-3105), Sept2000/A (45-5-3104), Southeast Plumpton 3 (45-5-0475), and EC132kVPAD01 (45-5-3643), areas of archaeological potential associated with Woodstock Avenue," Area of Archaeological Potential" (Brown 2008) and Blacktown DCP 2015's Known Archaeological Site and Area of Archaeological Sensitivity.

Six additional Aboriginal objects were identified within the project area during the archaeological assessment. As with stone artefacts identified within the project area by McDonald (2005) and Brown (2008), the stone artefacts during the survey were identified in areas that had previously been surveyed or salvaged, indicating there remains a high likelihood of Aboriginal objects within parts of the project area that have been heavily disturbed.

As defined in **Table 11** (Definition of Archaeological Potential), the project area is assessed as containing Aboriginal objects and areas of high, moderate and low archaeological potential for stone artefacts. In the case of the project area, the areas of high archaeological potential are considered to have both a high likelihood of Aboriginal objects (stone artefacts) with moderate to high archaeological integrity, while areas of moderate archaeological potential are considered to have a high likelihood of Aboriginal objects being present but with low archaeological integrity due to the degree of past land use and disturbance. Areas of low archaeological potential may have varying densities and frequencies of stone artefacts but they are generally predicted to be of low density and have low archaeological integrity due to the high degree of past land use. Areas of low potential in the project area are predicted to have the natural topsoils stripped and displaced or removed, with only B Horizon soils remaining below 1-3m of fill. **Figure 53** provides an updated assessment of areas of archaeological sensitivity within the project area.

Despite a high degree of disturbance across much of the project area, the diverse range of stone artefact materials, types and technologies recovered from the salvage collections in the project area, the spatial patterning of raw material types and the presence of unmodified silcrete pebbles and angular fragments were assessed by Kohen and McDonald to be of high archaeological significance (Kohen 2001, McDonald 2005). Any intact natural soil profiles and archaeological deposits are considered of archaeological value.

8 Scientific Values and Significance Assessment

The Burra Charter provides guidance for the conservation and management of places of cultural significance (cultural heritage places) and is based on the knowledge and experience of Australia ICOMOS members. Conservation is an integral part of the management of places of cultural significance and is an ongoing responsibility. The Charter sets a standard of practice for those who provide advice, make decisions about, or undertake works to places of cultural significance, including owners, managers and custodians. The Burra Charter defines cultural significance as the “aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects” (ICOMOS Burra Charter 2013:2).

Aboriginal cultural heritage sites are therefore assessed following these categories of significance developed under the Burra Charter:

- **Aesthetic value** – refers to “the sensory, scenic, architectural and creative aspects of the place” and is often linked with social values (OEH 2011:9). This value map refers to the visual nature of the landscape and “smells and sounds associated with the place and its use” (OEH 2011:9).
- **Historic value** – refers to “the associations of a place with a historically important person, event, phase or activity in an Aboriginal community”, for example, post-contact places such as missions or reserves or massacre sites (OEH 2011:9).
- **Scientific/archaeological value** – assessed mostly by archaeologists/heritage consultants according to six criteria in this assessment process, rarity, representativeness, integrity, connectedness, complexity, and potential archaeological deposit.
- **Spiritual value** (can only be assessed by Aboriginal people) – refer to “the intangible values and meanings embodied in or evoked by a place which gives it importance in the spiritual identity, or the traditional knowledge, art and practices of a cultural group. Spiritual value may also be reflected in the intensity of aesthetic and emotional responses or community associations and be expressed through cultural practices and related places” (ICOMOS 2013:4).
- **Social value** (can only be assessed by Aboriginal people) – refers to the contemporary associations and attachments Aboriginal people have to an area of place. The guide to investigating, assessing, and reporting on Aboriginal cultural heritage in NSW notes that “social or cultural values is how people express their connection with a place and the meaning that place has for them. Places of social or cultural value have associations with contemporary community identity. These places can have associations with tragic or warmly remembered experiences, periods, or events. Communities can experience a sense of loss should a place of social or cultural value be damaged or destroyed. There is not always a consensus about a place’s social or cultural value” (OEH 2011:8).

Table 15 provides an assessment of these values within the project area according to the significance assessment criteria based on the Burra Charter. Scientific/archaeological values are assessment also specifically according to six criteria in this assessment process, rarity, representativeness, integrity, connectedness, complexity, and potential archaeological deposits following the DPE NSW standards within NSW for archaeological assessments (DECCW 2010).

Table 15. Assessment of the Burra Charter Values within the Project Area.

Category of Significance	Statement of Values
Aesthetic values	The project areas has an aesthetic value associated with its connection and proximity to Eastern Creek, its minor tributaries, its biodiversity values and Nurragingy Nature Reserve. Eastern Creek is part of the Hawkesbury–Nepean Catchment river system

Category of Significance	Statement of Values
	which feeds into the larger South Creek and eventually the Hawkesbury River. The project area has views of Nurragingy Nature Reserve to the east. The aesthetic values of the project area have been impacted by extensive earthworks from previous land use, including land clearing, generational agricultural usage, installation of services, landform modification, and other developments associated with urbanisation. The project area is part of a broader, interconnected landscape. As such, the surrounding bushland of the Nurragingy Nature Reserve enhances the sensorial aspect of the project area and supports diverse plants and animal communities. Additional sensorial aspects of the project area include sounds (e.g. water, animals, wind), changes in light and scent (e.g. water, vegetation), all of which are linked and interconnected to the spiritual values of place. The proximity to water source (Eastern Creek and tributaries) contributes to the sensorial aesthetic of the project area. Survey participants noted the cultural values of bird song on the northern and eastern boundary of the project area (Kadibulla Khan, Kamilaroi–Yankuntjatjara Working Group, pers. comms). Additionally, water is important culturally, and the health of the waterways is also a cultural responsibility of Aboriginal people to protect and conserve.
Historic values	Despite the hardships and atrocities that Aboriginal people face as a result of European invasion, the Aboriginal community of the region is strong and vibrant today. Descendants of the Aboriginal people of the region still live in the local area today and are actively involved in continuing their culture and history, demonstrated within the project area through their advocacy to protect and manage the site complex which SEP/4, SEP/5, SEP/6 forms part of in the face of permitted and unpermitted harm, engagement in previous developments, cultural heritage and archaeological investigations and recording of Aboriginal sites and in this Aboriginal Cultural Heritage Assessment process.
Scientific/ archaeological values	Rarity and representativeness: There are six registered sites within the project area. While stone artefact scatters are common in the region, these sites formed part of a larger site complex that was subsequently impacted by development throughout Glendenning. Work undertaken at these sites formed an early and important contribution to our understanding the archaeology of the Cumberland Plain. Where intact archaeological deposit survives in the project area it is of significance, due to the increasing rarity of deposits connecting to this site complex and their ability to inform our understanding of Aboriginal life. Integrity: The project area has undergone ground surface disturbances including historic logging, generational agricultural use, vegetation clearing, the installation of a telecommunication tower and industrial development and use. A small portion of the project area retain relatively intact soil profiles with moderate archaeological integrity while the remainder of the project area is considered to have low archaeological integrity. Connectedness: The project area is connected to and part of a broader cultural landscape and site complex considered to continue from the top of low ridge line and spur down to Eastern Creek, with connections to nearby AHIMS sites and the Nurragingy Nature Reserve. Stone artefacts within the project area have the potential to demonstrate connectedness between stone sources across the Sydney Basin. Complexity: The project area has no evidence of complexity based on the assessment of the site to date.

Category of Significance	Statement of Values
	Potential for Archaeological Deposit: The scientific significance of the PADs relies on the potential for subsurface deposits in the area to maintain stratigraphic and spatial integrity. The assessment examined the past land use history of the project area and broader locality, past archaeological research, and environmental consideration, which indicates that there are areas of high archaeological potential (areas with a high likelihood of Aboriginal objects with moderate stratigraphic integrity) (refer to Appendix D of the ACHA report for an infographic explaining PAD as a concept).
Social values	Through consultation to date, it has been clearly communicated by RAPs that the project area possesses social values (cultural significance), with surviving vegetation, landforms, animals, and Aboriginal objects interconnected and culturally valued. Feedback to date has indicated that for some representatives of the Registered Aboriginal Parties, stone artefacts have value, irrespective of their context and the degree of past land use and disturbance. Furthermore, this project area is intricately intertwined with the broader cultural context and landscape and has social and cultural meaning. All Country is significant and has cultural value.
Spiritual values	The project area and the sites within this landscape hold spiritual value and are places with deep attachment and cultural connections across the cultural landscape. The project area's interconnectedness extends beyond its immediate surroundings, encompassing a broader landscape that encompasses both registered and unregistered sites, nearby water sources like Eastern Creek, as well as the utilisation of physical resources. It is essential to recognise that the project area's significance extends not only to the features within its immediate cultural landscape but also reaches out to other culturally significant sites across the Country. Through the consultation for this project, many values were addressed, including, but not limited to: Kadibulla Khan (Kamilaroi – Yankuntjatjara Working Group) noted during the site inspection: • Caring for Country, looking after the plants, animals, water, people, memories and stories • Every artefact has value, regardless of the level of disturbance of its context • Even fill has a story and can move and contain artefacts, which are of value • What is on Country, should stay on Country.

This section of the Archaeological report assesses the scientific/archaeological values of Aboriginal archaeological sites and objects within the project area. The ACHA provides reference to other values within the Burra Charter, including the cultural values provided by RAPs.

Other cultural values are assessed separately in the broader ACHA in comments by RAPs.

9 Impact Assessment

A summary of the proposed development with impacts that may cause harm to the identified heritage sites and places, was provided in Section 2. The following definitions of harm are reproduced from OEH (2011).

Direct harm/impact	Direct harm/impact may occur as the result of any activity which disturbs the ground including, but not limited to, site preparation activities, stripping of soils, clearing of shrubs, grass and contaminants, installation of services and infrastructure, roadworks, excavating detention ponds and other drainage or flood mitigation measures, and changes in water flows affecting the value of a cultural site.
Indirect harm/impact	Indirect harm/impact may affect sites or features located immediately beyond, or within, the area of the proposed activity. Examples of indirect impacts include, but are not limited to, cumulative impact on art in a rockshelter site from increased visitation, vibration impacts to sites from construction equipment, destruction from increased erosion and changes in access to wild food resources (OEH 2011).

For the purposes of this assessment three levels of impact were considered:

- **Significant impact** – including topsoil stripping, cut and fill of areas. This would likely damage or remove all Aboriginal objects that might be located in the area of impact.
- **Moderate impact** – minor topsoil stripping, no cut and fill majority of vegetation maintained. This would likely damage or disturb some Aboriginal objects that might be located in the specific areas of impact. Management measures could be put in place to protect individual known sites.
- **Low impact** – no topsoil stripping, existing vegetation maintained. Sites in these areas could be subject to indirect impacts and would be managed via a management plan.

9.1 DRAWINGS AND SITE PLANS CONSIDERED IN THIS ASSESSMENT

Table 16: Architectural drawings and site plans assessed in this assessment

Plan/Drawing	Date	Revision number	Relevance to heritage items
Civil Plans	30/9/2024	ACR-XX-XX-DR-C-COMBINED-DDC	Proposed activity will result in direct impact known sites and areas moderate and low archaeological potential and requires management and mitigation measures to prevent indirect harm to Aboriginal objects associated with all registered Aboriginal cultural heritage sites in the project area and areas of high archaeological potential. The proposed works require management and mitigation measures to prevent and minimise indirect harm to Aboriginal objects and areas of archaeological sensitivity adjacent the project area.
Security Zoning Plan	27/9/2024	Security Zoning Plan Rev C	The plan indicates potential direct impacts to known Aboriginal heritage sites and areas of low, moderate and high archaeological potential.

Plan/Drawing	Date	Revision number	Relevance to heritage items
			The works require management and mitigation measures.
Biodiversity report	27/9/2024		The proposed mitigation measures indicate direct impacts to known Aboriginal heritage sites and areas of moderate and high archaeological potential.

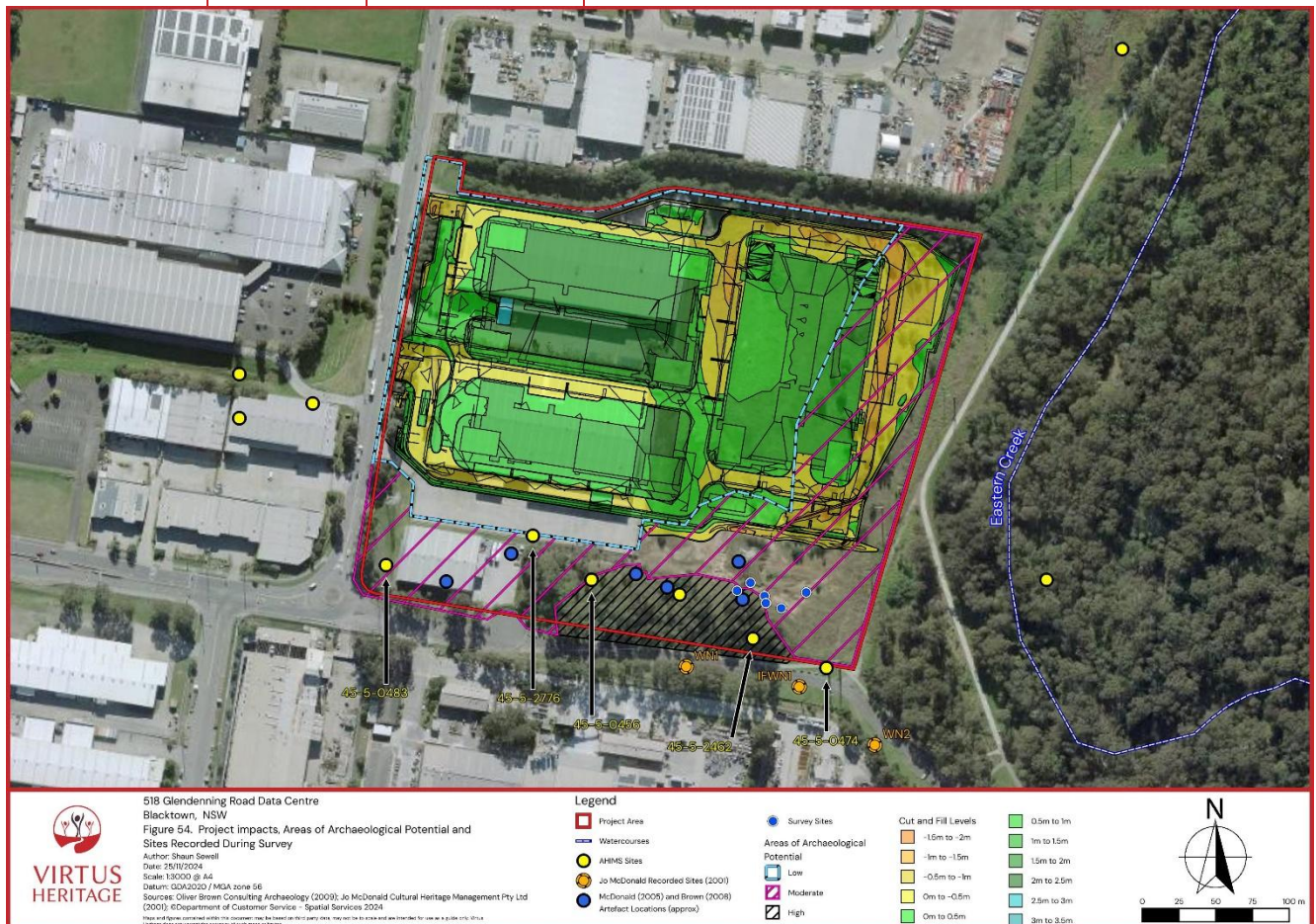


Figure 54 Overview of Project Impacts, Areas of Archaeological Potential and Sites Recording during the Survey (not including proposed fencing)

9.2 BACKGROUND

Prelodgement consultation

No Aboriginal cultural heritage prelodgement consultation was undertaken for this project.

An AHIP (AHIMS 941) was previously over the project area and three sites (45-5-0483, 45-5-0456 and 45-5-00474). McDonald (2005) indicated that a proponent may have applied for another AHIP prior 2010, however there is no connected information apparent in AHIMS.

Consideration of alternatives

The project has been designed to minimise impacts in areas of high archaeological potential. Impacts proposed in these areas are proposed to be limited to fencing and revegetation and land care management activities.

No alternatives have been considered as part of this assessment.

9.3 AREAS WHERE OBJECTS WILL BE PROTECTED OR HARMED

All Aboriginal objects are protected under the *National Parks and Wildlife Act 1974*. Conservation is the preferred option for all objects. Consideration should be given to avoidance of and conservation of sites where possible.

The proposed development is known as the Glendenning Road Data Centre and includes the construction and operation of three (3) data centre buildings and associated infrastructure.

Six registered AHIMS sites were identified within the project area as well as areas of low, moderate and high archaeological potential.

Additional sites and areas of archaeological potential are located immediately adjacent the project area. The proposed works must be managed in order to avoid and minimise impacts to these sites.

Table 17: Impact assessment against the project areas heritage values

Values	Impact assessment against values
Aesthetic values	The proposed development would result in changes to the aesthetic values of the project area and alter the visual setting to registered Aboriginal cultural heritage sites in the project area: • 45-5-0483 • 45-5-2776 • 45-5-0456 • 45-5-2461 • 45-5-2462 • Areas of low archaeological potential • Areas of moderate archaeological potential • Areas of high archaeological potential The project would result in further alterations to the visual setting of the following Aboriginal cultural heritage sites and areas of archaeological sensitivity adjacent the project area: • South East Plumpton 6.5 (45-5-2777) • Southeast Plumpton 3 (45-5-0475) • Blacktown DCP Area of Archaeological Sensitivity Aboriginal cultural heritage sites within the project area have already experienced degradation of aesthetic values due to development within and adjacent the project area, particularly through extensive earthworks and transmission lines, erosion and the presence of invasive plant and animal species. Proposed DCO1 may further reduce visual connection to Eastern Creek and its tributaries. The proposed changes to visual

Values	Impact assessment against values
	settings represent a continuation of activities within an area zoned for industrial development and represent a partial loss of value to existing sites. Opportunities exist to enhance and strengthen the connection between the registered Aboriginal cultural heritage sites and elements that contribute to their value (connections between Eastern Creek, other Aboriginal cultural heritage sites, the low ridgeline and spur and providing habitat for local native plant species and animals and removal of invasive species, connecting users of the project area with its Aboriginal cultural heritage and history or providing screening). Refer to the biodiversity assessment (Biosis 2025) for impacts to plants and animals and to the landscape plans for proposed rehabilitation planting and landscape enhancements.
Historic values	Aboriginal historic values associated with the project area and its registered sites and areas of archaeological potential are largely intangible. The proposed development would have negligible impact on these values. The historic values of the project area are currently not well known or visible in the project area. Opportunities exist to enhance users of the project area and the wider community understanding of the project area's Aboriginal cultural heritage and history through on site and external interpretation and education.
Scientific/ archaeological values	The proposed development will have a direct and indirect impact on the scientific and archaeological values of the project area and known Aboriginal cultural heritage sites and areas of archaeological potential.
Social values	Through consultation to date, it has been clearly communicated by RAPs that the project area possesses social values (cultural significance), with surviving vegetation, landforms, animals, and Aboriginal objects interconnected and culturally valued. Feedback to date has indicated that for some representatives of the Registered Aboriginal Parties, stone artefacts have value, irrespective of their context and the degree of past land use and disturbance. The proposed development would result in changes to the social value of the project area through potentially harming Aboriginal objects and removing some of the existing vegetation within the project area. Opportunities exist to enhance and strengthen the social values between Aboriginal people, the registered Aboriginal cultural heritage sites and elements that contribute to their value (connections between Eastern Creek, the low ridgeline and spur, other Aboriginal cultural heritage sites, providing habitat for local native plant species and animals and removal of invasive species, connecting users of the project area with its Aboriginal cultural heritage and history or providing screening, providing opportunities for Aboriginal people to manage cultural values, Aboriginal cultural heritage sites, plants, water, animals within the project area).
Spiritual values	The project area and the sites within this landscape hold spiritual value and are places with deep attachment and cultural connections across the cultural landscape. The proposed development will have a direct and indirect impact on the spiritual values of the project area and known tangible cultural heritage sites within the project area.

Table 18 below lists all sites identified within the project area and summarises the type, level and consequence of harm to these places.

Table 18. Summary of Likely Harm.

Site/Place/PAD	Type of Harm (direct/indirect/ none)	Level of Harm (total/partial/ none)	Consequence of Harm (total loss of value/partial loss of value/no loss of value)
45-5-0483	Direct	Total	Total loss of value
45-5-2776	Direct	Total	Total loss of value
45-5-0456	Direct	Partial	Partial loss of value
45-5-2461	Direct	Partial	Partial loss of value
45-5-2462	Direct	Partial	Partial loss of value

Areas of sensitivity/archaeological potential

Areas of low archaeological potential	Direct	Total	Total loss of value
Areas of moderate archaeological potential	Direct	Partial	Partial loss of value
Areas of high archaeological potential	Direct	Partial	Partial loss of value

AHIMS site	Additional information	Type of harm	Degree of harm	Consequence of harm
South East Plumpton 6.5 (45-5-2777)	Artefact	None	None	No loss of value
Sept1000/B (45-5-3105)	Artefacts	None	None	No loss of value
Sept2000/A (45-5- 3104)	Isolated find	None	None	No loss of value
Southeast Plumpton 3 (45-5-0475)	Artefacts and Archaeological Deposit	Indirect – changes to visual setting of site	Partial	Partial loss of value – the proposed activity will alter to the visual setting of the site and no change to the archaeological values
EC132kVPAD01 (45-5- 3643)	PAD	None	None	No loss of value
Glen Trib (45-5-3699)	Artefacts	None	None	No loss of value
EC132kVPAD 02 (45-5- 3644)	PAD	None	None	No loss of value

AHIMS site	Additional information	Type of harm	Degree of harm	Consequence of harm
Blacktown DCP Known Archaeological Site	Area of archaeological potential –	Indirect – the proposed activity may result in changes to the visual setting	Partial	Partial loss of value – the proposed activity will alter the visual setting of the site and no change to the archaeological values. Management and mitigation measures are required to ensure that works are contained within the project area and adequate protections are in place to prevent impacts.
Areas of archaeological potential and sensitivity				
Blacktown DCP Archaeological Significant Area	Area of archaeological potential –	Indirect – the proposed activity may result in changes to the visual setting	Partial	Partial loss of value – the proposed activity will alter the visual setting of the site and no change to the archaeological values. Management and mitigation measures are required to ensure that works are contained within the project area and adequate protections are in place to prevent impacts.
–	Adjacent areas of archaeological potential (Brown 2008)	Indirect – the proposed activity may result in changes to the visual setting	None	Partial loss of value – the proposed activity will alter the visual setting of the site and no change to the archaeological values. Management and mitigation measures are required to ensure that works are contained within the project area and adequate protections are in place to prevent impacts.
–	Adjacent areas of archaeological potential on Woodstock Avenue	Indirect – the proposed activity may result in changes to the visual setting	None	Partial loss of value – the proposed activity will alter the visual setting of the site and no change to the archaeological values. Management and mitigation measures are required to ensure that works are contained within the project area and adequate protections are in place to prevent impacts.

9.4 ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)

Australia's National Strategy for Ecologically Sustainable Development (1992) defines ecologically sustainable development (ESD) (defined in Section 6 (2) of the Protection of the Environment Administration Act 1991 NSW) as: 'using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased' (Department of Agriculture Water and the Environment Website Ecologically Sustainable Development Webpage). These environmental considerations include cultural heritage. In regard to Aboriginal cultural heritage, ESD can be achieved by applying the principle of intergenerational equity and the precautionary principle.

The principle of **Intergenerational Equity** states that 'the present generation should make every effort to ensure the health, diversity and productivity of the environment – which includes cultural heritage – for the benefit of future generations' (OEH 2011). That is, how will future generations be able to visit, see, experience and/or research Aboriginal objects? The Operational Policy: Protecting Aboriginal Cultural Heritage (DECCW 2009) states in terms of Aboriginal heritage, intergenerational equity can be considered in terms of the cumulative impacts to Aboriginal objects and places in a region.

A way of gauging what level of impact from development has occurred within a region, is to review how many Aboriginal Heritage Impact Permits (AHIPs) have been issued for that region. A review of the AHIP public register archive 2010 to June 2023, for Blacktown LGA indicated that 215 AHIPs were applied for. The current AHIP Public Register for the Blacktown LGA shows that eleven (11) AHIPs have been issued, for the region between July 2023 and 4 June 2024. In addition, there have been 335 applications for State Significant Developments. Overall, there has been a relatively high cumulative impact to the Aboriginal objects in the Blacktown region based on recent AHIPs and SSD. As this project has demonstrated, a high number of Aboriginal sites in the region have been previously impacted under AHIPs, but their status not updated to destroyed or partially destroyed in AHIMS, resulting in an inaccurate picture of the number of valid sites.

The project area has been subject to impacts from industrial development and use as well as impacts from historical land use and natural processes discussed in **Section 3**. Areas of high archaeological potential within the project area are of value and significance as they represent surviving pockets of an extensive site complex that extended from Eastern Creek and along the low ridge line and spur, and contained a diverse range of raw materials and stone artefacts demonstrating a broad range of activities undertaken by Aboriginal people in the past. They also coincide with a biodiversity community of high value.

The **Precautionary Principle** states that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. This principal can be adhered to by creating exclusion zones surrounding the areas of high archaeological potential, including registered AHIMS sites and minimising impacts to areas of moderate potential and mitigating harm through actions such as archaeological salvage and community collection.

9.5 JUSTIFICATION OF THE OBJECTIVES OF THE PROPOSED ACTIVITY

As noted above, the proposed development will result in direct and indirect impacts to a number of Aboriginal cultural heritage sites and areas of low, moderate and high archaeological potential. Works have been designed to reduce impacts to areas of moderate and high archaeological potential and enhancements such as landscaping using native plant species, rehabilitation of currently developed areas in south etc are also proposed to be implemented.

The proposed development is within an area zoned Industrial and has already experienced extensive earthworks and development. The proposed development represents a continuation of this activity.

10 Management and Mitigation Measures

Potential management and mitigation measures for the project area are discussed in this section within the broader context of relevant legislation protecting Aboriginal heritage within NSW and the Commonwealth.

10.1 LEGISLATIVE CONTEXT AND STATUTORY REQUIREMENTS

The *National Parks and Wildlife Act 1974* (NPW Act), the *Environmental Planning and Assessment Act 1979* (EP&A Act) and the *Heritage Act, 1977* are the relevant statutory controls protecting Aboriginal heritage within New South Wales. These acts and other relevant State and Commonwealth legislation are discussed below.

National Parks and Wildlife Act 1974

Under the provisions of the NPW Act, all Aboriginal objects are protected regardless of their significance or land tenure. Aboriginal objects are defined as *'any deposit, object or material evidence (not being a handicraft made for sale) relating to Aboriginal habitation of the area that comprises NSW, being habitation before or concurrent with the occupation of that area by persons of non-Aboriginal extraction and includes Aboriginal remains'*.

The NPW Act also protects Aboriginal Places, which are defined as *'a place that is or was of special significance to Aboriginal culture. It may or may not contain Aboriginal objects'*. Aboriginal Places can only be declared by the Minister administering the NPW Act. The NPW Act protects Aboriginal objects and Aboriginal places in NSW. Under the *National Parks and Wildlife Act 1974* (NPW Act), including the 2010 amendments, it is an offence to harm an Aboriginal object:

- Which the person knows is an Aboriginal object (a 'knowing offence').
- Whether or not a person knows it is an Aboriginal object (a 'strict liability offence').

From 1 October 2010, the maximum penalty for a knowing offence is \$550,000 for an individual or \$1.1 million for a corporation and a 2-year gaol term. The maximum penalty for a strict liability offence is \$110,000 for an individual or \$220,000 for a corporation (DECCW 2010:5). A person or organisation who exercises due diligence in determining that their actions would not harm Aboriginal objects has a defence against prosecution for the strict liability offence if they later unknowingly harm an object without an AHIP (DECCW 2010:5). The due diligence defence is not available for activities which harm Aboriginal places. The Code of Practice sets out a procedure which, when followed, will satisfy the due diligence requirement. If a person or company can demonstrate that they exercised due diligence and determined that it was unlikely that Aboriginal objects would be harmed, then they have a defence to prosecution under the strict liability offence under Section 86(2) of the NPW Act (DECCW 2010:5).

Harm includes activities that destroy, deface or damage of Aboriginal object or Aboriginal Place, and in relation to an object, moving the object from the land on which it has been situated. Under 89A (formerly Section 91) of the Act, the Chief Executive of the Office of Environment and Heritage (***now regulated by Heritage NSW in the Department of Planning and Environment***) must be informed upon the identification of all Aboriginal Objects. Failure to do this within a reasonable time is an offence under the Act. Under Section 90 of the Act, it is an offence for a person to destroy, deface, damage, or desecrate an Aboriginal Object or Aboriginal Place without the prior issue of an Aboriginal Heritage Impact Permit (AHIP). Aboriginal Heritage Impact Permits may only be obtained from Heritage NSW in the Department of Premier and Cabinet. Part 6 of the NPW Act provides specific protection for Aboriginal objects and places by making it an offence to harm them. If harm to Aboriginal objects and places is anticipated an Aboriginal Heritage Impact Permit is required.

Under the EP&A Act, Section 90 of the *National Parks and Wildlife Act 1974* is turned off during the assessment of State significant projects. Instead, department Secretary's Environmental Assessment Requirements (SEARs) are issued. For SSD projects, harm to Aboriginal objects must be authorised through a development consent from the Independent Planning Commission or the Minister for Planning (or delegate) before it may occur.

The NPW Act also provides for stop-work orders under Part 6A Division 1 if an action is likely to significantly affect an Aboriginal Object or Aboriginal Place. The order may require that an action is to cease or that no action is carried out in the vicinity of the Aboriginal Object or Aboriginal Place for a period of up to 40 days.

Environmental Planning and Assessment Act (NSW) 1979

The EP&A Act requires that consideration be given to environmental impacts as part of the land use planning process.

The Department of Climate Change, Energy, the Environment and Water coordinates the whole-of-government assessment of the merits of State significant development (SSD) and State significant infrastructure (SSI).

These major projects are assessed under Division 4.7 of the Environmental Planning and Assessment Act 1979 and require development consent from the Independent Planning Commission or the Minister for Planning (or delegate) before they may proceed.

Section 90 under the NPW Act and the Heritage Act 1977 are turned off during the assessment of State significant projects. Instead, department Secretary's Environmental Assessment Requirements (SEARs) are issued. Harm to Aboriginal objects and heritage items, relics and deposits must be authorised through a development consent from the Independent Planning Commission or the Minister for Planning (or delegate) before it may occur.

Heritage Act (NSW) 1977

The Heritage Act 1977 (as amended in 2009) protects and aims to conserve the environmental heritage of New South Wales. Environmental heritage is broadly defined under Section 4 of the Heritage Act as consisting of "those places, buildings, works, relics, moveable objects, and precincts, of State or local heritage significance" (Heritage Branch DoP 2009: 1). Aboriginal places or objects that are recognized as having high cultural value (potentially of local and State significance) can be listed on the State Heritage Register and protected under the provisions of the Heritage Act (http://www.heritage.nsw.gov.au/O6_subnav_01.htm).

Amendments to the Heritage Act made in 2009 have changed the definition of an archaeological 'relic' under the Act, so that it is no longer based on age. A relic is now an archaeological deposit, resource or feature that has heritage significance at a local or State level. This significance-based approach to identifying 'relics' is consistent with the way other heritage items such as buildings, works, precincts or landscapes are identified and managed in NSW (Heritage Branch, DoP 2009:1). Section 4(1) of the Heritage Act (as amended 2009) defines 'relic' as follows:

Relic means any deposit, artefact, object or material evidence that:

- relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and
- is of State or local heritage significance (Heritage Branch, DoP, 2009:6).

The *Heritage Act 1977* is turned off during the assessment of State significant projects. Instead, the Secretary's Environmental Assessment Requirements (SEARs) are issued, which identify what information needs to be included in an environmental impact statement. Harm to heritage items, relics and deposits under the Heritage Act must be authorised through a development consent from the Independent Planning Commission or the Minister for Planning (or delegate) before they may occur.

Aboriginal Land Rights Act 1983

The NSW Aboriginal Land Rights Act 1983 (ALR Act), administered by the NSW Minister for the Public Service and Employee Relations, Aboriginal Affairs, and the Arts, establishes the NSW Aboriginal Land Council (NSWALC) and Local Aboriginal Land Councils (LALCs). The Act requires these bodies to:

- take action to protect the culture and heritage of Aboriginal persons in the council's area, subject to any other law
- promote awareness in the community of the culture and heritage of Aboriginal persons in the council's area.

These requirements recognise and acknowledge the statutory role and responsibilities of NSWALC and LALCs. The ALR Act also establishes the registrar whose functions include, but are not limited to, maintaining the Register of Aboriginal Land Claims and the Register of Aboriginal Owners.

Under the NSW Aboriginal Lands Right Act 1983, the registrar is to give priority to the entry in the register of the names of Aboriginal persons who have a cultural association with:

- lands listed in Schedule 14 to the NPW Act
- lands to which section 36A of the ALR Act applies.

Native Title Legislation

The Native Title Act 1993 (NTA) is a commonwealth act which provides the legislative framework to:

- recognise and protect native title
- establish ways in which future dealings affecting native title may proceed and to set standards for those dealings, including providing certain procedural rights for registered native title claimants and native title holders in relation to acts which affect native title
- establish a mechanism for determining claims to native title
- provide for, or permit, the validation of past acts invalidated because of the existence of native title.

The NSW Native Title Act 1994 was introduced to make sure the laws of NSW are consistent with the Commonwealth's NTA on future dealings. It validates past and intermediate acts that may have been invalidated because of the existence of native title.

The National Native Title Tribunal has a number of functions under the NTA, including maintaining the Register of Native Title Claims, the National Native Title Register and the Register of Indigenous Land Use Agreements and mediating native title claims.

Other Acts

The Australian Government Aboriginal and Torres Strait Islander Heritage Protection Act 1984 may be relevant if any item of Aboriginal heritage significance to an Aboriginal community is under threat of injury or desecration and state-based processes are unable to protect it. The Environment Protection and

Biodiversity Conservation Act 1999 is relevant to projects where there are heritage values of national significance present.

10.2 MANAGEMENT OPTIONS

This section of the report provides a summary of available management and mitigation options for the proposal and the justification for the final recommendations provided in **Section 11**.

As noted above, there are six registered AHIMS sites and areas of low, moderate and high archaeological potential within the project area.

Conservation and detailed design to avoid harm

Following the Burra Charter, harm should be avoided first if possible, for all Aboriginal objects and sites. Conservation is the best heritage outcome for preservation of threatened cultural sites and objects with cultural and scientific significance. Conservation through protection or further management should always be explored first before any other option for the management of threatened Aboriginal sites and objects.

To date, design has considered and adopted:

- Proposed construction works avoiding high and medium archaeological potential areas, where feasible.
- Proposed removal of the existing industrial building and hardstand surfaces in the south and rehabilitation of this area through revegetation with locally occurring plant communities of Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest.
- Retaining existing native trees, where feasible and planting of new trees.

During detailed design for each stage of the project, it is recommended the proponent consider:

- Creating exclusion zones for areas of high archaeological potential and high biodiversity value, aiming to conserve known Aboriginal objects and previously recorded Aboriginal cultural heritage sites
- Creating exclusion zones to areas where harm can be avoided to areas of moderate archaeological potential and known Aboriginal objects and where harm cannot be avoided, to minimise impacts to areas of moderate archaeological potential.
- Implement suitable access, barriers and erosion and sediment controls that eliminate the risk of direct and indirect harm to known Aboriginal sites and objects in and adjacent the project area.

The project design should consider means to conserve or enhance the site's tangible and intangible heritage values. Further recommendations regarding this are provided in **Section 11**.

It will not be possible to avoid areas of low archaeological potential and all areas of moderate archaeological potential.

Further Investigation – Archaeological Excavation

The Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2010) sets out a procedure for further archaeological investigations in areas assessed as having potential archaeological deposits. The purpose of a CoP test excavations is to assess the cultural heritage significance of the area, interpret the Aboriginal history of the area being investigated and inform future planning decisions (DECCW 2010:27).

Based on accessible and reviewed archaeological surveys and assessments in Section 4 and 6, Aboriginal objects have not been identified in areas assessed as having low archaeological potential in **Figure 52** to date. Geotechnical investigations (AECOM 2023, Martens 2024) have provided soil profiles across the project area, indicating intact archaeological deposits within areas mapped as low archaeological potential are unlikely to be present. No data reviewed to date has indicated the method of earthworks and fill in the areas mapped as low archaeological potential in **Figure 53**. Previous archaeological investigations in the southern portion of the project area (Kohen 2001, McDonald 2001, 2005) have indicated that in areas of moderate archaeological potential, there is a high likelihood of Aboriginal objects with low archaeological integrity. i.e. Aboriginal objects have been displaced within fill and imported fill or eroded downslope. Aboriginal objects in these areas have cultural value but their archaeological value is limited to the object itself rather than the environmental and chronological data that could be obtained from a stratified archaeological deposit.

Archaeological test excavations undertaken by Jo McDonald (1999, 2001) and surface collections undertaken by Kohen (2001) have provided sufficient data to understand the archaeological values and significance of Aboriginal objects within areas mapped as having moderate and high archaeological potential and to inform planning decisions. As such, archaeological test excavations prior to EIS submission is not proposed.

Destruction Without Mitigation

Destruction without any form of mitigation could be a feasible management strategy in project areas where no Aboriginal sites or objects were identified, an area had low archaeological significance and cultural significance, and such a strategy was agreed to by the Registered Aboriginal Parties for a project area.

Destruction without mitigation is not an appropriate management strategy for the areas containing moderate and high archaeological potential due to the cultural and scientific significance of the project area. Additionally, it is not culturally appropriate for the community to be denied a chance to salvage any objects found during investigations in areas of low archaeological potential or anywhere across the project area based on RAP consultation to date.

Destruction With Mitigation

Destruction with mitigation refers to some form of action taken to mitigate harm to Aboriginal objects and loss of heritage values. Examples of mitigation might include archival recording, archaeological excavations or cultural collection, designs and landscaping that enhance heritage values, interpretation, education and creating opportunities for Aboriginal people to continue to care for Country and Aboriginal cultural heritage.

Archival recording

Archival recording, also referred to as detailed site recording, before and after construction is recommended for all previously recorded Aboriginal cultural heritage sites. The information should be documented a report and in AHIMS site cards and Aboriginal Site Impact Recording Forms.

Archaeological Surface Collection and Excavation

This management strategy is recommended in areas where Aboriginal object/s and sites were identified, and/or in areas with moderate to high archaeological values and research potential that can contribute to a greater understanding of the cultural history of the project area and where conservation is not a viable management option. This may also be appropriate, if a project area has high cultural value to Registered Aboriginal Parties for a project area. The following was considered for the project area:

- Archaeological excavations are not proposed for areas of low archaeological potential.

- Surface salvage collection is proposed for all areas of low and moderate potential where impacts cannot be avoided.
- Archaeological salvage excavations are recommended in areas of high archaeological potential where impacts cannot be avoided and, in any area where intact archaeological deposits are identified.

Community collection

Community Collection is proposed to be undertaken by DLALC and representatives of RAPs for works occurring in and within of areas of moderate and high archaeological potential. DLALC and RAPs are to have input and be present to ensure areas of protective fencing are adequate for any exclusion zones for cultural heritage.

Management options identified by Registered Aboriginal Parties

Further management and mitigation measures are discussed in the ACHA.

Kadibulla Khan (Kamilaroi-Yankuntjatjara Working Group) made the following recommendations with respect to Aboriginal objects:

Management of Impacts, Aboriginal objects and areas of 'low' and higher archaeological potential:

- Monitoring of impacts by Aboriginal people and during historical archaeological test investigations as artefacts have been found nearby. This work should be undertaken by the Registered Aboriginal Parties.
- Avoid and conserve the areas of ridge slope, areas of higher archaeological potential as much as possible. Conserve the areas of Cumberland Woodland. This includes all areas of previously recorded sites
- Allow a protection buffer of the slope, as artefacts have likely eroded downslope and been displaced
- Ensure sediment controls are in place to prevent further downslope erosion of artefacts
- If areas of higher archaeological potential cannot be avoided, these should be tested and salvaged
- If the concrete slab needs to be removed for the construction car park or work done in the electricity easement or Woodstock Avenue area, these should be archaeologically tested if they cannot be avoided
- An opportunity for community collection (monitoring as articulated by Kadibulla) by Aboriginal parties for cut, excavation, fill, and geotechnical investigations for Aboriginal objects which are highly likely to be identified. Aboriginal objects frequently turn up in fill and they still have heritage value (Note by author: both cultural *and* archaeological value, see also *Blacktown DCP*). Sometimes it is incorrectly assumed from boreholes data that objects won't be there
- Usewear/residue analysis to be completed on retouched flakes/utilised tools following the considerations of the cultural values of these Aboriginal objects and their archaeological value.
- Long term care of moved or salvaged objects
 - Aboriginal objects should be returned to Country, kept on Country or displayed on site to increase cultural awareness. "You are here and part of the oldest living culture". For example, on some sites, artefacts have been put on display in the ground with a Perspex cover.

Opportunities for continued connection to Country for Aboriginal people:

- Consider employment of Aboriginal green teams for landscape, plantings, seedbanks and land care
- Engagement of Aboriginal people for inductions, monitoring of earthworks, mitigation and management measures for Aboriginal objects
- Assistance with the creation and review of site induction package

- Opportunity for reburial and smoking ceremony for artefacts identified during works
- Opportunities for the possible engagement for rehabilitation of native vegetation post construction by landscaping “green teams”.

Aunty Thelmerie Rudd, representing Darug Aboriginal Resource Centre, made the following recommendations with respect to care of Aboriginal objects and future opportunities:

Management of Aboriginal objects:

- Short- and long-term care of objects/artefacts must be photographed and recorded.
- Where possible, no artefacts are to be removed from the site.
- Where possible, rebury artefacts in a safe and culturally appropriate manner, including a smoking ceremony.
- Suggests that artefacts be stored with “a Dharug organisation such as Murru Mittigar”

The proponent has committed to reburial and smoking ceremony as feasible if Aboriginal cultural material can be reburied in the area being rehabilitated in the south (or can consider other suggested options with other RAPs such as repository with the Deerubbin LALC or educational opportunity as part of a future Care agreement with the RAPs and Heritage NSW.

Opportunities for continued connection to Country for Aboriginal people:

- Engage Aboriginal people to “co-develop or review” an induction package for this project. They recommended that Dharug people are engaged for this service.
- Design elements, including landscaping and building should “reflect the Cumberland Plains and Dharug people’s connection to country through language, artwork and design elements” and utilise a Connecting with Country framework.

The proponent is committed to Connecting with Country design principles being considered in the final design.

11 Recommendations

Based on the description of project impacts provided by LCI Consultants, the results of the survey, Aboriginal consultation to date, the limitations of this assessment and previous archaeological research, the following recommendations are made below in **Table 19**.

Management recommendations of this assessment consider the archaeological (scientific values) as set out in The Burra Charter and the requirements of Heritage NSW for the Archaeological Survey Report (Archaeological Assessment). The ACHA to which this report is appended includes management recommendations which consider the social (cultural), spiritual, aesthetic and historic values of The Burra Charter. **The proponent must consider the ACHA recommendations in conjunction with the recommendations of this Archaeological Assessment.**

Table 19 Archaeological Assessment Recommendations.

Recommendations

1	Aboriginal Heritage Plan	Cultural Heritage Management Plan
		Prior to the commencement of construction works, an Aboriginal Cultural Heritage Management Plan (ACHMP) must be prepared and submitted to the Department for approval. The ACHMP should include: 1. Roles and responsibilities for undertaking actions within the ACHMP 2. Include protocols for continued consultation with Registered Aboriginal Parties throughout the remainder of the project, including: a. Processes, timing and methods for the involvement of Registered Aboriginal Parties in cultural heritage works. b. Processes outside of internal areas once operational will be considered to allow reasonable access to members of the Aboriginal community Aboriginal cultural heritage sites within the project area throughout the life of the Glendenning Data Centre project 3. If not previously completed, discussion and identification of any areas of feasible design optimisation with the RAPs to avoid or further minimise harm to identified Aboriginal sites, objects, places and values. 4. Detail description and methods to conserve portions of areas of high and moderate archaeological potential and Aboriginal objects and heritage values within it (i.e. 45-5-0483, 45-5-0456, 45-5-0474, 45-5-2776, 45-5-2461, 45-5-2462). This may include sediment and erosion control to minimise the risk of erosion and further displacement of Aboriginal objects and archaeological deposits, fencing of sites put in place with a qualified archaeologist or experienced RAP site officer, land care and/or ongoing monitoring to ensure the effectiveness of controls and the site's retention during, and following construction. 5. Detail descriptions and methods to avoid any inadvertent impacts to known Aboriginal objects and/or sites and areas of archaeological potential outside of the construction activities (for example, 45-5-0475, Aboriginal sites and deposits along Woodstock Avenue, area of archaeological potential (Brown

Recommendations

		2008), Known archaeological sites and areas of archaeological sensitivity in the Blacktown DCP 2015). This should include, but not be limited to: i. Works specific Aboriginal Cultural Inductions to be undertaken by the general contractor for all ground disturbing works and activities that could harm Aboriginal objects or areas of archaeological and cultural sensitivity. - o The general contractor shall ensure that these cultural inductions is developed and /or delivered by a heritage consultant with Aboriginal heritage expertise, or by the Local Aboriginal Land Council. - o The induction shall indicate Aboriginal objects or sites could be revealed during works, where they would likely be found (by use of site diagrams) and present photos of what they will look like in situ and isolation. The induction shall also inform staff and contractors what to do if they find an Aboriginal object or site. ii. Erosion and sediment control. iii. Fencing and clear marking of heritage sites and zones of interest in close proximity to proposed works. This should be done with an experience Sites Officer of Registered Aboriginal Parties or a qualified archaeologist. iv. If needed, any additional requirements identified by the Aboriginal community through consultation. v. A suitable program of monitoring to ensure the effectiveness of these control measures should also be outlined, including locations, methods, personnel and timing. 6. Include an archaeological research design and methodology that outlines methods, staging and procedures for: a. A requirement for all salvage works to be carried out under the supervision of a qualified archaeologist and representatives of the Registered Aboriginal Parties (RAPs) for the project. b. Archival recording of all Aboriginal cultural heritage sites and Aboriginal objects within the project area before and after construction, including: i. a requirement for AHIMS Site Card update to be completed for all Aboriginal sites in the project area to update them on their current condition and attach site records to previous permits and reports. ii. Aboriginal Site Impact Recording Forms to be completed for any Aboriginal objects if impacted
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Recommendations

		by the proposed development in accordance with any future SSD consent. c. Surface collections in areas of low, moderate and high archaeological potential where impacts cannot be avoided. d. Archaeological salvage excavations in areas of high archaeological potential where impacts cannot be avoided. e. Community collection in areas of low, moderate and high archaeological potential where impacts cannot be avoided. f. Triggers for archaeological salvage should intact archaeological deposits be identified in areas of low and moderate archaeological potential. g. Triggers for undertaking archaeological salvage during any historical archaeological investigations. h. Documentation, attribute recording, analysis and reporting on all Aboriginal objects identified in the project area. Consideration should be given to undertaking usewear and residue analysis on a sample of utilised stone artefacts. i. Processing of chronological, soil and environmental samples recovered during any archaeological salvage excavations. j. The short term and long term care of Aboriginal objects and materials within or recovered from the project area. To date, Registered Aboriginal Parties have indicated a preference for Aboriginal objects and material to be retained on site. 7. Procedures for undertaking further Aboriginal cultural heritage assessment, investigation and mitigation of any areas of the project that have changed following completion of the ACHA and/or during the final design and construction phases of the project; 8. Processes for reviewing, monitoring and updating the ACHMP as the project progresses, including incorporating any mitigation measures identified in the ACHA being prepared and in accordance with the requirements of any future project approval conditions. 9. A heritage-interpretation strategy and plan is recommended to be integrated into the ACHMP, to mitigate harm to cultural values by providing direction for and interpretive opportunities for the project both for users on site and off site (for example users of surrounding footpaths), if it can be achieved within the security requirements for the proposal. This strategy should be made available for consultation and feedback with the RAPs.
2	Construction Environmental Management Plan	The Construction Environment Management Plan (CEMP), or equivalent, should incorporate key elements of the ACHMP and must incorporate:

Recommendations

		• Cultural Awareness Training and Heritage Induction that includes: ○ An Unexpected Finds Procedure for Aboriginal Objects. ○ Unexpected Human Remains Procedure ○ A briefing on the possible identification of Aboriginal sites and objects during construction, including mapped heritage exclusion zones and briefed on their responsibility according to the provisions of the NPW Act 1974, in the event that unknown objects are uncovered during proposed works. ○ The contact phone numbers of Heritage NSW regional archaeologist, EnviroLine 131 555, and Deerubbin LALC. ○ The relevant contact phone number of the Environmental Officer / Site Supervisor responsible for this project in case unknown objects are uncovered during excavation. ○ The penalties for moving Aboriginal objects needs to be made clear and given due consideration. ○ An outline of the types of unexpected heritage objects and their legal protection Registered Aboriginal Parties should be provided the opportunity to input into or deliver cultural awareness training and heritage inductions by the general works contractor as noted earlier.
3	Provision of information to other land users	Copies of the ACHMP, updated site cards and any SSD consent conditions should be provided to other land users of the project area (for example Endeavour Energy and Sydney Water)

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Appendix A AHIMS

Virtus Heritage Pty Ltd - Pottsville

38 Border Crescent

Pottsville New South Wales 2489

Attention: Lilith Malcolm

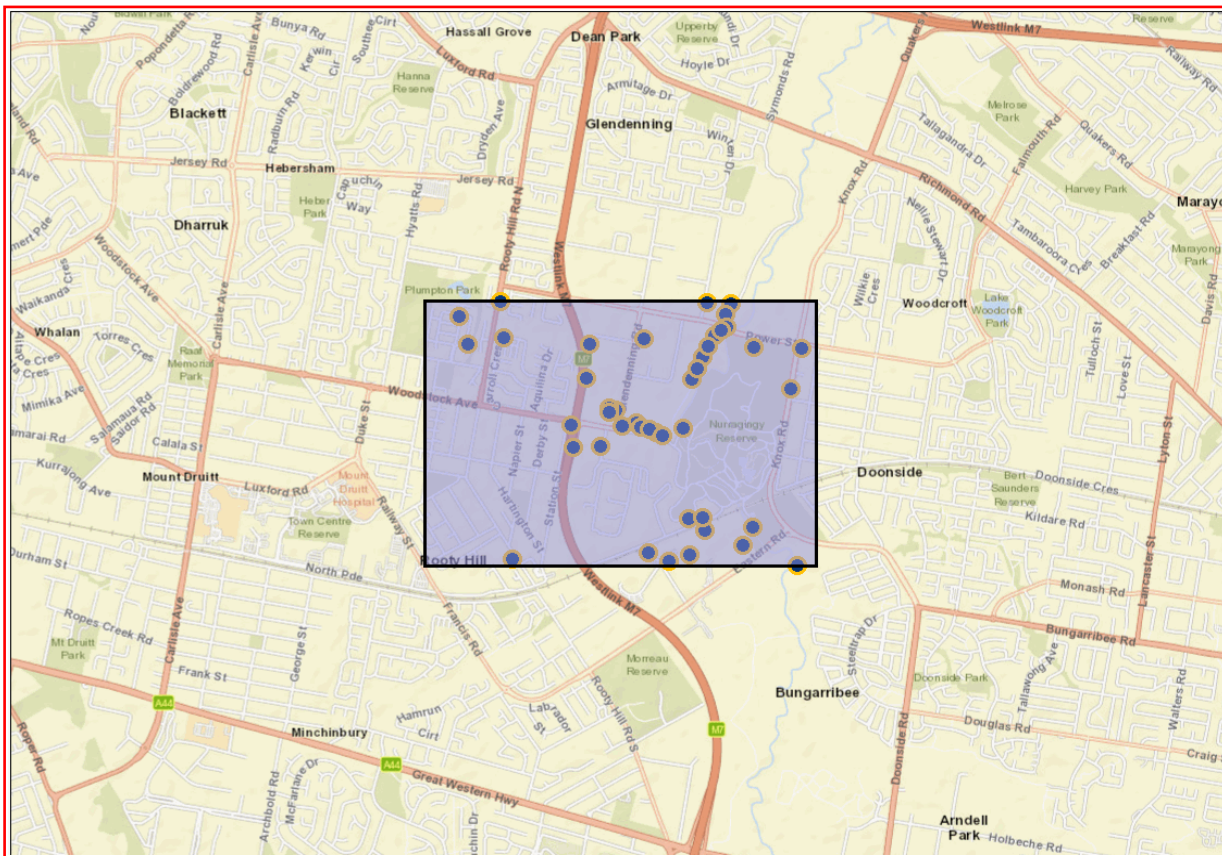
Email: l.malcolm@virtusheritage.com.au

Date: 13 May 2024

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -33.7702, 150.8352 - Lat, Long To : -33.7524, 150.8661, conducted by Lilith Malcolm on 13 May 2024.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

44	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette \(https://www.legislation.nsw.gov.au/gazette\)](https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 518

Client Service ID : 895458

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-5-2461	WNIF1	AGD	56	301050	6262080	Open site	Valid	Artefact : -	Isolated Find	4600
	Contact	Recorders		Michael Green				Permits	1424	
45-5-2462	WN2	AGD	56	301100	6262050	Open site	Valid	Artefact : -	Open Camp Site	4600
	Contact	Recorders		Michael Green				Permits	1424,2635	
45-5-2431	EC-OS-3	AGD	56	301750	6261230	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders		Mrs.Robynne Mills				Permits		
45-5-2432	EC-OS-2	AGD	56	301060	6261160	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders		Mrs.Robynne Mills				Permits		
45-5-0466	Doonside 4 (Doonside)	AGD	56	301210	6261100	Open site	Valid	Artefact : -	Open Camp Site	1018,4188
	Contact	Recorders		Jim Kohen				Permits		
45-5-0470	Doonside 5 Services Corridor	AGD	56	302150	6261090	Open site	Valid	Artefact : -	Open Camp Site	1018
	Contact	Recorders		Jim Kohen				Permits		
45-5-0474	Southeast Plumpton 4	AGD	56	301150	6262030	Open site	Valid	Artefact : -	Open Camp Site	1018
	Contact	Recorders		Jim Kohen				Permits	941	
45-5-0475	Southeast Plumpton 3	AGD	56	301300	6262090	Open site	Valid	Artefact : -	Open Camp Site	1018
	Contact	Recorders		Jim Kohen				Permits	2635	
45-5-1100	Cannery Road;	AGD	56	299940	6263000	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders		Michael Guider				Permits		
45-5-0872	PB 1;	AGD	56	301600	6262850	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders		Doctor.Jo McDonald				Permits	379,396,2635	
45-5-0873	PB 2;	AGD	56	301560	6262820	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders		Doctor.Jo McDonald				Permits	2635	
45-5-0884	Nurragingy 1;	AGD	56	302149	6262698	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders		Doctor.Jo McDonald				Permits	3985	
45-5-0885	Nurragingy 2;	AGD	56	302080	6262400	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders		Doctor.Jo McDonald				Permits		
45-5-0445	Woodstock open site Plumpton	AGD	56	300580	6262450	Open site	Valid	Artefact : -	Open Camp Site	1018
	Contact	Recorders		Mary Dallas Consulting Archaeologists (MDCA)				Permits	1398	
45-5-0456	South East Plumpton 5	AGD	56	300990	6262090	Open site	Valid	Artefact : -	Open Camp Site	947,1018,4600
	Contact	Recorders		Jim Kohen				Permits	942,994,1424	
45-5-0223	Eastern Creek;Doonside;	AGD	56	301800	6262700	Open site	Valid	Artefact : -, Modified Tree (Carved or Scarred) : -	Open Camp Site,Scarred Tree	
	Contact	Recorders		Jim Kohen				Permits	3985	
45-5-0747	RH 1	AGD	56	300480	6262100	Open site	Valid	Artefact : -	Open Camp Site	1547
	Contact	Recorders		Margrit Koettig				Permits	1398	
45-5-0483	Southeast Plumpton 6 Rooty Hill	AGD	56	300850	6262100	Open site	Valid	Artefact : -	Open Camp Site	1018

Report generated by AHIMS Web Service on 27/05/2024 for Lilith Malcolm for the following area at Lat, Long From : -33.7702, 150.8352 - Lat, Long To : -33.7524, 150.8661. Number of Aboriginal sites and Aboriginal objects found is 44

This information is not guaranteed to be free from error omission. Heritage NSW and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 518

Client Service ID : 895458

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
	Contact	Recorders	Jim Kohen					Permits	940	
45-5-0488	Bells Creek D Rooty Hill	AGD	56	299710	6262680	Open site	Valid	Artefact : -	Open Camp Site	1018
	Contact	Recorders	Jim Kohen					Permits		
45-1-0221	IF1;;	GDA	56	301560	6263220	Open site	Valid	Artefact : -	Isolated Find	2440,103874
	Contact	Recorders	Mr.David Crew,Mr.Chris Langeluddecke,AMBS Ecology & Heritage					Permits	4314	
45-5-2707	GDI	AGD	56	301000	6262750	Open site	Valid	Artefact : -		
	Contact	Recorders	Deerubbin LALC					Permits		
45-5-2718	PAD-OS-10	AGD	56	300600	6262700	Open site	Valid	Artefact : -		
	Contact	Recorders	Mrs.Robynne Mills					Permits		
45-5-2776	Glendenning rd 1	AGD	56	300950	6262120	Open site	Valid	Artefact : -		
	Contact	Recorders	Navin Officer Heritage Consultants Pty Ltd					Permits		
45-5-2777	South East Plumpton 6.5	AGD	56	300800	6262210	Open site	Partially Destroyed	Artefact : -		100446
	Contact	Recorders	Andrew Knight					Permits	1391,2646	
45-5-2864	Kellogg Road 1	AGD	56	300070	6261090	Open site	Valid	Artefact : -		
	Contact	Recorders	Doctor.Jillian Comber					Permits	2050	
45-5-3018	EC_AMBS_01	AGD	56	301352	6261416	Open site	Valid	Artefact : -		
	Contact	Recorders	Matthew Kelleher					Permits	2150	
45-5-3019	EC_AMBS_02	AGD	56	301452	6261426	Open site	Valid	Artefact : -		
	Contact	Recorders	Matthew Kelleher					Permits	2150	
45-5-3104	Sept2000/A	AGD	56	300750	6262230	Open site	Valid	Artefact : 1		
	Contact T Russell	Recorders	Andrew Knight					Permits		
45-5-3105	Sept2000/B	AGD	56	300750	6262200	Open site	Valid	Artefact : 1		
	Contact T Russell	Recorders	Andrew Knight					Permits		
45-5-3422	bop pad 1	GDA	56	301469	6261336	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	Contact	Recorders	Navin Officer Heritage Consultants Pty Ltd					Permits	2973	
45-5-3426	bop6 pad	GDA	56	301923	6261557	Open site	Valid	Artefact : 3		
	Contact	Recorders	Navin Officer Heritage Consultants Pty Ltd					Permits		
45-5-3419	BOP (Blacktown Olympic Park) PAD 1	AGD	56	301470	6261337	Open site	Valid	Potential Archaeological Deposit (PAD) : -		100842
	Contact	Recorders	Navin Officer Heritage Consultants Pty Ltd					Permits	2911	
45-5-3698	Phillip Pwy	GDA	56	300600	6262120	Open site	Valid	Artefact : -		
	Contact	Recorders	Michael Guider					Permits		
45-5-3699	Glen Trib	GDA	56	300800	6262130	Open site	Valid	Artefact : -		
	Contact	Recorders	Michael Guider					Permits		

Report generated by AHIMS Web Service on 27/05/2024 for Lilith Malcolm for the following area at Lat, Long From : -33.7702, 150.8352 - Lat, Long To : -33.7524, 150.8661. Number of Aboriginal sites and Aboriginal objects found is 44

This information is not guaranteed to be free from error omission. Heritage NSW and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-5-3643	EC132kVPAD01	GDA	56	301456	6262641	Open site	Valid	Potential Archaeological Deposit (PAD) :-		
	<u>Contact</u>	<u>Recorders</u>	Mr.Oliver Brown					<u>Permits</u>	3133	
45-5-3644	EC132kVPAD 02	GDA	56	301496	6262724	Open site	Valid	Potential Archaeological Deposit (PAD) :-		
	<u>Contact</u>	<u>Recorders</u>	Mr.Oliver Brown					<u>Permits</u>	3133	
45-5-3645	EC132kVPAD 03	GDA	56	301536	6262809	Open site	Valid	Potential Archaeological Deposit (PAD) :-		
	<u>Contact</u>	<u>Recorders</u>	Mr.Oliver Brown					<u>Permits</u>	3133	
45-5-3646	EC132kVPAD 04	GDA	56	301575	6262891	Open site	Valid	Potential Archaeological Deposit (PAD) :-		
	<u>Contact</u>	<u>Recorders</u>	Mr.Oliver Brown					<u>Permits</u>	3133	
45-5-3647	EC132kVPAD 05	GDA	56	301615	6262970	Open site	Valid	Potential Archaeological Deposit (PAD) :-		
	<u>Contact</u>	<u>Recorders</u>	Mr.Oliver Brown					<u>Permits</u>	3133	
45-5-3648	EC132kVPAD 06	GDA	56	301693	6263135	Open site	Valid	Potential Archaeological Deposit (PAD) :-		103874
	<u>Contact</u>	<u>Recorders</u>	Mr.Oliver Brown					<u>Permits</u>	3133,4314	
45-5-3649	EC132kVPAD 07	GDA	56	301732	6263215	Open site	Valid	Potential Archaeological Deposit (PAD) :-		103874
	<u>Contact</u>	<u>Recorders</u>	Mr.Oliver Brown					<u>Permits</u>	3133,4314	
45-5-4060	309-315 Rooty Hill Rd Nth IF1	GDA	56	299750	6263075	Open site	Destroyed	Artefact :-		102275
	<u>Contact</u>	<u>Recorders</u>	Dominic Steele Archaeological Consulting,Dominic Steele Archaeological Consulting					<u>Permits</u>	3435	
45-5-4438	RHN01 (and associated PAD) (duplicate of 45-5-4490)	GDA	56	300074	6262921	Open site	Valid	Artefact :- , Potential Archaeological Deposit (PAD) :-		
	<u>Contact</u>	<u>Recorders</u>	Mr.David Burke					<u>Permits</u>		
45-5-4490	RHN01 (and association PAD) (duplicate of 45-5-4438)	GDA	56	300074	6262921	Open site	Valid	Potential Archaeological Deposit (PAD) :- , Artefact :-		103720
	<u>Contact</u>	<u>Recorders</u>	Mr.David Burke					<u>Permits</u>	3886	



AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 518
Client Service ID : 895458

<u>SiteID</u>	<u>SiteName</u>	<u>Datum</u>	<u>Zone</u>	<u>Easting</u>	<u>Northing</u>	<u>Context</u>	<u>Site Status **</u>	<u>SiteFeatures</u>	<u>SiteTypes</u>	<u>Reports</u>
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**** Site Status**

Valid - The site has been recorded and accepted onto the system as valid

Destroyed - The site has been completely impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There is nothing left of the site on the ground but proponents should proceed with caution.

Partially Destroyed - The site has been only partially impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There might be parts or sections of the original site still present on the ground

Not a site - The site has been originally entered and accepted onto AHIMS as a valid site but after further investigations it was decided it is NOT an aboriginal site. Impact of this type of site does not require permit but Heritage NSW should be notified

Report generated by AHIMS Web Service on 27/05/2024 for Lilith Malcolm for the following area at Lat, Long From : -33.7702, 150.8352 - Lat, Long To : -33.7524, 150.8661. Number of
Aboriginal sites and Aboriginal objects found is 44

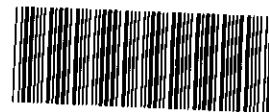
This information is not guaranteed to be free from error omission. Heritage NSW and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.



National Parks and Wildlife Service

BOX N189, GROSVENOR STREET POST OFFICE, SYDNEY, NSW 2000. TEL (02) 237 6500

Standard Site Recording Form



45-5-0456

MAP NAME	EDITION	SCALE	REFERENCE	HEAD OFFICE USE ONLY:
PENRITH	1975	1:100000	0099 3209	NWPS site no: 45-5-456
PROSPECT		1:25000	3/0099 3209	Site types: Open Surface Scatter. File nos: Date 17/10/85.
Sydney.	Imp.	250K.	384 8294.	Filed by: PT.
Site name: SOUTHEAST PLUMPTON 5		Locality/property name:		Owner/Manager:
Local post office: ROOTY HILL		Address:		
NPWS District: SYDNEY		Region: WESTERN		
Reason for investigation (give R.O. instruction no. where applicable): ARCHAEOLOGICAL SURVEY OF REZONED INDUSTRIAL AREAS, BLACKTOWN CITY COUNCIL				
Portion no:		Other land category:		Plan/sketch/section of site attached? Yes/No.
Parish:		County:		How many?
Air photo refs. (for stereo pair)				Photos taken? Yes/No
				How many attached? 2
How to get to the site (refer to permanent features, give best approach to site eg. from above, below, along cliff. (Draw diagram on separate sheet.) TRAVEL TO THE INTERSECTION OF GLENDENNING ROAD AND WOODSTOCK AVE PLUMPTON. SITE IS ALONG TRACK TO THE EAST (EXTENSION OF ROAD).				
Other sites in locality? Yes/No.		Site Types include: OPEN SURFACE SCATTER		
Are sites in NPWS Register? Yes/No.		Unregistered sites — plans for future recording? Yes/No.		
Have artefacts been removed from site? Yes/No/don't know.		When? FEB 1985		
By whom? J. KOHEN		Deposited where? MACQUARIE UNIVERSITY		
Is site important to local Aborigines? Yes/No/don't know.				
Give contact(s) name(s) + address(es) STEVEN LALOR, SENIOR SITES CURATOR C/O DARUK LOCAL ABORIGINAL LAND COUNCIL, ST. MARYS.				
Contacted for this recording? Yes/No				
(Attach additional information separately) If not, why not?				
Verbal/written reference sources (including full title of accompanying report). AN ARCHAEOLOGICAL SURVEY OF INDUSTRIAL LAND IN THE CITY OF BLACKTOWN, BY J. L. KOHEN, FEBRUARY 1985.				
Checklist: surface visibility, damage/disturbance/ threat to site	Condition of site: AREA DISTURBED- ROAD AND TRACK			
Recommendations for management & protection (attach separate sheet if necessary) CONSULTATION REQUIRED BETWEEN DARUK LAND COUNCIL, NP&W SERVICE AND LOCAL COUNCIL TO MANAGE THE SITE COMPLEX OF WHICH THIS SITE FORMS A PART.				
Site recorded by: J. L. KOHEN		Date: 29/4/85		
Address/institution: 123 KILLARNEY AVE., BLACKTOWN 2148				

SITE POSITION & ENVIRONMENT

OFFICE USE ONLY: NPWS site no:

1. Land form a. beach/hill slope/ridge top, etc:

RIDGE TOP AND SLOPE

b. site aspect:

c. slope:

d. mark on diagram provided or on your own sketch the position of the site:

e. Describe briefly:



f. Local rock type:

WIANAMATTA SHALE

g. Land use/effect:

ROAD AND TRACK

2. Distance from drinking water:

200 M

Source:

EASTERN CREEK

3. Resource Zone associated with site (estuarine, riverine, forest etc):

FORESTICREEK, PARTLY CLEARED.

4. Vegetation:

EUCALYPT WOODLAND

5. Edible plants noted:

NONE

6. Faunal resources (include shellfish):

FRESHWATER MUSSELS, FISH, EELS

7. Other exploitable resources (river pebbles, ochre, etc):

SILCRETE OUTCROPS

Site type:

*OPEN
SURFACE
SCATTER*

DESCRIPTION OF SITE & CONTENTS.

Note state of preservation of site & contents. Do NOT dig, disturb, damage site or contents.

CHECKLIST TO HELP:

length, width, depth,
height of site, shelter,
deposit, structure,
element eg. tree scar,
grooves in rock.

DEPOSIT: colour,
texture, estimated
depth, stratigraphy,
contents-shell, bone,
stone, charcoal, density
& distribution of these,
stone types, artefact
types.

ART: area of surface
decorated, motifs,
colours, wet, dry
pigment, technique of
engraving, no. of
figures, sizes,
patination

BURIALS: number &
condition of bone,
position, age, sex,
associated artefacts.

TREES: number, alive,
dead, likely age, scar
shape, position, size,
patterns, axe marks,
regrowth

QUARRIES: rock type,
debris, recognisable
artefacts, percentage
quarried.

OTHER SITES EG:
structures (fish traps,
stone arrangements,
bora rings, mia mias),
mythological sites, rock
holes, engraved groove
channels, contact sites
(missions massacres
cemeteries) as
appropriate

A TOTAL OF 60 STONE ARTEFACTS WERE FOUND ON AND IMMEDIATELY ADJACENT TO THE TRACK WHICH FORMS AN EASTERLY EXTENSION OF WOODSTOCK AVENUE. THEY WERE PREDOMINANTLY SILCRETE FLAKES AND CORES, BUT ALSO INCLUDED A BIFACIALLY FLAKED BASALT PEBBLE WITH ANVIL PITTING (PROBABLY A DISCARDED EDGE-GROUND HATCHET), ONE PARTIALLY BACKED SILCRETE BLADE, A SILCRETE SCRAPER AND CHERT AND QUARTZ FLAKES.

SEVEN LARGE TREES WITHIN 200 METERS OF THIS SITE HAD SYMMETRICAL FLAKE SCARS UP TO 60 CM LONG, AND MAY WELL BE THE RESULT OF ABORIGINAL ACTIVITY IN THIS AREA. SIMILAR SCARRED TREES WERE REPORTED ON THE OPPOSITE SIDE OF THE CREEK IN 1979. THIS SITE FORMS PART OF A LARGE SITE COMPLEX IN THIS VICINITY.

Attach sketches etc, eg. plan & section of shelter, show relation between site contents, indicate north, show scale.

Attach annotated photos (stereo where useful) showing scale, particularly for art sites.



45-5-0456
45-5-2462
45-5-2461

AH/MS

AHIMS PERMIT #: 1424

**NATIONAL PARKS AND WILDLIFE ACT 1974
SECTION 90**

CONSENT

**CONSENT TO CARRY OUT THE DESTRUCTION OF AN
ABORIGINAL OBJECT/PLACE**

WHEREAS the Aboriginal objects described in Schedule "A" are situated upon the land described in Schedule "B", and which constitute Aboriginal objects within the meaning of Section 90 of the National Parks and Wildlife Act 1974, and WHEREAS application has been made by:

Ian Reynolds, General Manager

of (address in full):

**Blacktown City Council, 62 Flushcombe Road
Blacktown NSW 2148**

FOR CONSENT to destroy those Aboriginal objects in the course of:

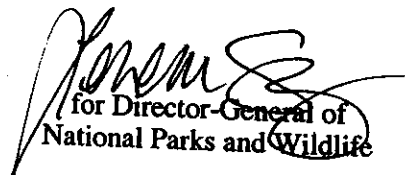
Proposed road upgrade, Nurragingy Reserve, Blacktown

NOW I, Brian Gilligan, Director-General of National Parks and Wildlife, in pursuance of Section 90 of the said Act, and subject to the Conditions hereunder set out DO HEREBY CONSENT to the destruction of the said Aboriginal objects by the said applicant.

TERMS AND CONDITIONS OF THIS CONSENT

This Consent is issued subject to General Terms and Conditions covering all archaeological Permits and Consents, as well as the Specific Terms and Conditions pertaining to Consents to destroy Aboriginal objects all of which conditions are detailed in the attached pages.

DATED at Sydney this 14th day of March, 2003


for Director-General of
National Parks and Wildlife



SOUTHEAST PLUMPTON 5 FACING NORTH

FLAKED BASALT PEBBLE INDICATED



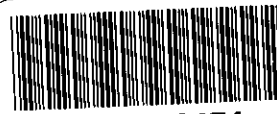
SOUTHEAST PLUMPTON 5 FACING EAST



National Parks and Wildlife Service

BOX N189, GROSVENOR STREET POST OFFICE, SYDNEY, NSW 2000. TEL (02) 237 6500

Standard Site Recording Form

MAP NAME	EDITION	SCALE	REFERENCE	HEAD OFFICE USE ONLY:
PENRITH	1975	1:100000	0115 6203	NWPS site no: 45-5-474
PROSPECT		1:25000	3/ 62 0115 6203	Site types: Open Surface Scatter. File nos: Date 17/10/85.
SYDNEY	1/MP.	250K.	3845 8291.	Filed by: <i>AT</i> .
Site name: SOUTHEAST PLUMPTON 4		Locality/property name:		Owner/Manager:
Local post office: ROOTY HILL				Address:
NPWS District: SYDNEY		Region: WESTERN		 45-5-0474
Reason for investigation (give R.O. instruction no. where applicable): ARCHAEOLOGICAL SURVEY OF REZONED INDUSTRIAL AREAS, BLACKTOWN CITY COUNCIL				
Portion no:		Other land category:		Plan/sketch/section of site attached? Yes/No.
Parish:		County:		How many?
Air photo refs. (for stereo pair)			Photos taken? Yes/No	
			How many attached? 2	
How to get to the site (refer to permanent features, give best approach to site eg. from above, below, along cliff. (Draw diagram on separate sheet.) TRAVEL TO THE INTERSECTION OF GLENDENNING ROAD AND WOODSTOCK AVE PLUMPTON. SITE IS TO THE EAST BESIDE TRANSMISSION LINE.				
Other sites in locality? Yes/No.		Site Types include: OPEN SURFACE SCATTER		
Are sites in NPWS Register? Yes/No.		Unregistered sites — plans for future recording? Yes/No.		
Have artefacts been removed from site? Yes/No/don't know. When?				
By whom? Deposited where?				
Is site important to local Aborigines? Yes/No/don't know.				
Give contact(s) name(s) + address(es) STEVEN LALOR, SENIOR SITES CURATOR C/O DARUK LOCAL ABORIGINAL LAND COUNCIL, ST. MARYS.				
Contacted for this recording? Yes/No				
(Attach additional information separately) If not, why not?				
Verbal/written reference sources (including full title of accompanying report) AN ARCHAEOLOGICAL SURVEY OF INDUSTRIAL LAND IN THE CITY OF BLACKTOWN, BY J. L. KOHEN, FEBRUARY 1985.				
Checklist: surface visibility, damage/disturbance/ threat to site	Condition of site: AREA DISTURBED- O'HEAD TRANSMISSION			
Recommendations for management & protection (attach separate sheet if necessary). CONSULTATION REQUIRED BETWEEN DARUK LAND COUNCIL, NP&W SERVICE AND LOCAL COUNCIL TO MANAGE THE SITE COMPLEX OF WHICH THIS SITE FORMS A PART.				
Site recorded by: J. L. KOHEN		Date: 29/4/85		
Address/institution: 123 KILLARNEY AVE., BLACKTOWN 2148				

SITE POSITION & ENVIRONMENT

OFFICE USE ONLY: NPWS site no:

1. Land form a. beach/hill slope/ridge top, etc:

HILL SLOPE

b. site aspect:

c. slope:

d. mark on diagram provided or on your own sketch the position of the site:

e. Describe briefly:



f. Local rock type:

WIANAMATTA SHALE

g. Land use/effect:

O'HEAD TRANSM.

2. Distance from drinking water:

200 M

Source:

EASTERN CREEK

3. Resource Zone associated with site (estuarine, riverine, forest etc):

FOREST/CREEK, CLEARED.

4. Vegetation:

EUCALYPT WOODLAND

5. Edible plants noted:

NONE

6. Faunal resources (include shellfish):

FRESHWATER MUSSELS, FISH, EELS

7. Other exploitable resources (river pebbles, ochre, etc):

SILCRETE OUTCROPS

Site type:

OPEN

SURFACE

SCATTER

CHECKLIST TO HELP:

length, width, depth,
height of site, shelter,
deposit, structure,
element eg. tree scar,
grooves in rock.

DEPOSIT: colour,
texture, estimated
depth, stratigraphy,
contents-shell, bone,
stone, charcoal, density
& distribution of these,
stone types, artefact
types.

ART area of surface
decorated, motifs,
colours, wet, dry
pigment, technique of
engraving, no. of
figures, sizes,
patination.

BURIALS: number &
condition of bone,
position, age, sex,
associated artefacts.

TREES: number, alive,
dead, likely age, scar
shape, position, size,
patterns, axe marks,
regrowth.

QUARRIES: rock type,
debris, recognisable
artefacts, percentage
quarried.

OTHER SITES EG.
structures (fish traps,
stone arrangements,
bora rings, mia mias),
mythological sites, rock
holes, engraved groove
channels, contact sites
(missions massacres
cemeteries) as
appropriate.

DESCRIPTION OF SITE & CONTENTS.

Note state of preservation of site & contents. Do NOT dig, disturb, damage site or contents.

*ON A RISE 200 METERS WEST OF EASTERN CREEK,
AND IMMEDIATELY WEST OF AN OVERHEAD
TRANSMISSION LINE, AN ERODED AREA 10 X 5 M
WAS LOCATED WITH 14 ARTEFACTS ON THE
SURFACE. THEY INCLUDED A SILCRETE CORE, TWO
CHERT FLAKES (ONE OF WHICH WAS UTILISED),
AND THREE QUARTZ FRAGMENTS. THIS SCATTER
APPEARS TO BE PART OF A COMPLEX EXTENDING
FROM THE CREEK UP TO THE TOP OF A LOW RIDGE.*

Attach sketches etc. eg. plan & section of shelter, show relation between site contents,
indicate north, show scale.

Attach annotated photos (stereo where useful) showing scale, particularly for art sites.

45-5-474



SOUTHEAST PLUMPTON 4 FACING NW



CORES AND FLAKES FROM SOUTHEAST PLUMPTON 4



National Parks and Wildlife Service

BOX N189, GROSVENOR STREET POST OFFICE, SYDNEY, NSW 2000. TEL (02) 237 6500

Standard Site Recording Form

REGISTER COPY

MAP NAME	EDITION	SCALE	REFERENCE	HEAD OFFICE USE ONLY:
PENRITH	1975	1:100000	0130 6209	NWPS site no: 45-5-475
PROSPECT		1:25000	0130 6209	Site types: Open Surface Scatter. File nos: Date: 17/10/85
Sydney	Imp.	250K	3857. 82.05	Filed by: [initials]
Site name: SOUTHEAST PLUMPTON 3		Locality/property name:		Owner/Manager:
Local post office: ROOTY HILL		Address:		
NPWS District: SYDNEY		Region: WESTERN		45-5-0475
Reason for investigation (give R.O. instruction no. where applicable): ARCHAEOLOGICAL SURVEY OF REZONED INDUSTRIAL AREAS, BLACKTOWN CITY COUNCIL				
Portion no:		Other land category:		Plan/sketch/section of site attached? Yes/No.
Parish:		County:		How many?
Air photo refs. (for stereo pair)				Photos taken? Yes/No
				How many attached? 1
How to get to the site (refer to permanent features, give best approach to site eg. from above, below, along cliff. (Draw diagram on separate sheet.) TRAVEL TO THE INTERSECTION OF GLENDENNING ROAD AND WOODSTOCK AVE PLUMPTON. SITE IS EAST BETWEEN TRANSMISSION LINE AND THE CREEK.				
Other sites in locality? Yes/No.		Site Types include: OPEN SURFACE SCATTER		
Are sites in NPWS Register? Yes/No.		Unregistered sites — plans for future recording? Yes/No.		
Have artefacts been removed from site? Yes/No/don't know. When?				
By whom? Deposited where?				
Is site important to local Aborigines? Yes/No/don't know.				
Give contact(s) name(s) + address(es) STEVEN LALOR, SENIOR SITES CURATOR C/O DARUK LOCAL ABORIGINAL LAND COUNCIL, ST. MARYS.				
Contacted for this recording? Yes/No.				
(Attach additional information separately) If not, why not?				
Verbal/written reference sources (including full title of accompanying report) AN ARCHAEOLOGICAL SURVEY OF INDUSTRIAL LAND IN THE CITY OF BLACKTOWN. BY J. L. KOHEN, FEBRUARY 1985.				
Checklist: surface visibility, damage/disturbance/ threat to site		Condition of site: AREA DISTURBED- PIPELINE IN EASEMENT		
Recommendations for management & protection (attach separate sheet if necessary) CONSULTATION REQUIRED BETWEEN DARUK LAND COUNCIL, NPWS SERVICE AND LOCAL COUNCIL TO MANAGE THE SITE COMPLEX OF WHICH THIS SITE FORMS A PART.				
Site recorded by: J. L. KOHEN		Date: 29/11/85		
Address/institution: 123 KILLARNEY AVE., BLACKTOWN 2148				

+

SITE POSITION & ENVIRONMENT

OFFICE USE ONLY: NPWS site no:

1. Land form: a. beach/hill slope/ridge top, etc:

ALLUVIAL FLATS

b. site aspect:

c. slope:

d. mark on diagram provided or on your own sketch the position of the site:

e. Describe briefly:

f. Local rock type: *WIANAMATTA SHALE*g. Land use/effect: *SERVICES CORR.*2. Distance from drinking water: *10 M*Source: *EASTERN CREEK*3. Resource Zone associated with site (estuarine, riverine, forest etc):
*FOREST/CREEK, CLEARED.*4. Vegetation: *EUCALYPT WOODLAND*5. Edible plants noted: *NONE*6. Faunal resources (include shellfish): *FRESHWATER MUSSELS, FISH, EELS*
SILCRETE OUTCROPS

7. Other exploitable resources (river pebbles, ochre, etc):

Site type:

OPEN
SURFACE
SCATTER

DESCRIPTION OF SITE & CONTENTS.

Note state of preservation of site & contents. Do NOT dig, disturb, damage site or contents.

CHECKLIST TO HELP:

length, width, depth,
height of site, shelter,
deposit, structure,
element eg. tree scar,
grooves in rock.DEPOSIT: colour,
texture, estimated
depth, stratigraphy,
contents-shell, bone,
stone, charcoal, density
& distribution of these,
stone types, artefact
types.ART: area of surface
decorated, motifs,
colours, wet: dry
pigment, technique of
engraving, no. of
figures, sizes,
patination.BURIALS: number &
condition of bone,
position, age, sex,
associated artefacts.TREES: number, alive,
dead, likely age, scar
shape, position, size,
patterns, axe marks,
regrowth.QUARRIES: rock type,
debris, recognisable
artefacts, percentage
quarried.OTHER SITES EG.
structures (fish traps,
stone arrangements,
bora rings, mia mias),
mythological sites, rock
holes, engraved groove
channels, contact sites
(missions massacres
cemeteries) as
appropriate

MANY BLOCK-FRACTURED SILCRETE LUMPS WERE FOUND ON THE WEST BANK OF EASTERN CREEK WITHIN A SERVICES CORRIDOR. SEVEN DEFINITE SILCRETE ARTEFACTS WERE LOCATED, THREE OF WHICH HAD SHARP RETOUCH OR WERE UTILISED. THE MAJORITY OF THESE FLAKES WERE EXPOSED ON THE SURFACE WHERE A GAS PIPELINE HAD BEEN LAYED, WHILE ONE WAS FOUND BESIDE A SMALL DAM EAST OF THE OVERHEAD TRANSMISSION LINE. THIS SCATTER APPEARS TO BE PART OF A COMPLEX EXTENDING FROM THE CREEK UP TO THE TOP OF A LOW RIDGE.

A
in

Aerial and ground photos taken where useful, showing scale, particularly for any areas.

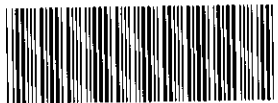


National Parks and Wildlife Service

BOX N189, GROSVENOR STREET POST OFFICE, SYDNEY, NSW 2000. TEL (02) 237 6500

Standard Site Recording Form

REGISTER COPY

MAP NAME	EDITION	SCALE	REFERENCE	HEAD OFFICE USE ONLY:
DEMOTU	1975	1:100000	0085 8210	NWPS site no: 45-5-483.
PROSPECT		1:25000	9/ 0085 8210	Site types: OPEN Surface Scatters. File nos: Date 17/10/85.
Sydney	Imp.	250K.	3839 8294.	Filed by: [Signature]
Site name: SOUTHEAST PLUMPTON A		Locality/property name:		Owner/Manager:
Local post office: BOOTH HILL		Address:		
NPWS District: SYDNEY		Region: WESTERN		45-5-0483
Reason for investigation (give R.O. instruction no. where applicable)				
ARCHAEOLOGICAL SURVEY OF DESIGNATED INDUSTRIAL AREAS, BLACKTOWN CITY COUNCIL				
Portion no	Other land category:	Plan/sketch/section of site attached? Yes/No		
Parish:	County:	How many?		
Air photo refs. (for stereo pair)		Photos taken? Yes/No		
		How many attached? 1		
How to get to the site (refer to permanent features, give best approach to site eg. from above, below, along cliff (Draw diagram on separate sheet))				
TRAVEL TO THE INTERSECTION OF GLENDENNING ROAD AND WOODSTOCK AVE PLUMPTON. SITE IS INSIDE FENCE AT N.E. CORNER.				
Other sites in locality? Yes/No.		Site Types include: OPEN SURFACE SCATTER		
Are sites in NPWS Register? Yes/No.		Unregistered sites — plans for future recording? Yes/No		
Have artefacts been removed from site? Yes/No/don't know When?				
By whom? Deposited where?				
Is site important to local Aborigines? Yes/No/don't know				
Give contact(s) name(s) + address(es)				
GEO. PARKS (2001) ABORIGINAL LAND MANAGEMENT UNIT, BLACKTOWN				
Contacted for this recording? Yes/No				
(Attach additional information separately. If not, why not?)				
Verbal/written reference sources (including full title of accompanying report)				
AN ARCHAEOLOGICAL SURVEY OF INDUSTRIAL LAND IN THE CITY OF BLACKTOWN BY J. L. KOENIG, FEBRUARY 1985				
Check list: surface visibility damage/disturbance/ threat to site	Condition of site: 100% EXPOSED, CLEAN			
Recommendations for management & protection (attach separate sheet if necessary)				
CONSULTATION REQUIRED BETWEEN PARKS AND COUNCIL, NPWS SERVICE AND LOCAL COUNCIL TO MANAGE THE SITE COMPLEX OF WHICH THIS SITE FORMS A PART.				
Site recorded by: J. L. KOENIG		Date: 28/11/85		
Address/institution: 107 KILLARNEY CRES. BLACKTOWN 2148				

+

SITE POSITION & ENVIRONMENT

OFFICE USE ONLY: NPWS site no:

1. Land form a. beach/hill slope/ridge top, etc:

RIDGE SLOPE

b. site aspect:

c. slope:

d. mark on diagram provided or on your own sketch the position of the site:

e. Describe briefly:



f. Local rock type: *WIANAMATTA SHALE*

g. Land use/effect: *CLEARED*

2. Distance from drinking water: *250 M*

Source: *EASTERN CREEK*

3. Resource Zone associated with site (estuarine, riverine, forest etc):
FOREST/CREEK, PARTLY CLEARED.

4. Vegetation: *EUCALYPT WOODLAND*

5. Edible plants noted: *NONE*

6. Faunal resources (include shellfish): *FRESHWATER MUSSELS, FISH, EELS*
SILCRETE OUTCROPS

7. Other exploitable resources (river pebbles, ochre, etc):

Site type:

*OPEN
SURFACE
SCATTER*

DESCRIPTION OF SITE & CONTENTS.

Note state of preservation of site & contents. Do NOT dig, disturb, damage site or contents.

CHECKLIST TO HELP:
length, width, depth,
height of site, shelter,
deposit, structure,
element eg. tree scar,
grooves in rock.

DEPOSIT: colour,
texture, estimated
depth, stratigraphy,
contents-shell, bone,
stone, charcoal, density
& distribution of these,
stone types, artefact
types.

ART area of surface
decorated, motifs,
colours, wet, dry
pigment, technique of
engraving, no. of
figures, sizes,
patination.

BURIALS: number &
condition of bone,
position, age, sex,
associated artefacts.

TREES: number, alive,
dead, likely age, scar
shape, position, size,
patterns, axe marks,
regrowth.

QUARRIES: rock type,
debris, recognisable
artefacts, percentage
quarried.

OTHER SITES EG:
structures (fish traps,
stone arrangements,
bora rings, mia mias),
mythological sites, rock
holes, engraved groove
channels, contact sites
(missions massacres
cemeteries) as
appropriate.

*A TOTAL OF 16 STONE ARTEFACTS WERE FOUND IN
AN AREA 15 X 5 METERS INSIDE THE FENCE LINE
PARALLEL WITH GLENDENNING ROAD. THESE
INCLUDED FIVE SILCRETE CORES, A QUARTZITE
HAMMERSTONE AND SEVEN SILCRETE FLAKES WITH
RETOUCH OR USEWEAR. THIS SITE FORMS PART OF
A LARGER SITE COMPLEX EXTENDING FROM EASTERN
CREEK TO THE RIDGETOP.*



Attach sketches etc. eg. plan & section of shelter, show relation between site contents,
indicate north, show scale.

Attach annotated photos (stereo where useful) showing scale, particularly for art sites.



Aboriginal Sites Register of NSW

NPWS, PO Box 1967, Hurstville NSW 2220

Standard Site Recording Form



45-5-2461

New Recording ☒ Additional

Information ☐

Site name	WNIF1	NPWS Site Number	45-5-2461		
Owner/manager	Blacktown City Council				
Owner Address	PO Box 63, Blacktown, NSW, 2148				
Location	On the slope of the low ridge running out from Woodstock Avenue and c. 80-100m west of Esatern Creek.				
How to get to the site	Entry is from the end of Woodstock Avenue. Here the road ends, but a track continues heading east towards Eastern Creek. This track runs along a low spur and then goes down the hillslope and turns to the south. This isolated find was located half way down the hillslope.				
1:250,000 map name	Sydney	NPWS map code	45		
AMG Zone	AMG Easting	301050	AMG Northing	6262080	
Method for grid reference	Topographic map	Map scale (if method = map)	1:25,000	Map name	Prospect
NPWS District Name (see map)			NPWS Zone (see map)	Sydney Zone	
Portion no.			Parish		
Site type(s)	Isolated find	Site type code (NPWS use only)			
Description of site and contents CHECKLIST: eg. length, width, depth, height of site, shelter, deposit, structure, element eg. tree scar, grooves in rock. DEPOSIT: colour, texture, estimated depth, stratigraphy, contents-shell, bone, stone, charcoal, density & distribution of these, stone types, artefact types. ART: area of decorated surface, motifs, colours, wet/dry pigment, engraving technique, no. of figures, sizes, patination. BURIALS: number & condition of bone, position, age, sex, associated artefacts. TREES: number, alive, dead, likely age, scar shape, position, size, patterns, axe marks, regrowth. QUARRIES: rock type, debris, recognisable artefacts, percentage quarried.	One silcrete artefact recovered from the margins of the track half way down the hillslope, between site WN1 (45-5-456) on top of the low ridge and site WN2 at the base of the slope.				
Attach photographs and sketches, eg. plan & section of shelter. Do NOT dig, disturb or damage site or contents.					

45-5

Version: June 1998

Data entered by: *MM*

Date entered: 7/6/99



Aboriginal Sites Register of NSW

NPWS, PO Box 1967, Hurstville NSW 2220

Standard Site Recording Form

Land form	Hill slope	Aspect	open	Slope	30 degrees
Mark position of the site					
Local rock type	Bringelly shale/Quaternary alluvium	Land use/effect	road to be constructed		
Distance from drinking water	c. 80m	Source	Eastern Creek		
Resource zone (eg. estuarine, river, forest)	open woodland	Vegetation	Cumberland Plain Woodland		
Edible plants		Faunal resources (include shellfish)			
Other exploitable resources (eg. ochre)	Silcrete quarry sites 4 km northwest				
Are there other sites in the locality	Yes	Are they in the Sites Register	Yes	Other site types include	open sites, PADS
Site condition	Disturbed				
Management recommendations	This isolated find is located in a moderately disturbed location that has moderate potential for intact sub-surface deposit, probably relating to either site WN1 up-slope, or WN2 down-slope on the alluvial flats. On the basis of the surface evidence it is only possibly to judge potential, and more difficult to determine significance. This site can be considered as being part of the larger site complex referred to by Kohen (1985: 29, 33, 38) and as such is assessed as having moderate potential for answering scientific questions. Sub-surface testing has been recommended for sites WN1 and WN2 and will include the area surrounding WNIF1.				
Have artefacts been removed from site	No	When			
By whom		Deposited at			
Consent applied for	☐	Consent issued	☐		
Date of issue		Consent number			



Aboriginal Sites Register of NSW

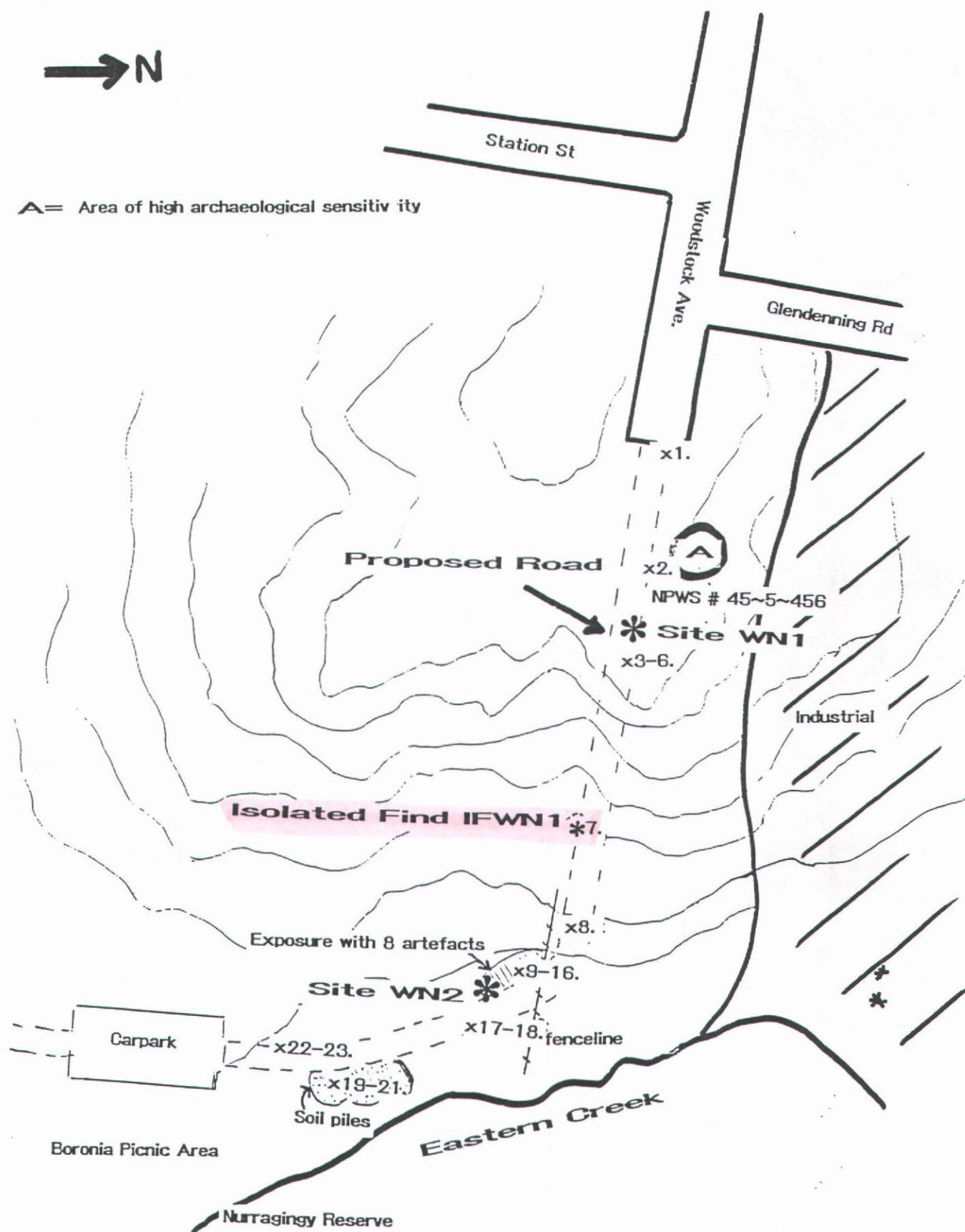
NPWS, PO Box 1967, Hurstville NSW 2220

Standard Site Recording Form

Reason for investigation Were local Aborigines contacted or present for the recording	Council proposed road construction ☐ Not contacted ☒ Contacted and present ☐ Contacted but not present			Names and addresses Steve Randall and Luke Hickey Deerubbin Local Aboriginal Land Council PO BOX 184, MT DRUITT VILLAGE, NSW, 2770.
Is the site important to local Aborigines	Yes			
Verbal/written reference sources	Kohen, J. An archaeological survey of Industrial land in the city of Blacktown. 1985 Jo McDonald CHM. 1999. Survey for prehistoric archaeological sites: Proposed Road into Nurragingy Reserve, Blacktown, NSW.		ASR report number(s) (or title)	C- C-
Photographs taken	Yes		No. of Photos attached	1
Site recorded by	Jodie Benton 1999		Date of recording	9th February 1999
Address/institution	Jo McDonald Cultural Heritage Management 15 Bankside Ave, Undercliffe, 2204.			

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Figure 5: Location of sites recorded during current survey.



DETAILED RECORDING OF ARTEFACTS LOCATED AT SITES WN1, WN2 AND WNIF1

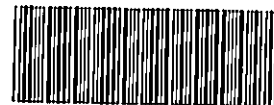
Site	Landscape Unit	Artefact No.	Raw Material	Colour	Artefact Type	Cortex	Dimensions	Comments
WN1 (NPWS # 45-5-456)	1	1	Silcrete	Red	Flake Piece	50%	2 x 1 x 1.5 cm	Two scars present
WN1	1	2	Silcrete	Red	Core ?	5%	2.5 x 1.5 cm	One longitudinal flake scar
WN1	1	3	Silcrete	Red	Broken Flake	0	2.5 x 1 x .5 cm	Small negative flake scars down one side
WN1	1	4	Silcrete	Red	Flake Piece	0	2.5 x 1.5 x 0.5 cm	Bulb present, but piece missing from next to platform
WN1	1	5	Silcrete	Red	Flake Piece	0	1 x .5 x .5 cm	Several small scars, piece broken in all directions
WN1	1	6	Silcrete	Red	Flake Piece	0	1 x .2 x .5 cm	Very coarse grain material
WNIF1	2	7	Silcrete	Red	Lithic Fragment	80	1.5 x 1 x 1 cm	Possibly not artefactual, although may be a primary reduction flake
WN2	3	8	Silcrete	Red	Lithic Fragment	80	2 x 5 x 1.5 cm	Cortex possibly an internal vein, although may be primary reduction flake
WN2	3	9	Silcrete	Red/ Purple	Flake	50	5 x 4.5 x 1.5 cm	First flake off cobble (RCRT) – good edge, use possibly as scraper
WN2	3	10	Silcrete	Red/ Veins	Lithic Fragment	20	5 x 3.5 x 2 cm	Possibly not artefactual
WN2	3	11	Silcrete	Red/ Purple	Lithic Fragment	0	4.5 x 1.5 x 2 cm	Rough, coarse chunk
WN2	3	12	Silcrete	Red	Flake ?	0	2.5 x 1.5 x 1 cm	Has bulb + a few scars; Piece off core?
WN2	3	13	Silcrete	Red/ Purple	Flake	0	2.5 x 1.5 x 2 cm	Platform preparation, 1-2 scars
WN2	3	14	Silcrete	Red/ Yellow	Flake Piece	25	2.7 x 1.5 x 0.5 cm	Bulb present



Aboriginal Sites Register of NSW

NPWS, PO Box 1967, Hurstville NSW 2220

Standard Site Recording Form



45-5-2462

New Recording ☒ Additional

Information ☐

Site name	WN2	NPWS Site Number	45-5-2462		
Owner/manager	Blacktown City Council				
Owner Address	PO Box 63, Penrith, NSW, 2148.				
Location	At the base of the low ridge running out from Woodstock Avenue and c. 50-80m west of Eastern Creek.				
How to get to the site	Entry is from the end of Woodstock Avenue. Here the road ends, but a track continues heading east towards Eastern Creek. This track runs along a low spur and then goes down the hillside and turns to the south. At this point a fence crosses the track. Site WN2 is located on the alluvial flats south and east of this fence. The main exposure of the site is located immediately south of the fence on the southwest margin of the track.				
1:250,000 map name	Sydney	NPWS map code	45		
AMG Zone	AMG Easting	301100	AMG Northing	6262050	
Method for grid reference	Topographic map	Map scale (if method = map)	1:25,000	Map name	Prospect
NPWS District Name (see map)			NPWS Zone (see map)	Sydney Zone	
Portion no.			Parish		
Site type(s)	Open Site	Site type code (NPWS use only)			
Description of site and contents CHECKLIST: eg. length, width, depth, height of site, shelter, deposit, structure, element eg. tree scar, grooves in rock. DEPOSIT: colour, texture, estimated depth, stratigraphy, contents-shell, bone, stone, charcoal, density & distribution of these, stone types, artefact types. ART: area of decorated surface, motifs, colours, wet/dry pigment, engraving technique, no. of figures, sizes, patination. BURIALS: number & condition of bone, position, age, sex, associated artefacts. TREES: number, alive, dead, likely age, scar shape, position, size, patterns, axe marks, regrowth. QUARRIES: rock type, debris, recognisable artefacts, percentage quarried.	This site comprises 16 artefacts located on the alluvial flats c. 50-80 m west of Eastern Creek. The major concentration of artefacts was located immediately south of the fence that currently crosses the track at the base of the slope. Here eight artefacts were recorded eroding out of an exposure measuring 9 x 3m on the south side of the track. These artefacts appeared to be part of an in situ stratified deposit. Other artefacts were found to the southeast along the margins of the track leading down to the Boronia Picnic Area. Two artefacts interpreted as being part of this site were recovered from the margin on the other side of the track and it is possible that the site originally extended in this direction. The extent of the site to south and west is difficult to assess due to the dense grass cover. Three artefacts were recovered from soil piles dumped on the eastern side of the track. This soil may be from the bulldozing of the track or car-park, and may therefore be part of site WN2, although there can be no certainty. Attach photographs and sketches, eg. plan & section of shelter. Do NOT dig, disturb or damage site or contents.				

Version: June 1998

Data entered by: *[Signature]*

Date entered:

7/6/99



Aboriginal Sites Register of NSW

NPWS, PO Box 1967, Hurstville NSW 2220

Standard Site Recording Form

Land form	Alluvial flats	Aspect	open	Slope	0 degrees
Mark position of the site					
Local rock type	Quaternary alluvium	Land use/affect	road to be constructed		
Distance from drinking water	c. 50-80m	Source	Eastern Creek		
Resource zone (eg. estuarine, river, forest)	open woodland	Vegetation	Cumberland Plain Woodland		
Edible plants		Faunal resources (include shellfish)			
Other exploitable resources (eg. ochre)	Silcrete quarry sites 4 km northwest				
Are there other sites in the locality	Yes	Are they in the Sites Register	Yes	Other site types include	open sites, PADS
Site condition	Disturbed				
Management recommendations	This site is located in a moderately disturbed location that has moderate potential for intact sub-surface deposit. On the basis of the surface it is only possibly to judge potential, and more difficult to determine significance. This site can be considered as being part of the larger site complex of WN1 referred to by Kohen (1985: 29, 33, 38) and as such is assessed as having moderate potential for answering scientific questions. It is recommended that: 1. The site complex including WN1 (NPWS # 45-5-456), IFWN1 and WN2 is considered to have moderate-high archaeological potential. This will require some sub-surface testing to be carried out along the margins of the current track that are to be impacted by the construction of a sealed road. 2. Once test-excavations have been undertaken it will be possible to assess the significance of the sites and thus formulate appropriate management recommendations.				
Have artefacts been removed from site	No	When			
By whom		Deposited at			
Consent applied for	☐	Consent issued	☐		
Date of issue		Consent number			



Aboriginal Sites Register of NSW

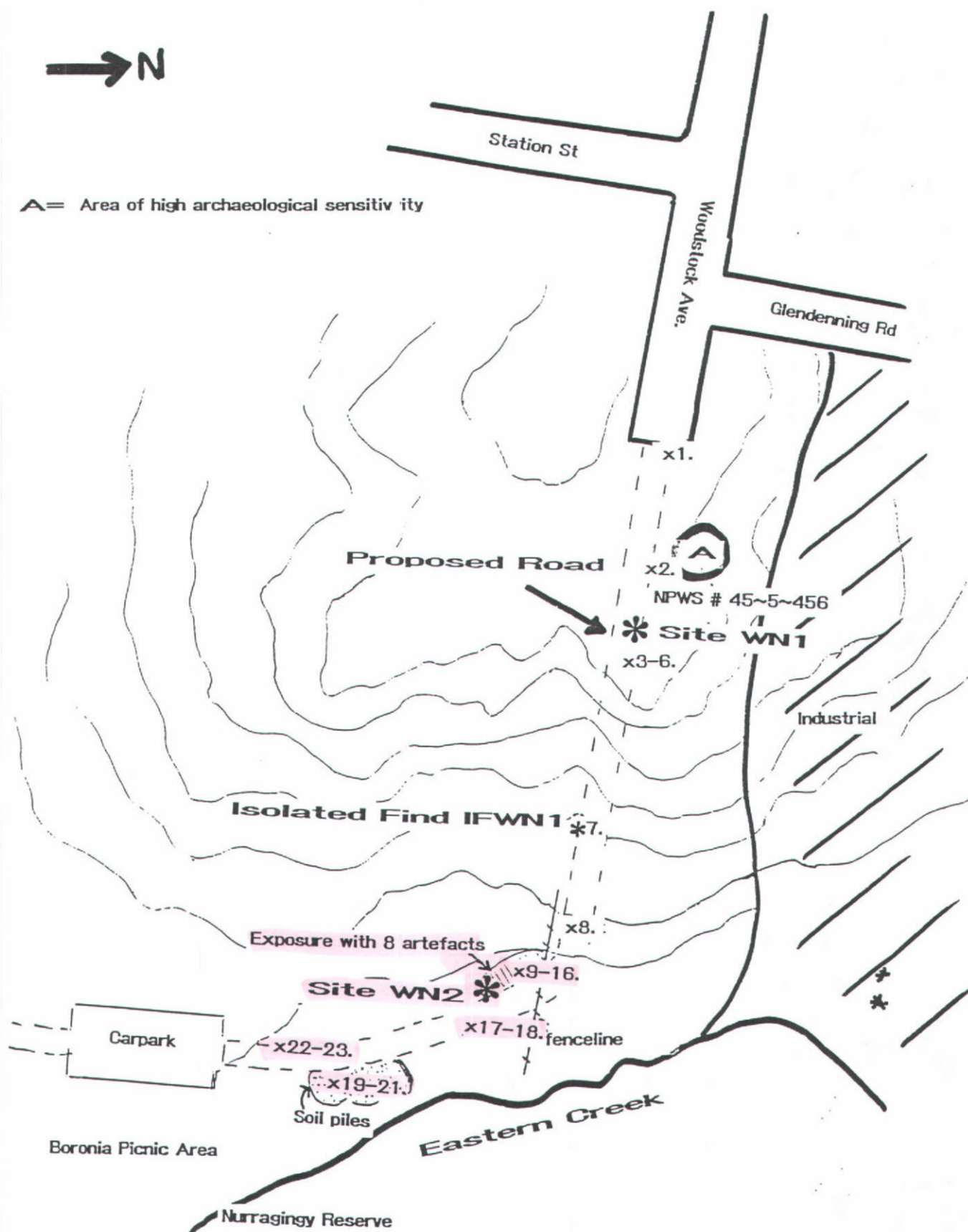
NPWS, PO Box 1967, Hurstville NSW 2220

Standard Site Recording Form

Reason for investigation	Council proposed road construction		
Were local Aborigines contacted or present for the recording	☐ Not contacted ☒ Contacted and present ☐ Contacted but not present	Names and addresses	Steve Randall and Luke Hickey Deerubbin Local Aboriginal Land Council PO BOX 184, MT DRUITT VILLAGE, NSW, 2770.
Is the site important to local Aborigines	Yes		
Verbal/written reference sources	Kohen, J. 1985. An archaeological survey of Industrial land in the city of Blacktown. Jo McDonald CHM. 1999. Survey for Prehistoric Archaeological Sites: Proposed Road into Nurragingy reserve, Blacktown, NSW.	ASR report number(s) (or title)	C- C-
Photographs taken	Yes	No. of Photos attached	4
Site recorded by	Jodie Benton 1999	Date of recording	9th February 1999
Address/institution	Jo McDonald Cultural Heritage Management 15 Bankside Ave, Undercliffe, 2204.		

10

Figure 5: Location of sites recorded during current survey.



DETAILED RECORDING OF ARTEFACTS LOCATED AT SITES WN1, WN2 AND WNIF1

Site	Landscape Unit	Artefact No.	Raw Material	Colour	Artefact Type	Cortex	Dimensions	Comments
WN1 (NPWS # 45-5-456)	I	1	Silcrete	Red	Flake Piece	50%	2 x 1 x 1.5 cm	Two scars present
WN1	I	2	Silcrete	Red	Core ?	5%	2.5 x 1.5 cm	One longitudinal flake scar
WN1	I	3	Silcrete	Red	Broken Flake	0	2.5 x 1 x .5 cm	Small negative flake scars down one side
WN1	I	4	Silcrete	Red	Flake Piece	0	2.5 x 1.5 x 0.5 cm	Bulb present, but piece missing from next to platform
WN1	I	5	Silcrete	Red	Flake Piece	0	1 x .5 x .5 cm	Several small scars, piece broken in all directions
WN1	I	6	Silcrete	Red	Flake Piece	0	1 x .2 x .5 cm	Very coarse grain material
WNIF1	2	7	Silcrete	Red	Lithic Fragment	80	1.5 x 1 x 1 cm	Possibly not artefactual, although may be a primary reduction flake
WN2	3	8	Silcrete	Red	Lithic Fragment	80	2 x 5 x 1.5 cm	Cortex possibly an internal vein, although may be primary reduction flake
WN2	3	9	Silcrete	Red/ Purple	Flake	50	5 x 4.5 x 1.5 cm	First flake off cobble (RCRT) - good edge, use possibly as scraper
WN2	3	10	Silcrete	Red/ Veins	Lithic Fragment	20	5 x 3.5 x 2 cm	Possibly not artefactual
WN2	3	11	Silcrete	Red/ Purple	Lithic Fragment	0	4.5 x 1.5 x 2 cm	Rough, coarse chunk
WN2	3	12	Silcrete	Red	Flake ?	0	2.5 x 1.5 x 1 cm	Has bulb + a few scars; Piece off core?
WN2	3	13	Silcrete	Red/ Purple	Flake	0	2.5 x 1.5 x 2 cm	Platform preparation, 1-2 scars
WN2	3	14	Silcrete	Red/ Yellow	Flake Piece	25	2.7 x 1.5 x 0.5 cm	Bulb present

DETAILED RECORDING OF ARTEFACTS LOCATED AT SITES WN1, WN2 AND WNIF1

Site	Landscape Unit	Artefact No.	Raw Material	Colour	Artefact Type	Cortex	Dimensions	Comments
WN2	3	15	Silcrete	Red	Flake Piece	0	1.2 x 1 x 0.3 cm	Bulb present, broken
WN2	3	16	Quartz	White	Flake Piece	0	1.2 x 1 x 0.3 cm	Possibly a flake.
WN2	3	17	Silcrete	Red	Lithic fragment	0	3.5 x 2.7 x 1.5 cm	Large rough flake with bulb
WN2	3	18	Indurated mudstone	Yellow	Proximal Flake	5	2.7 x 1.5 x 0.9 cm	Broken flake, complete with bulb and one negative scar.
WN2	3	19	Silcrete	Red/ Yellow	Proximal Flake	0	2.2 x 1.3 x 0.3 cm	Includes platform and bulb
WN2	3	20	Silcrete	Red	Flake Piece	10	1.1 x 1.2 x 0.3 cm	Bulb present
WN2	3	21	Silcrete	Red/ Pink	Lithic fragment	5		Coarse chunk
WN2	3	22	Silcrete	Red	Flake piece	5	3.5 x 2.8 x 0.8 cm	Two flake scars present
WN2	3	23	Silcrete	Red	Lithic fragment	5		Very cubed

9

open Artefacts

[✓] New recording

[] 1 Additional Info



National Parks and Wildlife Service

Box 1967, Hurstville NSW 2220. Tel: (02) 9585 6444

Standard Site Recording Form

Revised 5/88



45-5-2776

1:250,000 map sheet:

Wollongong

NPWS Code

HEAD OFFICE USE ONLY:

NPWS Site no:

45-5-2776

Site types:

Accessioned by:

Date:

Date entered by:

Date:

Owner/Manager:

Address:

AMG Grid reference

Full reference - please include leading digits

250K 250K

3 0 0 4 5 0 mE 6 2 6 2 1 2 0 mN

25K 25K

5/6

Scale of map used for grid reference
Please use largest scale available[✓] 25K, 50K
(preferred)

[] 100K

[] 250K

1:25K, 50K, 100K map name:

PROSPECT

Site name: Glendenning Road 1 Locality/property name.

NPWS District:

Region: Blacktown - Roxy Hill NSW

Reason for investigation

Transmission Line Upgrade

Portion no:

Parish:

Photos taken? Yes

How many attached? Included in report.

How to get to the site (refer to permanent features, give best approach to site eg. from above, below, along cliff.
(Draw diagram on separate sheet.)

Refer map

Other sites in locality? Yes

Are sites in NPWS Register? Yes

Site Types include: open artefact scatters, scarred trees etc.

Have artefacts been removed from site?

When?

By whom?

Deposited where?

Is site important to local Aborigines?

Give contact(s) name(s) + address(es)

Mr Peter Gale

Darug Tribal Aboriginal Corporation

Contacted for this recording?

(Attach additional information separately) If not, why not?

Verbal/written reference sources (including full title of accompanying report)

Blacktown - Roxy Hill 132kV Transmission Line Upgrade

Archaeological Review

NPWS Report
Catalogue #

Checklist

surface visibility.

damage/disturbance/

threat to site

Condition of site

Recommendations for management & protection (attach separate sheet if necessary)

Refer report

Site recorded by:

Address/institution:

NAVIN OFFICER

HERITAGE CONSULTANTS

102 JERVOIS ST

DEAKIN ACT 2600

Date:

May 2000

1

A small scatter of two stone artefacts was located during the current survey in the area situated immediately to the east of Tower 26. They probably form part of a discontinuous artefact scatter along the broad spurline crest that has been previously described as a site complex. (Both Jim Kohen (1985) and Jodie Benton (Jo McDonald CHM 1999), the recorders of the other archaeological sites in the vicinity of the Tower 26 made the assessment that these sites form part of a larger site complex).

The site will be referred to as Glendenning Road 1. The artefacts are described as follows:

1. cream coloured chert flaked piece: 2 cm L x 1.5 cm W x .3 cm Th. Small amount of pebble cortex.

This artefact was located on an unformed track, approximately 25 metres to the northeast of Tower 26.

2. yellow coloured mudstone flake: 2.7 cm L x 2.6 cm W x .6 cm Th.

This artefact was located approximately 8 metres to the east of Tower 26 on a small area of exposed ground.



Figure 1 The transmission line showing tower locations and Aboriginal site location
(Prospect 1:25000 topo map)



45-5-3104

56 open Artefact

☒ New recording☐ Additional Info**National Parks and Wildlife Service**

Box 1967, Hurstville NSW 2220. Tel: (02) 585 6444

Standard Site Recording Form Revised 5/88

1:250,000 map sheet: _____

NPWS Code

AMG Grid reference

Full reference - please include leading digits

250K 250K
 300750 ME 6262230 MN
 25K 25K

Scale of map used for grid reference

Please use largest scale available

☒ 25K, 50K (preferred) ☐ 100K ☐ 250K

125K, 50K, 100K map name: PROSPECT**HEAD OFFICE USE ONLY:**NPWS Site no: 45-5-3104

Site types

Accessioned by: _____ Date: _____

Data entered by: _____ Date: _____

Owner/Manager BIRRALGE HOLDINGS

Address: CNR OF WOODSTOCK AVE AND GLENDENNING ROAD, GLENDENNING

Site name: SEPT 2000/ALocality/property name: LOT 12 DP844530NPWS District: WESTERN SYDNEY / Region: SYDNEY ZONE

Reason for investigation AN ARCHAEOLOGICAL SURVEY/REPORT WAS COMMISSIONED BY LOVEGROVE OXLEY CONSULTANTS (SEPTEMBER 2000) ON BEHALF OF THEIR CLIENT BIRRALGE HOLDINGS AS PART OF A DEVELOPMENT APPLICATION SUBMITTED TO BLACKTOWN CITY COUNCIL (OCTOBER 2000)

Portion no: LOT 12 DP 844530Parish: ROOTY HILLPhotos taken? YESHow many attached? 4

How to get to the site (refer to permanent features, give best approach to site eg. from above, below, along creek)
 (Draw diagram on separate sheet)

REFER ATTACHED MAPS (EXCERPTS FROM ACCOMPANYING REPORT)Other sites in locality? YESSite Types include: OPEN SITES AND SCARRED TREESAre sites in NPWS Register? YESHave artefacts been removed from site? YESWhen? NOVEMBER 2000By whom? ANDREW KNIGHT

Deposited where?

Is site important to local Aborigines?

Give contact(s) name(s) + address(es)

Contacted for this recording?

Attach additional information separately if not, why not?

IT IS PROPOSED THAT THE ARTEFACTS RECORDED ON P.2 OF THIS FORM AND P.2 OF THE ACCOMPANYING SITE RECORDING FORM BE LODGED WITH THE DTAC (REFER ACCOMPANYING APPLICATION FOR CARE AND CONTROL)

Verbal/written reference sources (including full title of accompanying report)

ARCHAEOLOGICAL SURVEY OF THE PROPOSED SUBDIVISION LOT 12 DP844530 CNR OF WOODSTOCK AVE AND GLENDENNING RD, NSW (JANUARY 2001)

NPWS Report Catalogue #

Checklist
 surface visibility,
 damage/disturbance/
 threat to site

Condition of site BOTH THE LITERATURE REVIEWED AND THE FIELD INSPECTION INDICATED THAT THE AREAS IN WHICH THE TWO ISOLATED ARTEFACTS WERE LOCATED HAD BEEN SUBJECTED TO FILL PLACEMENT AND COMPACTION

Recommendations for management & protection (attach separate sheet if necessary)

REFER ATTACHED APPLICATIONS FOR PRELIMINARY RESEARCH PERMIT AND CARE AND CONTROL OF CULTURAL ITEMS

Site recorded by: ANDREW KNIGHT COLIN GALE Date: 19 SEPTEMBER 2000

Address/institution 21 NORTHWOOD ST PO BOX 441
CAHPERDOWN 2050 BLACKTOWN 2148

#97413

SITE POSITION & ENVIRONMENT

OFFICE USE ONLY: NPWS site no:

1. Land form a. beach/hill slope/ridge top, etc: REFER 2.

b. site aspect: NORTHERN c. slope: MODERATE

d. mark on diagram provided or on your own sketch the position of the site:
REFER ATTACHED PLAN OF PROPOSED
SUBDIVISION SHOWING APPROX. LOCATIONS
OF THE TWO ISOLATED ARTEFACTS
LOCATED 14 SEPTEMBER 2002

e. Describe briefly: ARTEFACT LOCATED
ON SOUTHERN BANK OF
EXISTING DRAINAGE EASEMENT
ABUTTING NORTHERN BOUNDARY
OF STUDY AREA

1. Local rock type: BRINGELL SHALE
REFER ACCOMPANYING REPORT P.4

g. Land use/effect: DRAINAGE EASEMENT

2. Distance from drinking water: APPROX. 500 M Source: EASTERN CREEK

3. Resource Zone associated with site (estuarine, riverine, forest etc): LOW/MEDIUM OPEN FOREST

4. Vegetation: DISTURBED GRASSLAND

5. Edible plants noted: —

6. Faunal resources (include shellfish): —

7. Other exploitable resources (river pebbles, ochre, etc): UNMODIFIED SILCRETE FRAGMENTS

Site type:

ISOLATED
FIND

DESCRIPTION OF SITE & CONTENTS.

Note state of preservation of site & contents. Do NOT dig, disturb, damage site or contents.

ISOLATED FIND

A SINGLE ISOLATED ARTEFACT OCCURRING WITHOUT
ANY VISIBLE ASSOCIATED EVIDENCE OF ABORIGINAL
OCCUPATION WITHIN A SPECIFIED RADIUS (IE 60 M)

ARTEFACT TYPE: GLOVERA ADZE FLAKE

RAW MATERIAL: BASALT

MAX. DIMENSIONS: LENGTH 39MM / WIDTH 32MM / THICKNESS 14MM

COLOUR: BLACKISH BROWN (MOTTLED)

CONDITION: SOMEWHAT WEATHERED

CORTEX: NO OBVIOUS TRACES

FLAKING: CRUDE BACKING; RETOUCH ASSOC. WITH SHARP
EDGE

NOTE: FOR FURTHER DETAILS REFER PP 12 & 13 OF
ACCOMPANYING REPORT

CHECKLIST TO HELP:
length, width, depth,
height of site, shelter,
deposit, structure,
element eg. tree scar,
grooves in rock.

DEPOSIT: colour,
texture, estimated
depth, stratigraphy,
contents-shell, bone,
stone, charcoal, density
& distribution of these,
stone types, artefact
types.

ART area of surface
decorated, motifs,
colours, wet, dry
pigment, technique of
engraving, no. of
figures, sizes,
patination.

BURIALS: number &
condition of bone,
position, age, sex,
associated artefacts.

TREES: number, alive,
dead, likely age, scar
shape, position, size,
patterns, axe marks,
regrowth

QUARRIES: rock type,
debris, recognisable
artefacts, percentage
quarried.

OTHER SITES EG:
structures (fish traps,
stone arrangements,
bone rings, mva mva),
mythological sites, rock
holes, engraved groove
channels, contact sites
(missions massacres
cemeteries) as
appropriate

Attach sketches etc, eg. plan & section of shelter, show relation between site contents,
indicate north, show scale.

Attach annotated photos (stereo where useful) showing scale, particularly for art sites.



45-5-3105

56 Artefact open

✓ New recording

[] Additional Info

**National Parks and Wildlife Service**

Box 1967, Hurstville NSW 2220. Tel: (02) 585 6444

Standard Site Recording Form Revised 5/88

1:250,000 map sheet: _____		NPWS Code	
AMG Grid reference 300750 mE 6262200 mN Full reference - please include leading digits		HEAD OFFICE USE ONLY: NPWS Site no: <u>45-5-3105</u>	
Scale of map used for grid reference ☒ 25K, 50K (preferred) ☐ 100K ☐ 250K Please use largest scale available		Site types _____ Accessioned by: _____ Date: _____ Date entered by: _____ Date: _____	
125K, 50K, 100K map name: <u>PROSPECT</u>		Owner/Manager <u>BIRRALGEE HOLDINGS</u>	
Site name <u>SEPT 2000/B</u>		Address <u>CNR OF WOODSTOCK AVE AND GLENDENNING ROAD, GLENDENNING</u>	
Locality/property name <u>LOT 12 DP844530</u>			
NPWS District <u>WESTERN SYDNEY</u> / Region: <u>SYDNEY ZONE</u>			
Reason for investigation <u>AN ARCHAEOLOGICAL SURVEY/REPORT WAS COMMISSIONED BY LOVEGROVE OXLEY CONSULTANTS (SEPTEMBER 2000) ON BEHALF OF THEIR CLIENT BIRRALGEE HOLDINGS AS PART OF A DEVELOPMENT APPLICATION SUBMITTED TO BLACKTOWN CITY COUNCIL (OCTOBER 2000)</u>			
Portion no: <u>LOT 12 DP 844530</u>			
Parish: <u>ROOTY HILL</u>		Photos taken? <u>YES</u>	
		How many attached? <u>4</u>	
How to get to the site (refer to permanent features, give best approach to site eg from above, below, along cliff) (Draw diagram on separate sheet)			
<u>REFER ATTACHED MAPS (EXCERPTS FROM ACCOMPANYING REPORT)</u>			
Other sites in locality? <u>YES</u>		Site Types include <u>OPEN SITES AND SCARRED TREES</u>	
Are sites in NPWS Register? <u>YES</u>			
Have artefacts been removed from site? <u>YES</u>		When? <u>NOVEMBER 2000</u>	
By whom? <u>ANDREW KNIGHT</u>		Deposited where? <u>IT IS PROPOSED THAT THE ARTEFACTS RECORDED ON P.2 OF THIS FORM AND P2 OF THE ACCOMPANYING SITE RECORDING FORM BE LODGED WITH THE DTAC (REFER ACCOMPANYING APPLICATION FOR CARE AND CONTROL)</u>	
Is site important to local Aborigines?			
Give contact(s) name(s) + address(es)			
Contacted for this recording?			
- Attach additional information separately if not, why not?			
Verbal/written reference sources (including full title of accompanying report)			
<u>ARCHAEOLOGICAL SURVEY OF THE PROPOSED SUBDIVISION LOT 12 DP844530 CNR OF WOODSTOCK AVE AND GLENDENNING RD, NSW (JANUARY 2001)</u>			
Checklist surface visibility, damage/disturbance/ threat to site	Condition of site <u>BOTH THE LITERATURE REVIEWED AND THE FIELD INSPECTION INDICATED THAT THE AREAS IN WHICH THE TWO ISOLATED ARTEFACTS WERE LOCATED HAD BEEN SUBJECTED TO FILL PLACEMENT AND COMPACTION</u>		
Recommendations for management & protection (attach separate sheet if necessary)			
<u>REFER ATTACHED APPLICATIONS FOR PRELIMINARY RESEARCH PERMIT AND CARE AND CONTROL OF CULTURAL ITEMS</u>			
Site recorded by: <u>ANDREW KNIGHT</u> <u>COLIN GALE</u> Date: <u>19 SEPTEMBER 2000</u>			
Address/institution <u>21 NORTHWOOD ST</u> <u>PO BOX 441</u>			
<u>CAHPERTOWN 2050</u> <u>BLACKTOWN 2148</u>			

#97413

SITE POSITION & ENVIRONMENT

OFFICE USE ONLY: NPWS site no:

1. Land form a. beach/hill slope/ridge top, etc: REFER E.

b. site aspect: NORTHERLY c. slope: GENTLE

d. mark on diagram provided or on your own sketch the position of the site:

e. Describe briefly: ARTEFACT LOCATED ON THE NORTHERN SIDE OF A LOW RIDGE

REFER ATTACHED PLAN OF PROPOSED SUB-DIVISION SHOWING APPROXIMATE LOCATIONS OF THE TWO ARTEFACTS LOCATED ON 14 SEPTEMBER 2000

1. Local rock type: BRINDLELY SHALE REFER ACCOMP. REPORT P4

g. Land use/effect: VACANT LOT/BONED INDUSTRIAL

2. Distance from drinking water: APPROX. 500 M Source: EASTERN CREEK

3. Resource Zone associated with site (estuarine, riverine, forest etc): LOW/MEDIUM OPEN FOREST

4. Vegetation: DISTURBED GRASSLAND/PASTURE

5. Edible plants noted: —

6. Faunal resources (include shellfish): —

7. Other exploitable resources (river pebbles, ochre, etc): UNMODIFIED SILCRETE FRAGMENTS

Site type:

ISOLATED FIND

DESCRIPTION OF SITE & CONTENTS.

Note state of preservation of site & contents. Do NOT dig, disturb, damage site or contents.

ISOLATED FIND

A SINGLE ISOLATED ARTEFACT OCCURRING WITHOUT ANY VISIBLE ASSOCIATED EVIDENCE OF ABORIGINAL OCCUPATION WITHIN A SPECIFIED RADIUS (IN THIS CASE 60 METRES)

ARTEFACT TYPE : CORE

RAW MATERIAL : CHERT

MAX DIMENSIONS: LENGTH 68MM / WIDTH 62MM / THICKNESS 50MM

COLOUR : GREYISH GREEN

CONDITION : HIGHLY WEATHERED

CORTEX : TRACES OF ORIGINAL PEBBLE CORTEX PRESENT

FLAKING : PRIMARY FLAKING ASSOCIATED WITH EACH OF ITS FOUR PLATFORMS

CHECKLIST TO HELP:
length, width, depth,
height of site, shelter,
deposit, structure,
element eg. tree scar,
grooves in rock.

DEPOSIT: colour,
texture, estimated
depth, stratigraphy,
contents-shell, bone,
stone, charcoal, density
& distribution of these,
stone types, artefact
types.

ART area of surface
decorated, motifs,
colours, wet, dry
pigment, technique of
engraving, no. of
figures, sizes,
patination.

BURIALS: number &
condition of bone,
position, age, sex,
associated artefacts.

TREES: number, alive,
dead, likely age, scar
shape, position, size,
patterns, axe marks,
regrowth

QUARRIES: rock type,
debris, recognisable
artefacts, percentage
quarried.

OTHER SITES EG:
structures (fish traps,
stone arrangements,
bone rings, msa mss),
mythological sites, rock
holes, engraved groove
channels, contact sites
(missions messacres
carnalities) as
appropriate

Attach sketches etc. eg. plan & section of shelter, show relation between site contents, indicate north, show scale.

Attach annotated photos (stereo where useful) showing scale, particularly for art sites.



Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220



Office Use Only

Site Number **45-5-3643**

Date received

Date entered into system

Date catalogued

Entered by (I.D.)

Information Access

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

For Further Information Contact:

☐ Nominated Trustee

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

☐ Knowledge Holder

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Aboriginal Heritage Unit or Cultural Heritage Division Contacts

Geographic Location

Site Name

EC132kVPAD01

Easting

301456

Northing

6262641

AGD/GDA **GDA**

Mapsheet

Prospect 9030-2N

Zone **56**

Location Method

Client GIS or CAD System

Other Registration

Primary Recorder

Title

Surname

First Name

Initials

Mr

Brown

Olliver

JF

Organisation

OBCA

Address

1/1 Park Street Clovelly

Phone number

0427 414 226

Fax

n/a

Date recorded

15/05/2009

Office Use Only

Client on system

☐

Client on system

☐

Client on system

☐

Open Site

Landform

- Slope**
 degrees

- ☐ Beach
- ☐ Coastal rock platform
- ☐ Dune
- ☐ Intertidal flat
- ☐ Lagoon
- ☐ Tidal Creek

- | | | | |
|-------------------------------------|-------------|--------------------------|-------------|
| ☐ | Tidal Flat | ☐ | Upper slope |
| ☐ | Cliff | ☐ | Plain |
| ☐ | Crest | ☐ | Ridge |
| ☒ | Flat | ☐ | Tor |
| ☐ | Lower slope | ☐ | Valley flat |
| ☐ | Mid slope | ☐ | Levy |

- ☐ Stream bank
- ☐ Stream channel
- ☐ Swamp
- ☐ Terrace
- ☐ Terrace flat

☐	Closed forest
☐	Grasslands
☐	Isolated clumps of trees
☐	Open forest
☐	Open woodland
☐	Scrub
☐	Woodland
☒	Cleared
☐	Revegetated
☐	N/A

☐	Conservation
☐	Established urban
☐	Farming-intensive
☐	Farming-low intensity
☐	Forestry
☐	Industrial
☐	Mining
☐	Pastoral/grazing
☒	Recreation
☐	Semi-rural
☐	Service corridor
☐	Transport corridor
☐	Urban expansion
☐	N/A

Distance to permanent water source	60	metres
Distance to temporary water source		metres
Name of nearest permanent water source	E a s t e r n C r	
Name of nearest temporary water		

Relocation will be by locating 132kV transmission pylon installed in 2009/10 with specific reference to attached map (aerial image based), previous assessment report by Brown (Total Earth Care) and forthcoming report by Brown (OBCA).

☒ Public	National Park / other Government Dept.
☐ Private	

I.D. (I.D. Office Use only)

[illegible]

A 10x10 grid map with a north arrow pointing upwards. The grid is labeled with 'NW' at the top-left, 'NE' at the top-right, 'SW' at the bottom-left, and 'SE' at the bottom-right. The left edge is labeled 'W' and the right edge is labeled 'E'. The top edge is labeled 'N'.

General Site Information

Closed Site

Shelter/Cave Formation

- ☐ Boulder
- ☐ Wind erosion
- ☐ Water erosion
- ☐ Rock collapse

Rock Surface Condition

- ☐ Boulder
- ☐ Sandstone platform
- ☐ Silica gloss
- ☐ Tessellated
- ☐ Weathered
- ☐ Other platform

Open Site

Site Orientation

- ☐ N-S
- ☐ NE-SW
- ☐ E-W
- ☐ SE-NW
- ☒ N/A

Condition of Ceiling

- ☐ Boulder
- ☐ Sandstone platform
- ☐ Silica gloss
- ☐ Tessellated
- ☐ Weathered
- ☐ Other platform

Shelter Aspect

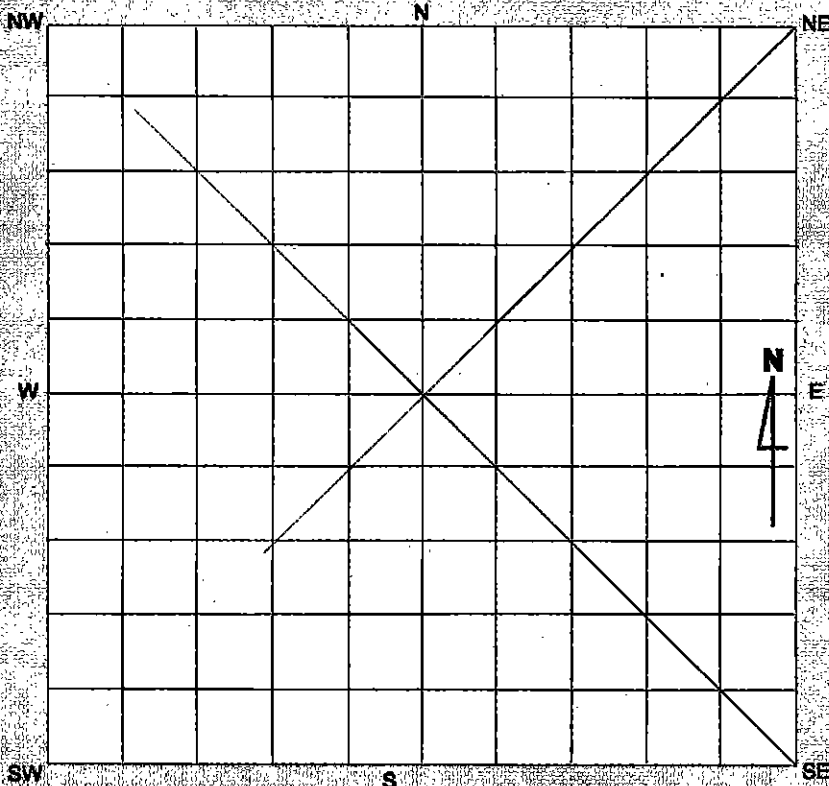
- ☐ North
- ☐ North East
- ☐ East
- ☐ South East
- ☐ South
- ☐ South West
- ☐ West
- ☐ North West

Features

- ☐ 1. Aboriginal Ceremony & Dreaming
- ☐ 2. Aboriginal Resource & Gathering
- ☐ 3. Art
- ☐ 4. Artefact
- ☐ 5. Burial
- ☐ 6. Ceremonial Ring
- ☐ 7. Conflict
- ☐ 8. Earth Mound
- ☐ 9. Fish Trap
- ☐ 10. Grinding Groove
- ☐ 11. Habitation Structure
- ☐ 12. Hearth
- ☐ 13. Non Human Bone & Organic Material
- ☐ 14. Ochre quarry
- ☒ 15. Potential Archaeological Deposit
- ☐ 16. Stone Quarry
- ☐ 17. Shell
- ☐ 18. Stone Arrangement
- ☐ 19. Modified Tree
- ☐ 20. Water Hole

Site Plan

Indicate scale, boundaries of site, features



Site Dimensions

Closed Site Dimensions (m)

- Internal length
- Internal width
- Shelter height
- Shelter floor area

Open Site Dimensions (m)

- Total length of visible site
- Average width of visible site
- Estimated area of visible site
- Length of assessed site area

Aboriginal community stakeholders were involved in all previous assessment stages and in the methodology submitted with the AHIP application. This included DLALC, DTAC, DCAC and DACHA.

No known archaeological values are currently attributed to the location. In the event that deep, stratified and/or undisturbed deposits are detected during investigation, the PAD would be considered as having high archaeological significance due to the potential to address questions about change through time in the Cumberland region archaeological record that cannot be answered through the vast majority of investigated sites in the region that are unstratified and un-dateable other than by imperfect typological means. In such an event, the surrounding area will be highlighted as having high conservation priority, particularly in the event that artefacts are also located during the investigation.

Title	Surname	First Name	Initials
Organisation			
Address			
Phone number		Fax	

Comments

[illegible]

**Proposed 132kV
power line between
Glendenning and Quakers Hill**

Client: Integral Energy

Date: May 2009

Author: Oliver Brown

Legend



132kVPADs



Creek



EC132kVPAD extents



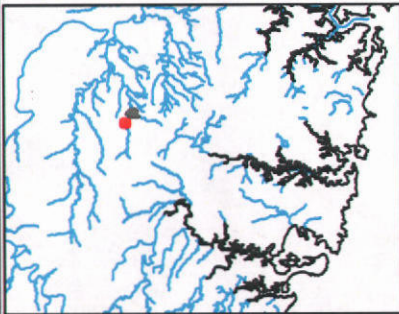
Area of Arch Potential



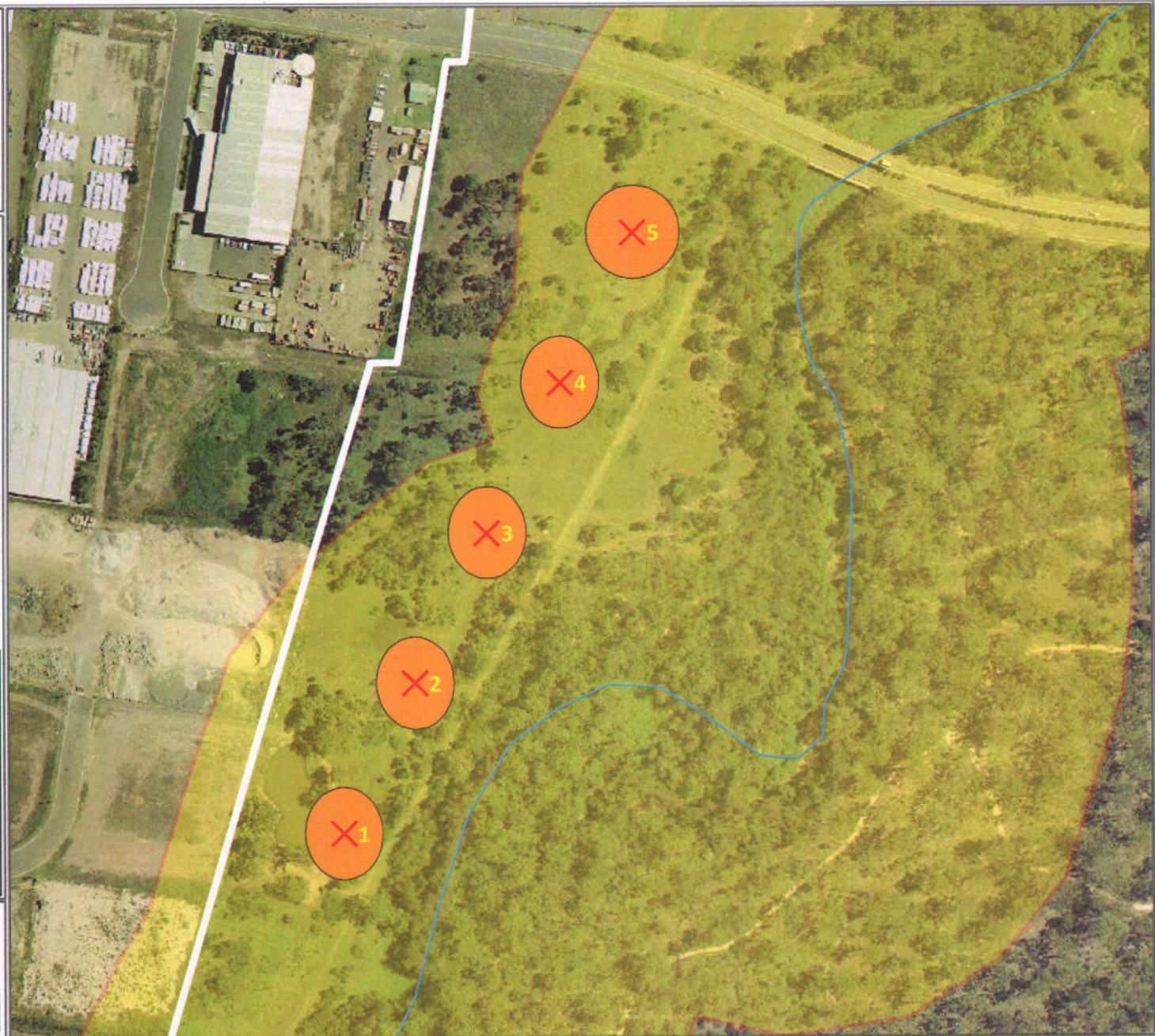
0 10 20 40 60 80 100



Meters



obca





Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220



Office Use Only

Site Number **45-8-3644**

Date received

Date entered into system

Date catalogued

Entered by (I.D.)

Information Access

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

For Further Information Contact:

☐ Nominated Trustee

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

☐ Knowledge Holder

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Aboriginal Heritage Unit or Cultural Heritage Division Contacts

Geographic Location

Site Name

EC132kVPAD02

Easting

301496

Northing

6262724

AGD/GDA **GDA**

Mapsheet

Prospect 9030-2N

Zone **56**

Location Method

Client GIS or CAD System

Other Registration

Primary Recorder

Title

Surname

First Name

Initials

Mr

Brown

Olivier

JF

Organisation

OBICA

Address

1/1 Park Street Clovelly

Phone number

0427 414 226

Fax

n/a

Date recorded

15/05/2009

Office Use Only

Client on system

☐

Client on system

☐

Client on system

☐

page 2

Open Site

Landform

Slope
 degrees

Landform Unit

- ☐ Beach
- ☐ Coastal rock platform
- ☐ Dune
- ☐ Intertidal flat
- ☐ Lagoon
- ☐ Tidal Creek

☐	Tidal Flat	☐	Upper slope
☐	Cliff	☐	Plain
☐	Crest	☐	Ridge
☒	Flat	☐	Tor
☐	Lower slope	☐	Valley flat
☐	Mid slope	☐	Levy

- ☐ Stream bank
- ☐ Stream channel
- ☐ Swamp
- ☐ Terrace
- ☐ Terrace flat

☐	Closed forest
☐	Grasslands
☐	Isolated clumps of trees
☐	Open forest
☐	Open woodland
☐	Scrub
☐	Woodland
☒	Cleared
☐	Revegetated
☐	N/A

Land use

☐ Conservation

☐ Established urban

☐ Farming-intensive

☐ Farming-low intensity

☐ Forestry

☐ Industrial

☐ Mining

☐ Pastoral/grazing

☒ Recreation

☐ Semi-rural

☐ Service corridor

☐ Transport corridor

☐ Urban expansion

☐ N/A

Water

Distance to permanent water source	60	metres
Distance to temporary water source		metres
Name of nearest permanent water source	E a s t e r n C r	
Name of nearest temporary water		

Directions for Relocation

Relocation will be by locating 132kV transmission pylon installed in 2009/10 with specific reference to attached map (aerial image based), previous assessment report by Brown (Total Earth Care) and forthcoming report by Brown (OBCA).

Current Land Tenure

☒ Public National Park / other Government
☐ Private Dept. _____

Primary report	I.D.	(I.D. Office Use only)
-----------------------	-------------	------------------------

[illegible]

Site Location Map

General Site Information

Closed Site

Shelter/Cave Formation

- ☐ Boulder
- ☐ Wind erosion
- ☐ Water erosion
- ☐ Rock collapse

Rock Surface Condition

- ☐ Boulder
- ☐ Sandstone platform
- ☐ Silica gloss
- ☐ Tessellated
- ☐ Weathered
- ☐ Other platform

Open Site

Site Orientation

- ☐ N-S
- ☐ NE-SW
- ☐ E-W
- ☐ SE-NW
- ☒ N/A

Condition of Ceiling

- ☐ Boulder
- ☐ Sandstone platform
- ☐ Silica gloss
- ☐ Tessellated
- ☐ Weathered
- ☐ Other platform

Shelter Aspect

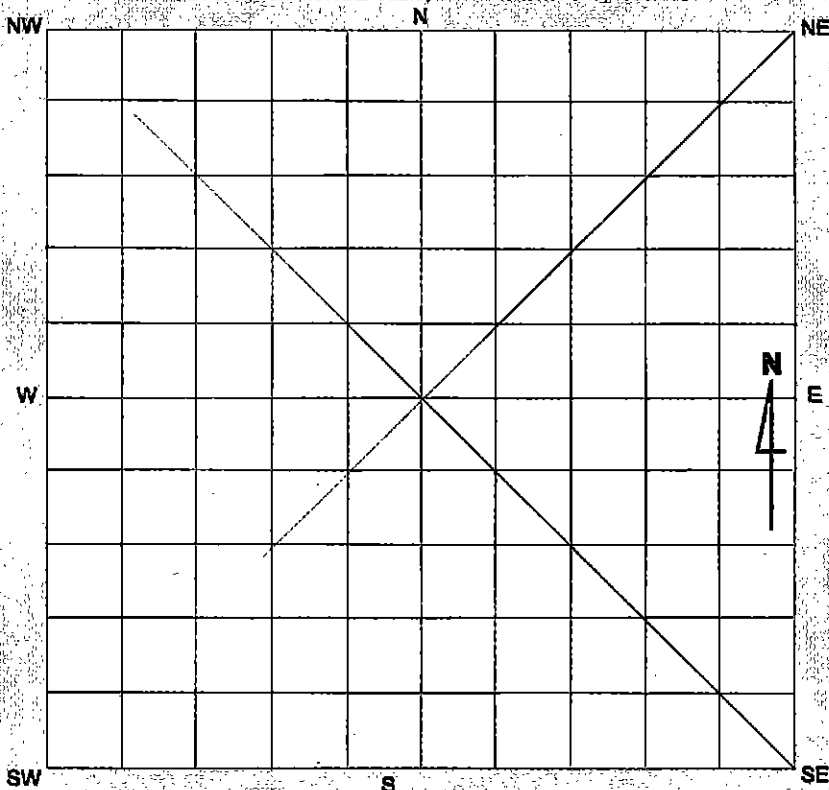
- ☐ North
- ☐ North East
- ☐ East
- ☐ South East
- ☐ South
- ☐ South West
- ☐ West
- ☐ North West

Features

- ☐ 1. Aboriginal Ceremony & Dreaming
- ☐ 2. Aboriginal Resource & Gathering
- ☐ 3. Art
- ☐ 4. Artefact
- ☐ 5. Burial
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- ☐ 7. Conflict
- ☐ 8. Earth Mound
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- ☐ 10. Grinding Groove
- ☐ 11. Habitation Structure
- ☐ 12. Hearth
- ☐ 13. Non Human Bone & Organic Material
- ☐ 14. Ochre quarry
- ☒ 15. Potential Archaeological Deposit
- ☐ 16. Stone Quarry
- ☐ 17. Shell
- ☐ 18. Stone Arrangement
- ☐ 19. Modified Tree
- ☐ 20. Water Hole

Site Plan

Indicate scale, boundaries of site, features



Site Dimensions

Closed Site Dimensions (m)

- Internal length
- Internal width
- Shelter height
- Shelter floor area

Open Site Dimensions (m)

- Total length of visible site
- Average width of visible site
- Estimated area of visible site
- Length of assessed site area

**Proposed 132kV
power line between
Glendenning and Quakers Hill**

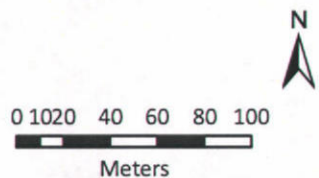
Client: Integral Energy

Date: May 2009

Author: Oliver Brown

Legend

-  132kVPADs
-  Creek
-  EC132kVPAD extents
-  Area of Arch Potential



obca





National Parks and Wildlife Service

Box 1967, Hurstville NSW 2220. Tel: (02) 585 6444
Standard Site Recording Form Revised 5/88

NPWS Code

1:250,000 map sheet: _____

AMG Grid reference

Full reference - please include leading zeros

250K 250K
300800 mE 6262130 mN
25K 25K

Scale of map used for grid reference ☐ 25K, 50K ☐ 100K ☐ 250K
(preferred)
Please use largest scale available

1:25K, 50K, 100K map name:

MAP 167 F12

83rd 1997 OBD SYDNEY STREET DIRECTORY Address

Site name: Glen Trib

Locality/property name: GLENDENNING

Owner/Manager Blacktown City Council Civic Centre
Blacktown 2148

NPWS District North Met. Region: CENTRAL

Reason for investigation Archaeological Survey of Metropolitan Sydney

Portion no:

Parish:

COUNTY OF CUMBERLAND

Photos taken? NO

How many attached?

How to get to the site (refer to permanent features, give best approach to site eg from above, below, along cliff)
(Draw diagram on separate sheet)

Approach from Glendenning Rd site not far from road (see map overleaf)

Other sites in locality? yes

Site Types include open campsites

Are sites in NPWS Register? yes

Have artefacts been removed from site? yes

When?

By whom? Self

Deposited where? The Australian Museum

Is site important to local Aborigines? UNKNOWN

Give contact(s) name(s) + address(es)

Contacted for this recording? NO

Attach additional information separately if not, why not?

Verbal/written reference sources (including full title of accompanying report) Personal Investigation Only NPWS Report Catalogue #

Checklist
surface visibility,
damage/disturbance/
threat to site

Condition of site DISTURBED - Rubbish dumping and future
Industrial Development

Recommendations for management & protection (attach separate sheet if necessary) Advise Blacktown City Council

Site recorded by: M. GUIDER

Date: 25th JULY 1997

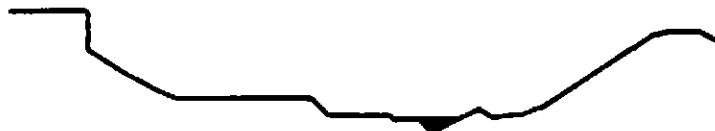
Address/institution: PO Box 666

LITHGOW NSW 2790

SITE POSITION & ENVIRONMENT

OFFICE USE ONLY: NPWS site no:

1. Land form a. beach/hill slope/ridge top, etc: High ground
- b. site aspect:
- c. slope:
- d. mark on diagram provided or on your own sketch the position of the site:
- e. Describe briefly:



- f. Local rock type: Shale
- g. Land use/effect: Industrial Development

2. Distance from drinking water: 6 metres approx Source: tributary of Eastern Creek

- 3 Resource Zone associated with site (estuarine, riverine, forest etc): Forest

- 4 Vegetation: Some remnant vegetation Acacias, Eucalypts and grasses

5. Edible plants noted:

- 6 Faunal resources (include shellfish)

7. Other exploitable resources (river pebbles, ochre, etc): Silcrete is readily available on Plumpton ridge

Site type:

Open Campsite

DESCRIPTION OF SITE & CONTENTS.

Note state of preservation of site & contents. Do NOT dig, disturb, damage site or contents.

A small open campsite situated on high ground on south side of a tributary of Eastern Creek. Stone artefacts found were red silcrete and indurated mudstone. Artefacts exposed on bare earth. Rubbish has been dumped around site. This area still has some remnant native vegetation however it is all destined for an industrial estate, so it will eventually be destroyed.

CHECKLIST TO HELP:

length, width, depth, height of site, shelter, deposit, structure, element eg. tree scar, grooves in rock.

DEPOSIT: colour, texture, estimated depth, stratigraphy, contents-shell, bone, stone, charcoal, density & distribution of these, stone types, artefact types.

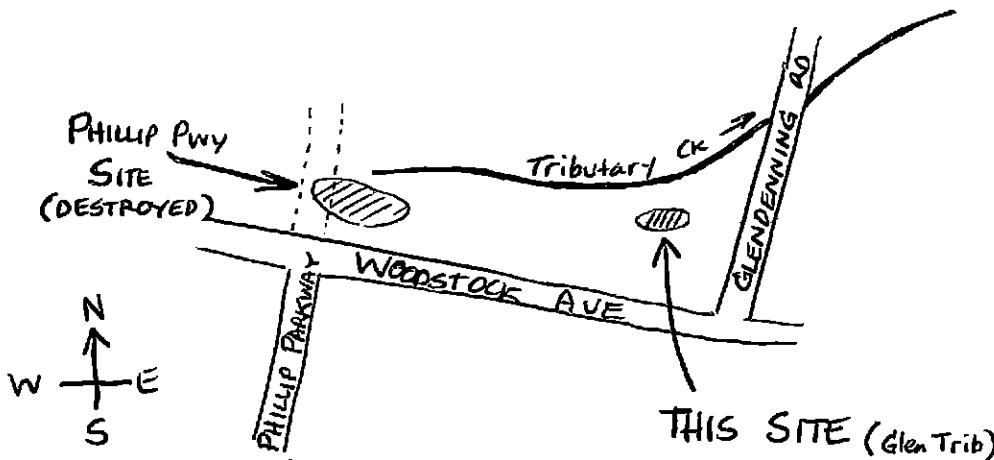
ART area of surface decorated, motifs, colours, wet, dry pigment, technique of engraving, no. of figures, sizes, palmarion.

BURIALS: number & condition of bone, position, age, sex, associated artefacts.

TREES: number, alive, dead, likely age, scar shape, position, size, patterns, axe marks, regrowth

QUARRIES: rock type, debris, recognisable artefacts, percentage quarried.

OTHER SITES EG. structures (fish traps, stone arrangements, bora rings, mia mias), mythological sites, rock holes, engraved groove channels, contact sites (missions massacres cemeteries) as appropriate



Attach sketches etc, eg. plan & section of shelter, show relation between site contents, indicate north, show scale.

Attach annotated photos (stereo where useful) showing scale, particularly for art sites.

Appendix B Proposal Plans: Indicative Construction Layout

Appendix C Indicative Unexpected Finds Protocols

Unexpected Find Procedure for Aboriginal Objects:

Implement an Unexpected Find Procedure for Aboriginal objects for the duration of the project. In the unlikely event that a suspected Aboriginal object/s is identified the procedure should include the following:

- Works are to stop immediately.
- The area of the suspected find/s is to be fenced off with an appropriate buffer and protected.
- A qualified archaeologist and representative of Deerubbin LALC are to be contacted to inspect the area and the nature of the find.
- Representative of Deerubbin LALC to determine the find's significance, in consultation with a qualified archaeologist or Heritage NSW.

Works are not to proceed until written advice is provided from the archaeologist or Heritage NSW on the appropriate management of the find and heritage approval requirements.

Unexpected Human Remains Procedure:

It is recommended that an Unexpected Human Remains procedure be implemented for the duration of the project.

Where it is suspected that less than 100 years has elapsed since death, human skeletal remains come under the authority of the State Coroner and the Coroners Act 2009 (NSW). Under s35 (2) of the Act, a person must report a death to a police officer, a coroner or an assistant coroner as soon as possible. This applies to all human remains less than 100 years regardless of ancestry. Public health controls may also apply.

Where the remains are suspected of being more than 100 years old, Aboriginal ancestral remains are protected under the NPW Act, while non-Aboriginal heritage remains are protected under the Heritage Act.

The discovery of Aboriginal human remains also triggers notification requirements to the Commonwealth minister for the Environment under s20 (1) of the Aboriginal and Torres Strait Islander Heritage Protection Act 1984.

In the unlikely event that suspected Human Remains are identified the procedure should include the following:

- Works are to stop immediately.
- The area of the suspected Human Remains is to be secured and cordoned off.
- NSW Police are to be notified. No further works can be undertaken until the NSW Police provide written advice.
- If these remains are deemed to require archaeological investigation by the NSW Police or NSW Coroner, then:
 - Heritage NSW and Deerubbin LALC must be notified; and
 - A plan of management for any identified Aboriginal Human Remains must be developed in consultation with Heritage NSW and Deerubbin LALC, as well as any necessary approvals.

Works are not to proceed until written advice is provided from the archaeologist or Heritage NSW or DPE.