



TOWNSON ROAD PRECINCT, MARSDEN PARK

Aboriginal Heritage Assessment

Prepared for Mecone on behalf of the
Townson Road Precinct Land Owner Group

Blacktown Local Government Area

October 2013

Ref. 1206

KELLEHER NIGHTINGALE CONSULTING PTY LTD
Archaeological and Heritage Management
ACN 120 187 671

Level 10, 25 Bligh St
SYDNEY NSW 2000
Phone 02 9232 5373
Fax 02 9223 0680

Document Information

Project Name	Townson Road Precinct, Marsden Park: Aboriginal heritage assessment
Project Number	1206
Status	Final
Version	5 (revised to include updated Indicative Layout Plan issued 6 March 2014)
Client Name	Mecone
Recipient	Ben Hendricks
Issue Date	7 March 2014
Prepared by	Dr Matthew Kelleher; Alison Nightingale; Mark Rawson; Cristany Milicich; Ben Anderson
Approved by	Dr Matthew Kelleher; Alison Nightingale

Contents

CONTENTS	III
1 INTRODUCTION	1
1.1 PROJECT BACKGROUND	1
1.2 SUMMARY OF FINDINGS.....	1
1.3 INVESTIGATORS AND CONTRIBUTORS	1
2 DESCRIPTION OF DEVELOPMENT PROPOSAL	4
3 ABORIGINAL COMMUNITY INVOLVEMENT	4
4 PREVIOUS ARCHAEOLOGICAL WORK.....	7
4.1 DATABASE SEARCH (AHIMS)	7
4.2 DISCUSSION OF AHIMS SEARCH RESULTS.....	7
4.3 PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS AND RECORDED SITES	9
5 LANDSCAPE CONTEXT	11
6 REGIONAL CHARACTER	15
7 PREDICTIONS	15
8 SAMPLING STRATEGY	15
9 FIELD METHODS.....	16
10 RESULTS	16
10.1 SURVEY COVERAGE	16
10.2 RECORDED ABORIGINAL ARCHAEOLOGICAL SITES.....	17
11 ANALYSIS AND DISCUSSION	27
12 SCIENTIFIC VALUES AND SIGNIFICANCE ASSESSMENT	27
12.1 ASSESSMENT CRITERIA	27
12.2 STATEMENT OF SIGNIFICANCE	27
13 IMPACT ASSESSMENT	28
14 LEGISLATIVE CONSIDERATIONS	28
15 MANAGEMENT AND MITIGATION MEASURES.....	30
REFERENCES	31
APPENDIX A ABORIGINAL COMMUNITY REPORTS.....	32
APPENDIX B AHIMS SEARCH RESULTS	38

FIGURES

Figure 1. Study area location.....	2
Figure 2. Site context	3
Figure 3. Proposed development layout (source: Mecone, issued 6 March 2014)	5
Figure 4. Known sites in vicinity of study area	8
Figure 5. Geology of the study area	12
Figure 6. Landforms and disturbance.....	13
Figure 7. Soil landscapes in the study area	14
Figure 8. Recorded Aboriginal sites in the study area.....	18
Figure 9. Development impact on Aboriginal heritage	29

1 Introduction

1.1 Project background

The Townson Road Precinct Land Owner Group is seeking to rezone land on Townson Road at Marsden Park for residential development purposes. The landowner group engaged Mecone to manage the rezoning application.

The land, known as Townson Road Precinct (hereafter referred to as the site) is approximately 30 hectares in size with its main frontage to Townson Road to the north (Figure 1). The site forms the southern part of the Schofields West Land Release Precinct, in the North West Growth Centre. The area is surrounded by urban development on three sides with the CRS Brick Pits to the north (Figure 2). The site is bounded by Townson Road to the north, private property to the east and south and Bells Creek to the west.

The site is currently zoned 1(a) – General Rural and is located within the Blacktown Local Government Area. The landowner group is currently seeking a part precinct release from the Director-General of the Department of Planning and Infrastructure (DP&I) in order to proceed with a rezoning application to rezone the site for residential uses. The rezoning application will be made to Blacktown City Council and will form an amendment to SEPP (Sydney Region Growth Centres) 2006.

As part of the rezoning application, Kelleher Nightingale Consulting Pty Ltd (KNC) was engaged to carry out an Aboriginal heritage archaeological assessment of the land. The assessment included background research and an archaeological field survey conducted in accordance with Office of Environment and Heritage (OEH) requirements including:

Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales

Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales

1.2 Summary of findings

Field survey of the study area identified eight Aboriginal archaeological sites:

- TRS1 (AHIMS Site ID 45-5-4289)
- TRS2 (AHIMS Site ID 45-5-4290)
- TRS3 (AHIMS Site ID 45-5-4291)
- TRS4 (AHIMS Site ID 45-5-4292)
- TRS5 (AHIMS Site ID 45-5-4293)
- TRS6 (AHIMS Site ID 45-5-4294)
- TRS7 (AHIMS Site ID 45-5-4295)
- TRS8 (AHIMS Site ID 45-5-4296)

The identified sites consist of three artefact scatters and five isolated finds. None of the identified Aboriginal sites/objects should prohibit development of the property.

An Aboriginal heritage impact permit (AHIP) will be required to be obtained prior to impacting Aboriginal sites/objects.

1.3 Investigators and contributors

A list of investigators and contributors to the study is included in Table 1 below.

Table 1. Investigators and contributors

Investigator/Contributor	Affiliation	Role
Dr Matthew Kelleher	KNC	Survey; Advisor and Review
Alison Nightingale	KNC	Advisor and Review
Steve Randall	DLALC	Survey; Cultural Heritage Advisor
John Reilly	DTAC	Survey; Cultural Heritage Advisor
Gordon Workman	DLO	Survey; Cultural Heritage Advisor
Danny Franks	Tocomwall	Survey; Cultural Heritage Advisor
Leanne Watson	DCAC	Survey; Cultural Heritage Advisor
Gordon Morton	DACHA	Survey; Cultural Heritage Advisor
Mark Rawson	KNC	Survey; Reporting
Cristany Milicich	KNC	Survey; Reporting
Ben Anderson	KNC	Survey; GIS

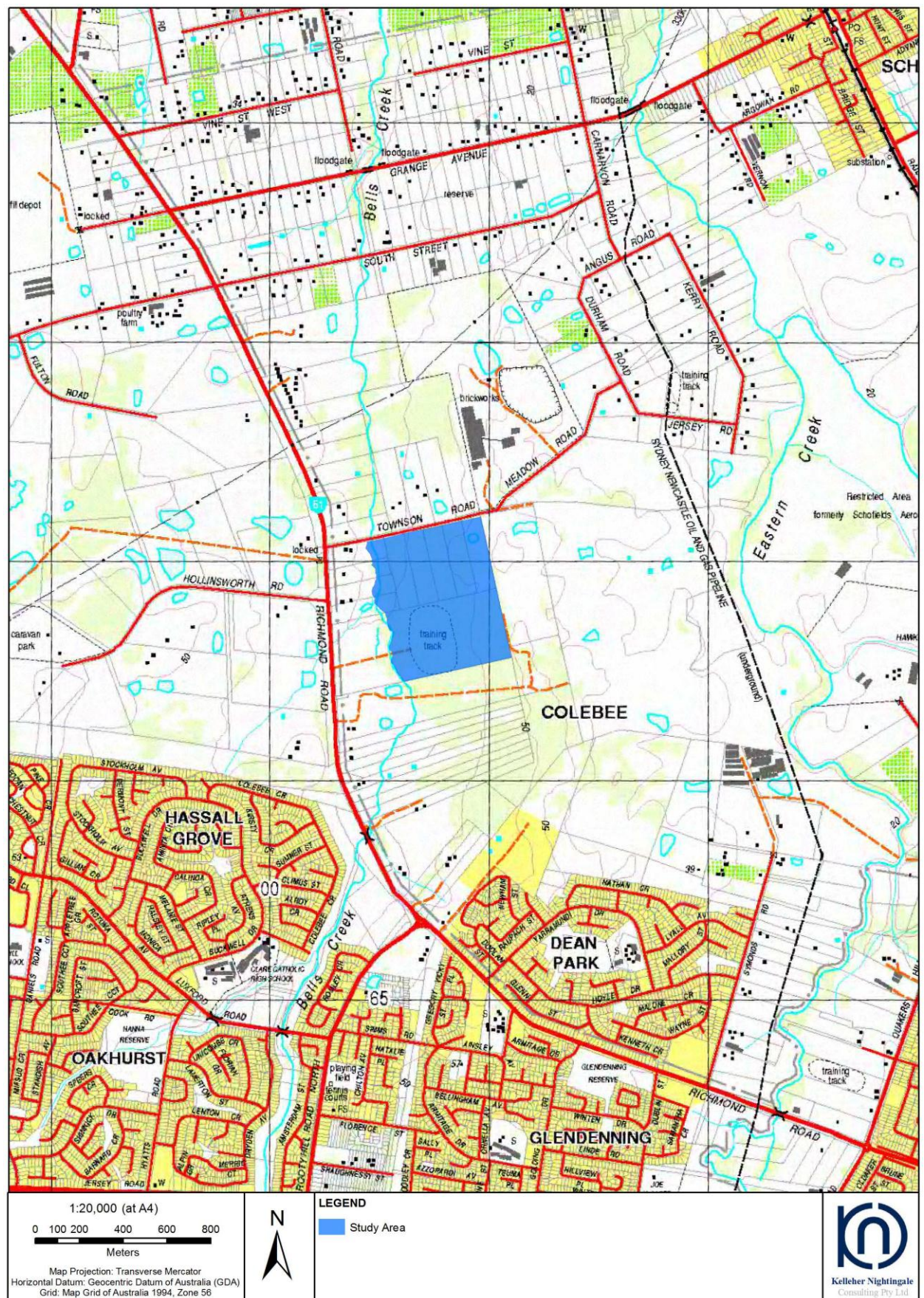


Figure 1. Study area location

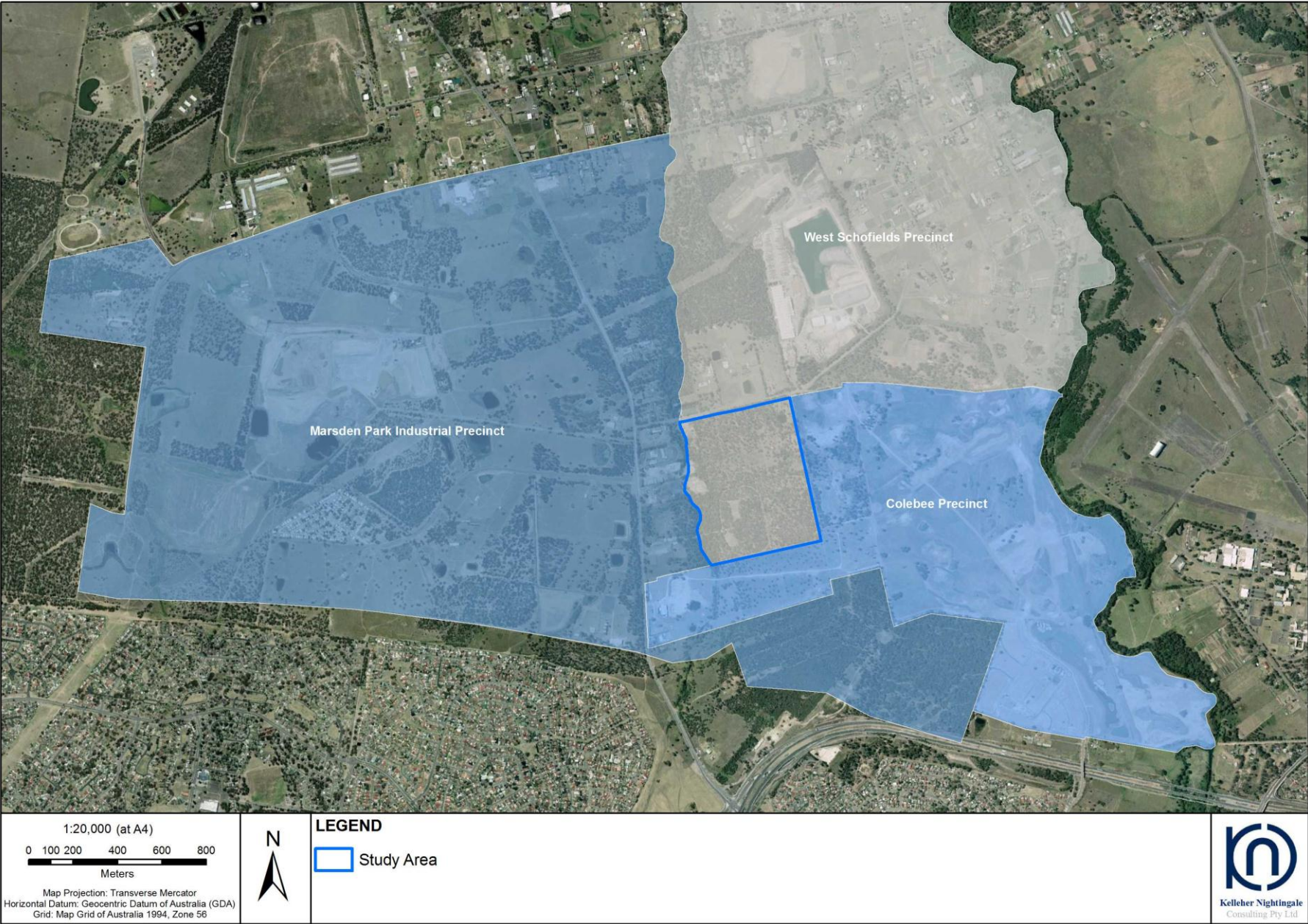


Figure 2. Site context

2 Description of Development Proposal

Following an initial process of preliminary investigations and liaison with the Department of Planning and Infrastructure and Blacktown City Council, the landowner group is now seeking to submit a rezoning application to Council. Detailed studies have been undertaken to assess the potential impacts of development and support the rezoning application, including:

- urban design/lot layout;
- survey;
- service infrastructure;
- civil engineering;
- hydrology;
- contamination assessment
- ecological studies – flora, fauna and biodiversity;
- bushfire;
- acoustic;
- traffic and transport; and
- Aboriginal archaeological heritage.

A development layout for the site has been prepared. The proposed development includes residential subdivision for the majority of the site, with accessible conservation recreation area, public reserve, shared cycleway, detention basins, pump station and offset areas concentrated in the west of the site, adjacent to Bells Creek and associated flood zone (100 year flood extent).

The total residential yield is expected to be approximately 411 dwellings. An indicative layout for the proposed future development of the site is shown in Figure 3.

3 Aboriginal Community Involvement

According to the Code of Practice, consultation with the Aboriginal community is not a formal requirement of the due diligence process. However, the landowner group considered that consultation with the local Aboriginal community at the rezoning stage would assist in the decision-making process. The landowner group sought to undertake the due diligence assessment process in consultation with local Aboriginal community groups with a known interest in the Marsden Park area, to identify any sites or issues of cultural significance.

Six Aboriginal community groups participated in initial consultation and assessment of the study area:

- Deerubbin Local Aboriginal Land Council (DLALC)
- Darug Tribal Aboriginal Corporation (DTAC)
- Darug Land Observations (DLO)
- Tocomwall
- Darug Custodian Aboriginal Corporation (DCAC)
- Darug Aboriginal Cultural Heritage Assessments (DACHA).

Initial consultation and assessment included:

- Initial contact to discuss the project and invitation to participate in a visual inspection of the study area
- Site inspection/survey with representatives of each group
- Discussion regarding proposed future development of the study area
- Provision of written comments on the cultural heritage values of the study area.

Following site inspections and discussions regarding the proposed development, each Aboriginal community group provided both written and verbal comment on the survey and cultural assessment report. Reports are attached in Appendix A.

The Land Council letter (dated 17 December 2012) confirms that an Aboriginal cultural heritage assessment of the three properties comprising the Townson Road Precinct was carried out to assess the likely impact of proposed development on the cultural heritage of the land. The report is based on results of the site inspection and notes that there was good ground surface visibility, a number of Aboriginal cultural materials (stone artefacts) were found and there were no scarred or marked trees observed. The Land Council recommended further investigation be undertaken before development occurs. This should occur following receipt of an Aboriginal heritage impact permit.



Figure 3. Proposed development layout (source: Mecene, issued 6 March 2014)

John Reilly of DTAC provided a verbal report (dated 03/09/2013), stating that his organisation considered the area to be very sensitive and highly significant, occupied over a long period of time. He noted that significant quantities of raw material were observed on the surface, including both artefacts and other heat-shattered material, especially in the higher parts of the site. He also expressed support for the archaeological assessment and support for the recommendations for future activities in the study area.

Gordon Workman of DLO (letter dated 23/09/13) also confirmed the area is of high concern to DLO, noting that the area is part of Stone Cutters Ridge (Plumpton Ridge) and that silcrete cobbles were found there. The area is associated with Song and Story Lines, important for the Darug People. It was therefore recommended that more consideration of Aboriginal cultural heritage and further investigation is carried out for the study area.

Danny Franks of Tocomwall (letter dated 20/09/13) documented the importance of the area. An abundance of raw material was observed over the property during the site inspection. Along with the landform of the study area, particularly the rise in the east of the property, the abundance of raw material was considered to have interest as a source of material and potential for a camp site. The formation of the ridge and local availability of resources such as stone, food and water were also discussed. It was documented that the area was connected with Stonecutters ridge, associated with Darug trade routes, song line and ceremonial practices. As a result there is a strong connection with the area for the Darug People. Tocomwall recommended that this valuable cultural knowledge should be retained to benefit future generations through connections and education. Tocomwall expressed an understanding of the information and requested involvement in any future fieldwork in the area.

Leanne Watson of DCAC (represented in the field by Tom Wright) (letter dated 23/09/13) also emphasised that the abundance of material reveals that Darug people lived in this area for thousands of years and that it is an area that would have been utilised for its resources. The connectivity between Aboriginal sites around the Townson Road area was also expressed, noting that the area is highly significant. DCAC considers the Plumpton Ridge landform to be a highly significant landform and area, recommending that this landform be preserved given much of the landform has been impacted by development. It was recommended that Darug landforms of high significance within the complex of sites in this area be conserved, with a long term management plan prepared including educational outcomes.

Comments received from Celestine Everingham of DACHA (letter dated 23/09/13) included that the area is part of a large and very important Darug landscape. It is a resource rich area, with silcrete, food and water, resulting in a number of large sites. DACHA therefore recommended cultural investigation to expand our knowledge of this important Darug area.

In summary, eight Aboriginal archaeological sites were identified in the study area during the site investigations. The prevalence of the raw material silcrete was noted on the surface, including both artefacts and heat shattered or naturally fractured material and cobbles.

The initial consultation process confirmed that the area holds value to the local Aboriginal community and is particularly connected with the wider Plumpton Ridge feature and associated Aboriginal heritage sites around the study area. Consistent values were identified, including the abundance of material and connectivity with other sites. Conservation of some of Plumpton Ridge and future educational opportunities were also recommended. Opportunities to incorporate conservation or interpretation and recognition of the strong connection and cultural heritage values of Plumpton Ridge within the study area should be considered.

No objections were raised to the development of the study area. Groups expressed an interest in being involved in any future investigation and consultation regarding the study area.

Any future application for an Aboriginal heritage impact permit (AHIP) would require Aboriginal stakeholder consultation in accordance with Office of Environment and Heritage (OEH) requirements.

4 Previous Archaeological Work

4.1 Database search (AHIMS)

The Aboriginal Heritage Information Management System (AHIMS) is a database operated by OEH and regulated under section 90Q of the *National Parks and Wildlife Act 1974*. AHIMS contains information and records related to registered Aboriginal archaeological sites (Aboriginal objects, as defined under the Act) and declared Aboriginal places (as defined under the Act) in NSW.

A search of AHIMS was conducted on 11 October 2012 to identify registered (known) Aboriginal sites or declared Aboriginal places within or adjacent to the study area (AHIMS Client Service ID: 82482). Search results are attached as Appendix B.

The AHIMS Web Service database search was conducted within the following coordinates (GDA, Zone 56):

Eastings: 0300000 to 0303000
 Northings: 6265000 to 6269000
 Buffer: 50 metres

The AHIMS search results showed:

110	Aboriginal sites are recorded in or near the above location
0	Aboriginal places have been declared in or near the above location

The type and distribution of recorded Aboriginal sites within the AHIMS search area are shown in Figure 4 and listed in Table 2.

Table 2. Frequency of site types from OEH AHIMS database search

Site Type	Number	%
Open Camp Site	59	53.6
Potential Archaeological Deposit (PAD)	24	21.8
Isolated Find	11	10.0
Quarry	8	7.3
Open Camp Site; Potential Archaeological Deposit (PAD)	6	5.5
Open Camp Site; Quarry	1	0.9
Aboriginal Ceremony and Dreaming	1	0.9
Total	110	100

4.2 Discussion of AHIMS search results

As well as determining if there are any registered (known) sites within a given area, an AHIMS search also helps to characterise local archaeology by illustrating the distribution of sites within the local landscape.

Results from the AHIMS database search indicate the preponderance of open camp sites (artefact scatters) around the study area. In 5.5% of recorded cases, these were associated with an area assessed to retain potential subsurface archaeology (Potential Archaeological Deposit or PAD). 24 separate PADs without associated surface manifestations have also been recorded in the surrounding area. Eight sites have been recorded as quarries, with an additional site listed as both a quarry and an open camp site. Eleven isolated finds and one site of Aboriginal ceremony and dreaming were also located within the search coordinates.

The AHIMS search results indicate that the region was a resource rich area for Aboriginal people. The AHIMS results correlate with the nature of the landscape within the search area, with a number of PADs and Open Camp Sites clustered along the flat to gently sloping terrace landforms near Eastern Creek in the eastern part of the search area and along Bells Creek in the west. The presence of several stone quarries (sources of raw material) in addition to significant waterways in the region would have added to the attractiveness of the study area for Aboriginal occupation. Quarry sites are clustered along the Plumpton Ridge immediately east of the study area.

None of the previously recorded sites in the AHIMS database are located within the boundaries of the current study area, however site 45-5-2998 (Open Camp Site and PAD) is located very close to the eastern boundary.

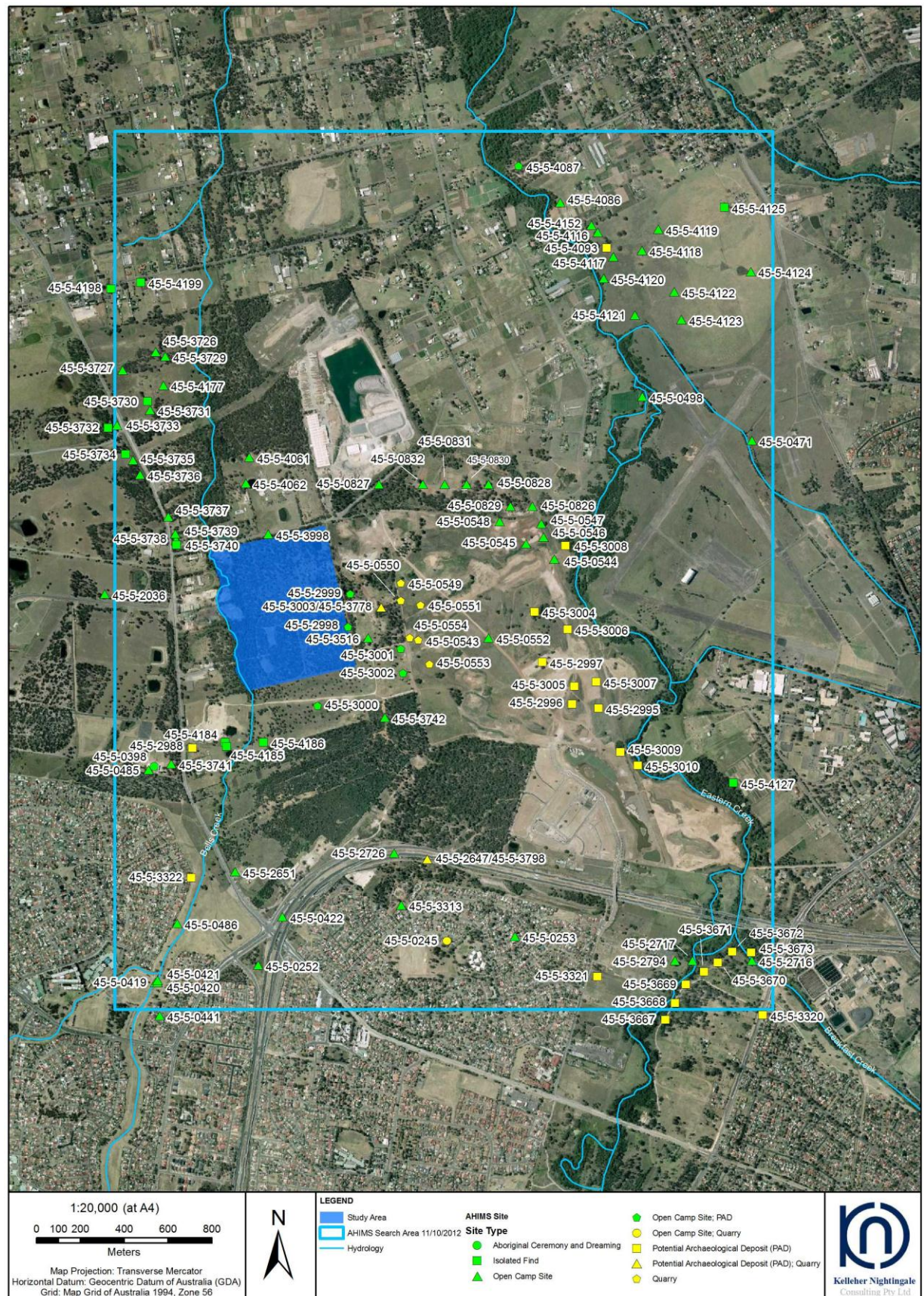


Figure 4. Known sites in vicinity of study area

4.3 Previous archaeological investigations and recorded sites

Several archaeological investigations have been conducted in the immediate vicinity of the study area. A summary of the pertinent studies is presented in this section.

An archaeological survey of a section of Bells Creek south of the current study area was undertaken in 1985 (Kohen 1985). It was noted that the area examined north of Richmond Rd contained fractured silcrete but no artefacts were identified and the area was described as “grossly disturbed”, such that there was little likelihood of intact archaeological deposit (Kohen 1985:6). The section of Bells Creek between Richmond Rd and Cook Rd contained two open artefact scatter sites (AHIMS 45-5-0485 and 45-5-0486) with a range of artefacts present including cores, flakes, backed artefacts, artefacts exhibiting retouch/usewear and a steeply flaked uniface pebble tool. Most artefacts were silcrete, with chert and quartz also noted. The pebble tool was composed of basalt. The sites were described as disturbed, and Kohen noted that 45-5-0485 likely correlated with a site in the vicinity previously recorded by Haglund (1980). Two small open artefact scatters and two isolated finds were also recorded along the creekline further south. Kohen further recorded large quantities of natural silcrete along the creek (Kohen 1985).

To the northwest of the study area, a series of investigations have been undertaken in the Marsden Park area. Brayshaw and Haglund (1997) conducted an archaeological survey for a proposed landfill operation within the quarry at Marsden Park northwest of the current study area and recorded a total of 72 artefacts at thirteen locations. Three of these comprised isolated finds and the others, low density surface scatters. It was noted that approximately 80% of identified artefacts displayed damage consistent with tractor or bulldozer activity. Over 90% of observed artefacts were silcrete, with small frequencies of quartz, chert, and a single instance of quartzite. Naturally fractured silcrete was also observed.

The majority of the area immediately west of the study area has been examined in relation to development of the Marsden Park Precinct. Archaeological field survey was carried out as part of precinct planning activities and identified a total of 67 archaeological sites within the precinct boundaries, including 43 previously identified (known) sites and 24 new recordings (KNC 2011). Newly identified sites consisted of open artefact scatters and isolated finds consisting primarily of silcrete, with small occurrences of tuff, chert, and petrified wood. Sites displaying relatively intact soil profiles, broader archaeological assemblages and those located on landforms of increased archaeological potential such as raised terraces were deemed to have moderate significance, while similar sites with higher levels of soil disturbance were classed as moderate-low significance and those whose context had been extremely disturbed ranked as low significance.

An Aboriginal heritage assessment of the nearby Marsden Park Industrial Precinct (MPIP) adjacent to the current study area identified 64 archaeological sites for the precinct which included two places of high cultural significance (Blacktown Native Institution and Colebee Land Grant) (KNC 2009). Two sites of high archaeological potential/significance and ten of moderate archaeological potential/significance were located across 12 landforms assessed as displaying greater archaeological potential than other areas of the precinct. 32 sites of low significance were identified in other areas. Silcrete was the predominant raw material in all sites, with small occurrences of tuff, quartz and chert.

South of the current study area, Navin Officer conducted an assessment of a proposed pipeline route for the Replacement Flows Project between Quakers Hill and Penrith (Navin Officer 2007). The study corridor passed south of the current study area and identified seven new sites and four areas of PAD. Closest to the current project was WSPAD3, an area within the Colebee land grant assessed as displaying moderate archaeological potential due to its proximity to Bells Creek and relatively low levels of disturbance.

The Colebee land grant is a site of exceptional historical and Aboriginal cultural heritage significance, located to the south east of the current study area. The land was given to Colebee and Nurragingy in 1816 by Governor Macquarie and represents the first land grant to an Aboriginal person after colonisation. It has been suggested that Colebee and Nurragingy's selection of that particular area relates to its significance to local Aboriginal groups at the time; being valued for its abundant raw materials emanating from Plumpton Ridge, commanding location and proximity to the important watercourses of Eastern Creek and Bells Creek (Brook and Kohen 1991). An historical archaeological investigation conducted by ERM in 2003 for the Medallist lands covered the area of the land grant and concluded that physical remains directly relating to the time period of the land grant were unlikely due to various land use practices and disturbance (ERM 2003). Nevertheless the historical and cultural value of the grant area remains significant.

A substantial amount of archaeological investigation has taken place immediately east and south of the current study area. Initial archaeological investigation of the property directly east of the current study area was undertaken for the Metropolitan Waste Disposal Authority (McDonald 1986) and included archaeological field survey and limited test excavation. McDonald reported that surface scatters of artefacts were present across the entire study area, with test pit results indicating the presence of stratified archaeological deposit (McDonald 1986). Artefact raw material was 99.5% silcrete.

Further south along Plumpton Ridge, archaeological investigation has occurred in relation to the Western Sydney Orbital Road project. Initial field survey and test excavation described a low density archaeological deposit, consisting of large flakes, broken flakes and cores of predominantly silcrete with tuff and petrified wood also observed. It was noted that test pits contained a large number of silcrete fragments that were not determined to be artefactual, that is they were naturally fractured silcrete (Baker 1996 [in AMBS 2002]). An amendment to the road design prompted further investigation in 2002. It was determined that the low southeastern spurs of Plumpton Ridge retained a very low density of artefacts (AMBS 2002). Test excavation conducted on the main ridgeline revealed slightly higher densities, with one test pit in particular on the 50m contour containing a large proportion of the total assemblage (60%).

The area to the east and south of the current study area was further assessed for indigenous archaeology during the design process for a proposed golf course development in the Colebee Release Area (JMCHM 2003a). The assessment mapped land use and previous disturbance thought to impact archaeology and divided the study area into zones of varying archaeological potential. 16 areas displaying high and good archaeological potential were subsequently designated as PAD.

In a related investigation, the current study area was assessed as part of the adjoining lands to the previously investigated Colebee Release Area (JMCHM 2003b). The 'adjoining lands' were included in the assessment for a Draft LES commissioned by Blacktown Council. Based on land use mapping, McDonald characterised the majority of the current study area as displaying 'high archaeological sensitivity', meaning that based on land use mapping it appeared less disturbed than other parts of her study area and thus retained the potential to contain intact archaeology (2003:29-31). Disturbance that would limit archaeological sensitivity within the study area was generally assessed as low, with areas of high disturbance associated with the trotting track and associated buildings and along the margins of Bells Creek.

A subsequent archaeological salvage excavation of 10 of the 16 PADs originally identified in the Colebee Release Area (JMCHM 2003a) took place ahead of residential and golf course development by Medallist Golf Holdings Pty Ltd (JMCHM 2006). This salvage excavation represents the most comprehensive archaeological investigation undertaken in the surrounding area. The investigation split the previously identified PADs into seven 'Sample Areas' (SA20-26) based on landform. Sample Areas were distributed as follows: one on the Eastern Creek floodplain, one on a high bank of Eastern Creek, three in a mid-slope context and two in upper slope contexts on the eastern margin of Plumpton Ridge at the silcrete quarry.

The excavation was carried out over five months in 2005 and included the excavation of 687m² from which over 80,000 artefacts were retrieved. The highest density of archaeological material was located on the high bank next to Eastern Creek at the site designated SA23. SA23 revealed a density of artefacts in excess of 45,000 from 60m² of excavation, including around 1,100 backed artefacts. It was suggested that the location of this site may have been a preferred location for repeated occupation throughout prehistory (JMCD CHM 2006: 133).

Overall artefact analysis from the excavation program revealed that cores and artefacts over 50mm were rare. The general size of artefacts was found to decrease with distance from the silcrete quarry. Results of the artefact analysis found that the main activity at the quarry was silcrete processing, with no evidence for the production of backed artefacts, whereas within a few hundred metres of the quarry (e.g. at SA23) the assemblages indicated the reduction of silcrete that had already been prepared in some way and included large scale knapping floors and bulk production of backed artefacts (JMCHM 2006:133).

Immediately north of the current study area, an archaeological survey of 51 Townson Rd identified three previously unrecorded Aboriginal sites (Artefact 2011). Two open artefact scatters (TR1 – AHIMS 45-5-4061 and TR3 – AHIMS 45-5-3998) and one isolated find (TR2 – AHIMS 45-5-4062) were identified. Artefacts included cores and flaked debitage and all were composed of silcrete, except for the single occurrence of a broken quartz flake at site TR3. Sites were located in moderately-highly disturbed contexts and the study area as a whole was assessed as displaying low-moderate archaeological potential and significance.

5 Landscape Context

The study area is located on the Cumberland Plain, a physiographic region of the western Sydney Basin characterised by low lying, gently undulating low hills and plains atop the Wianamatta Group of Triassic Period sedimentary shales. Geology within the study area comprised three major units (Figure 5). The majority of the study area is situated on Bringelly Shale of the late Triassic Period, consisting of shale, carbonaceous claystone, claystone, laminate, fine to medium-grained lithic sandstone, rare coal and tuff (Clark and Jones 1991). The western margin of the study area consisted of Quaternary Alluvium of fine-grained sand, silt, and clay, deposited in association with fluvial activity along Bells Creek. The eastern portion of the study area is located along the north western margin of Plumpton Ridge, a narrow band of the St Marys Formation, a Tertiary Period outcropping of laterised sand and clay with ferricrete bands, including silcrete, sandstone and shale boulders.

The study area is characterised by ridge spurs extending into the study area from the ridgetop to the east, with gentle simple slopes through the central portion of the study area grading to creek flats along Bells Creek, the 3rd order watercourse marking the western boundary of the study area. Hydrology within the study area comprises Bells Creek along the western boundary, a 3rd order stream and permanent watercourse. Eastern Creek, a major north-flowing drainage line of the Cumberland Plain, passes approximately 1km east of the study area. Plumpton ridge along the eastern margin of the study area forms a watershed between these two hydrological features, with ephemeral drainage channels and slopes on the western side crossing the study area and draining to Bells Creek. Landforms identified in the study area are shown on Figure 6.

Soils in the study area are of two main types (Figure 7). Residual soils of the Blacktown oil landscape are present along the higher ridge spurs in the east and the associated gentle slopes. The Blacktown soil landscape consists of shallow to moderately deep hard setting red, brown and yellow podzolic soils. Soil fertility and soil drainage are low. Erosional susceptibility of this soil landscape is relatively low, but is increased where surface vegetation is not maintained (Bannerman, Hazleton, and Tille 1990). The South Creek soil landscape is also present within the study area. This soil landscape is associated with the floodplain and creek flats of Bells' Creek along the western margin of the study area, and is characterised by deep to very deep alluvial sediments, loams, and clays, susceptible to erosion and frequent flooding.

Lithic raw materials favoured for artefact manufacture are present in the study area and surrounds, namely the St Marys Formation present at Plumpton Ridge. Large silcrete boulders and cobbles, along with occasional small quantities of silicified wood and quartz, exist at or near the surface and would have been a suitable source of raw lithic materials.

Vegetation includes tree species typical of the Cumberland Plain woodland group, with various eucalypt species, spotted gum and occasional ironbarks. Alluvial woodland with a denser understorey occurs along the creek margins. The study area has been cleared and regrowth vegetation occurs interspersed with introduced pasture grasses and scrub.

The surrounding area has been subject to various land uses in the past, from fruit growing in the early years of the Blacktown settlement through other agricultural activities such as dairying, cropping and grazing. The study area itself has undergone extensive vegetation clearance with regrowth vegetation now extant. An unsealed oval shaped trotting track was at one time constructed in the south western part of the study area and other dirt tracks also exist in the southern portion of the study area and along the eastern boundary. A paintball facility currently makes use of the trotting track, with installations of various obstacle courses existing within and adjacent to it. The northern half of the study area is predominantly given over to scrub grazing with goats. Construction of two dams and a house and small outbuildings has also occurred in the north eastern properties.

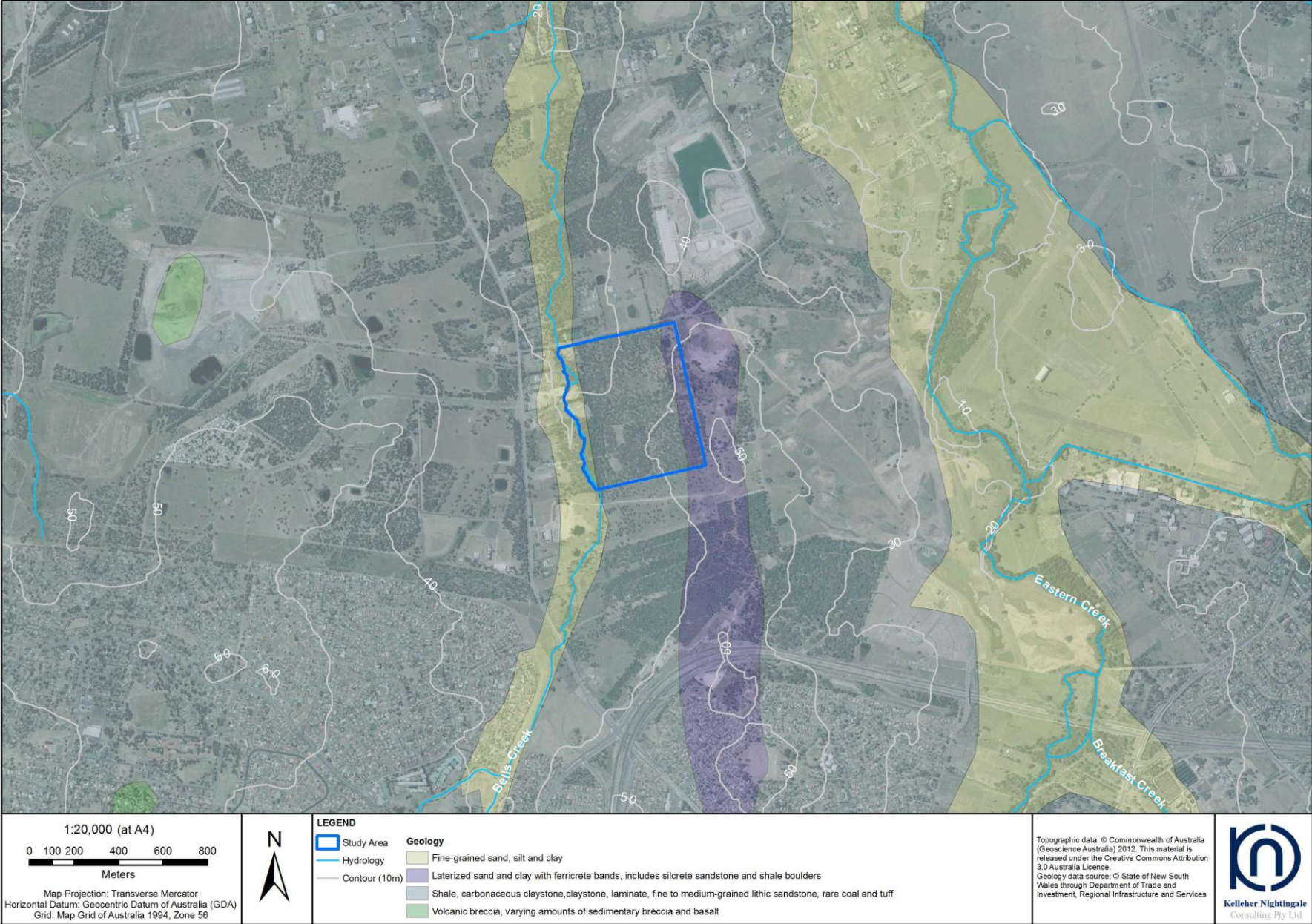


Figure 5. Geology of the study area



Figure 6. Landforms and disturbance

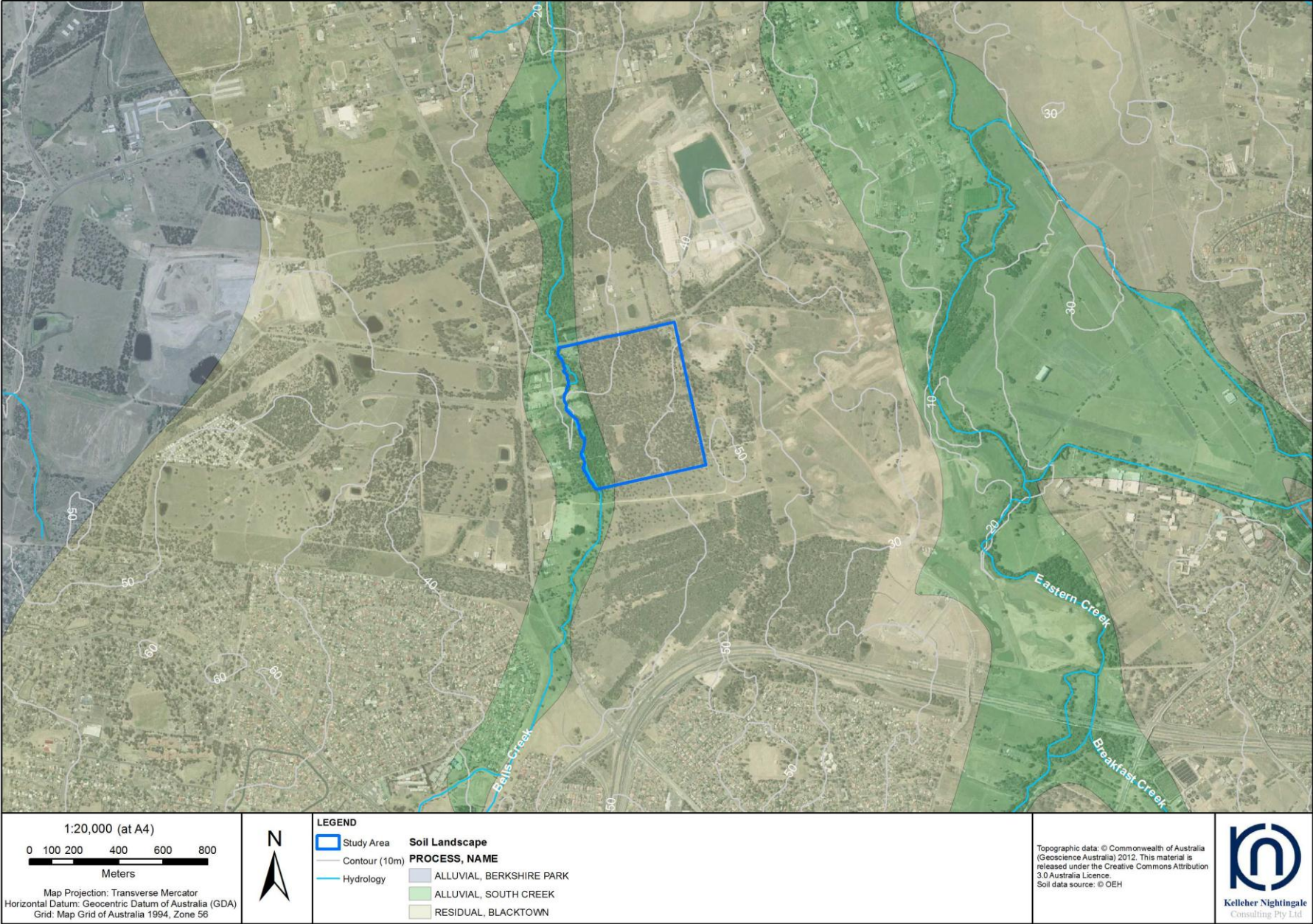


Figure 7. Soil landscapes in the study area

6 Regional Character

Previous archaeological field surveys and excavations across the Cumberland Plain have provided data on artefact distribution, site typology and lithic raw material use that aid in assessing the archaeological character of the wider region.

Artefacts generally occur as open camp sites or surface scatters and as isolated finds. Open sites predominate as the underlying geology of the region is not conducive to the formation of rock shelters. Previous studies have demonstrated the relationship between artefact densities and proximity to water sources and landform. Relatively elevated landforms along the margins of creeks, especially those offering permanent water, would have been favourable for occupation by Aboriginal people. This is reflected in the archaeological record by higher artefact densities recorded at these sites, potentially reflecting repeated or more intensive use of these locations.

The prevalence of silcrete in assemblages from the area is related to the raw material source of the St Marys Formation outcrops at several locations, most notably at Plumpton Ridge. Numerous studies in the area have recorded the presence of silcrete cobbles and naturally fractured silcrete pieces in high numbers. Many have also noted the difficulty in distinguishing definitively artefactual silcrete objects from non-artefactual ones. Investigations at Plumpton Ridge have confirmed the intensive use of this resource by Aboriginal people, with the highest density and most significant archaeological deposit located on high bank terraces near the significant waterway of Eastern Creek, rather than on the ridge crest or upper slopes.

Regional archaeology has been variably impacted by historical and current land use practices as well as by natural processes. Preservation of archaeological sites in open contexts is difficult because of the adverse effects of erosion, floods and disturbance from various human activities. Previous studies have underscored the relationship between particular landforms such as elevated terraces and ground disturbance as key factors in the location of archaeological sites.

7 Predictions

The information outlined in previous sections allows several predictions to be made about the nature of the archaeology that may be expected in the study area.

- Archaeological sites are likely to consist of open artefact scatters and/or isolated finds.
- It can be expected that silcrete will be the most commonly encountered artefact raw material, with possible infrequent occurrences of chert, tuff and quartz.
- Clearance of original vegetation lessens the likelihood of identifying culturally modified trees.
- Archaeological sites are more likely to be identified in areas that have been subject to less intensive disturbance.
- It can be expected that archaeological sites encountered near the ridge top will display evidence of bulk silcrete quarrying and processing, including large cortical flakes and debitage.
- Sites at an increased distance from the ridge will contain a wider variety of artefact types including backed artefacts.
- Artefacts will decrease in size with distance from the ridge.

8 Sampling Strategy

The aim of the archaeological survey was to conduct a comprehensive inspection of the study area and identify any Aboriginal archaeological sites. The study area was subject to a full-coverage pedestrian survey.

Based on the archaeological background and landform context of the study area, the survey team closely inspected any areas of surface exposure for artefacts and any old growth trees for evidence of Aboriginal bark removal.

Assessments of soil disturbance were also made during the survey.

9 Field Methods

Field survey of the study area was carried out over four days on 1st and 2nd November 2012 and 3rd and 16th September 2013. Site inspections were carried out by KNC archaeologists Dr Matthew Kelleher, Mark Rawson, Cristany Milicich and Ben Anderson, Deerubbin Local Aboriginal Land Council representatives Steve Randall, Steven Knight and Peter Brown, Darug Tribal Aboriginal Corporation representative John Reilly, Darug Land Observations representative Gordon Workman, Tocomwall representative Danny Franks, Darug Aboriginal Cultural Heritage Assessments representative Gordon Morton and Darug Custodian Aboriginal Corporation representative Tom Wright. Conditions were clear and sunny. A pre-start safety induction was held on site.

A desktop review of AHIMS registered Aboriginal sites found that site types in the vicinity of the study area were predominantly isolated finds, open artefact scatters and stone extraction or quarry sites. For this reason, areas of high surface visibility were targeted for close inspection, including exposures such as vehicle tracks, driveways, stock tracks, sheet wash erosion scours, a dam and creek banks. Large mature or dead trees were also inspected for the possibility of being a culturally modified tree.

The study area was divided into four survey units based on landform (as per Figure 6). Survey unit 1 comprised the land within the study area of highest elevation in the east of the site, being the westernmost fringe of Plumpton Ridge. From this ridgeline, three westerly projecting spurs comprised survey unit 2. The decision was made to combine these three spurs into a single survey unit, based on landform context. These spurs were separated by gently sloped remnant drainage channels and flanked to the west by low gradient slopes inclined towards Bells Creek. These gentle slopes comprised survey unit 3. Survey unit 4 comprised the very gently sloped to flat landform constituting the floodplain of Bells Creek.

The entire study area was traversed by pedestrian survey. High resolution colour aerial photographs were used for reference in the field. New site locations were plotted using handheld GPS units, mapped and photographed, including landform context and site contents. Site recording forms were filled out for each findspot. Notes were taken during the survey of landform, exposures, nearest water, vegetation, current land use, previous ground disturbance and areas of potential for intact subsurface archaeological deposit.

10 Results

10.1 Survey coverage

Field personnel walked the route together each day, effectively covering the study area. Survey commenced from the north east corner of the study area, from a house at 68 Townson Road. The house lot was highly disturbed and included outbuildings. There were two large excavated dams immediately to the south and west.

The survey team proceeded south following a 500 metre long vehicle track along the entire eastern boundary fence. This traversed the ridgeline and three spur crests. Exposure was high along this track, with large areas of sheet erosion on the spur crests. Background was typically lateritic gravels with scattered silcrete cobbles. The spur crest nearest the house had the most extensive exposures. This also showed disturbance with tree clearing, graded mounds, dumped rubble and sheet erosion. The two spur crests further south were relatively less disturbed, still retaining some woodland vegetation.

Survey then headed west, off the spurs down onto mid and lower slopes, to Bells Creek. Exposure was patchy between grass and woodland regrowth on these slopes. There was good exposure on a 400m long vehicle track along the entire southern boundary, a large oval former trotting track and subsidiary tracks. In the centre of the old trotting track were paintball ranges. These were partly or completely cleared, with blinds or obstacles of old tyres, timber, cars, metal and large spheres. The chief limitation to effective survey coverage was grass cover, leaf litter and abundant ironstone gravels.

In summary, visibility was generally good along the elevated eastern boundary, patchy between low grass on mid slopes and poor on vegetated lower slopes closer to Bells Creek. Visibility was zero along the creek, which had a dense ground cover of *Commelina* and other vegetation. Survey coverage and effectiveness is presented in Tables 3 and 4.

Table 3. Survey coverage

Survey Unit	Landform	Survey Unit Area (sq m)	Visibility %	Exposure %	Effective Coverage Area	Effective Coverage %
1	Ridge	4,700	50%	80%	1,880	40%
2	Spur	22,300	30%	50%	3,345	15%
3	Slope	277,000	10%	50%	13,850	5%
4	Floodplain	42,000	10%	10%	420	1%

Table 4. Landform summary

Landform	Landform Area (sq m)	Area Effectively Surveyed	% of landform effectively surveyed	Number of sites	Number of artefacts or features
Ridge	4,700	1,880	40%	0	0
Spur	22,300	3,345	15%	2	8
Slope	277,000	13,850	5%	6	15
Floodplain	42,000	420	1%	0	0

10.2 Recorded Aboriginal archaeological sites

The archaeological survey identified eight Aboriginal archaeological site locations. These comprise three open artefact scatters and five isolated finds. Sites were given the identifier “Townson Road South” or TRS 1 to 8 and registered on AHIMS. A summary of the sites identified is presented in Table 5.

Table 5. Summary of identified sites

Site ID	AHIMS Site ID	Feature	Survey Unit	Landform
TRS1	45-5-4289	Isolated artefact	3	Slope
TRS2	45-5-4290	Open scatter	2	Spur
TRS3	45-5-4291	Open Scatter	3	Slope
TRS4	45-5-4292	Isolated artefact	3	Slope
TRS5	45-5-4293	Open Scatter	2	Spur
TRS6	45-5-4294	Isolated artefact	3	Slope
TRS7	45-5-4295	Isolated artefact	3	Slope
TRS8	45-5-4296	Isolated artefact	3	Slope

The locations of recorded Aboriginal archaeological sites in the study area are shown on Figure 8 and each site is described following.

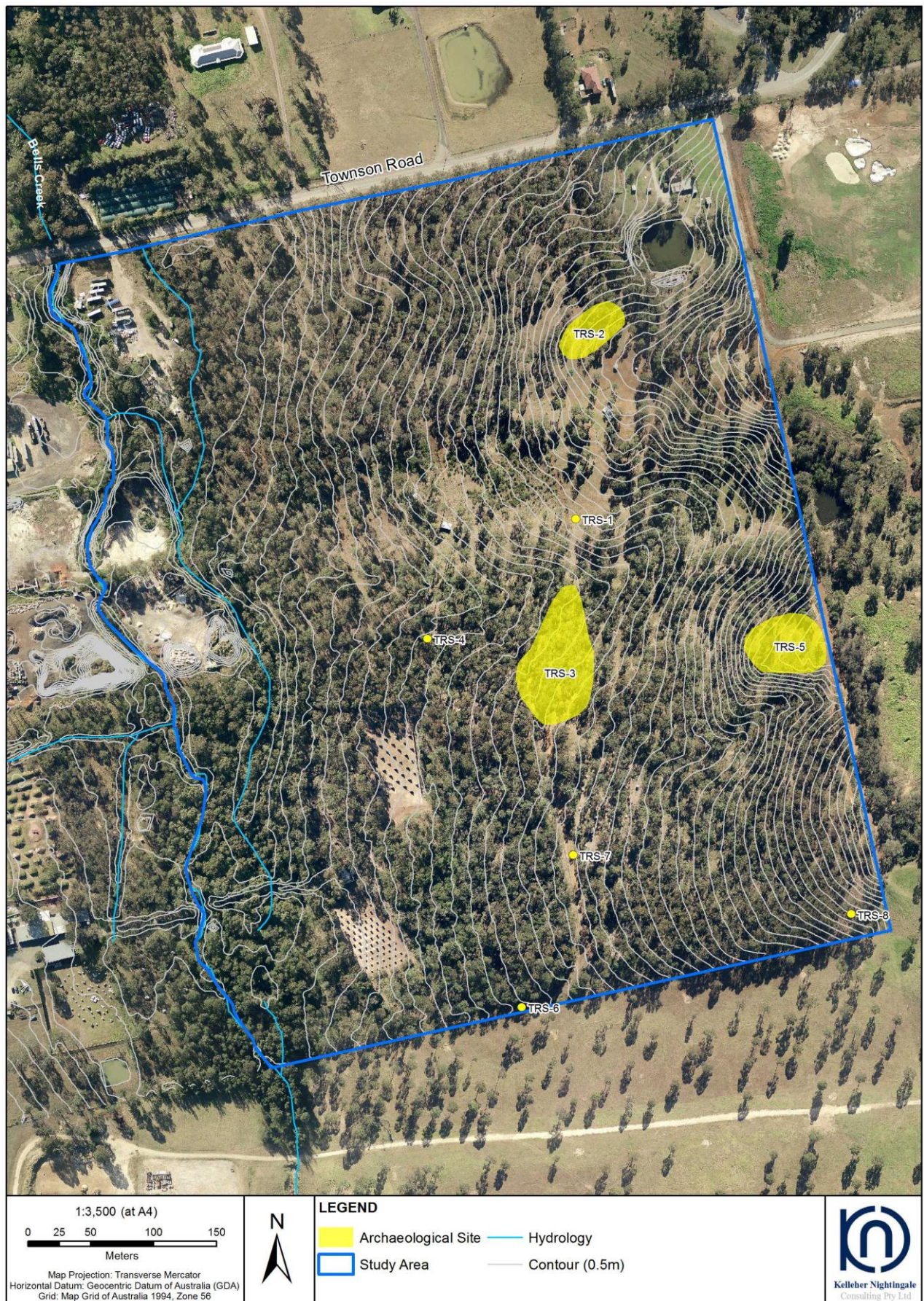


Figure 8. Recorded Aboriginal sites in the study area

10.2.1 TRS1 (45-5-4289)

TRS1 was an isolated silcrete artefact found in the northeast quadrant of the study area, 300 metres south of Townson Road. Elevation is c.36.5m. Visibility in this paddock, currently used for grazing goats, was mostly good, up to 50%. The findspot was 85 metres south of a goat shade shelter, just east of a north-south fence line.

Landform was gentle slopes on the southern side of a westerly projecting spur. This spur projects off a north-south ridgeline. The findspot looks south down to a minor drainage depression, 100 metres away. Local geology is Tertiary laterised sand and clay, including sandstone and whole silcrete cobbles. There were silcrete cobbles scattered across the surface of the paddock, up to 50cm in size. Some cobbles had been heaped into piles by the landowner. The nearest permanent watercourse is Bells Creek, a 3rd order tributary of Eastern Creek, 287 metres downslope to the west. Surrounding vegetation is regrowth open woodland, including young ironbark, stringybark, box and gum eucalypts.

Visibility on a 50 x 5 metre area of exposure along the fence line was up to 30%, limited by native grass, ironstone and abundant natural crenate or heat fractured silcrete. The abundance of surface rock suggests extensive colluvial movement and sheet wash erosion. Potential for intact subsurface deposit was considered to be low-moderate. Remaining soil would likely be shallow and gravelly.

Table 6. Artefact at TRS1

Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
Core	Silcrete	85	35	45	Yellow pink, 1 unifac platform, 40-60% dorsal cortex, 3 large neg scars, overhang removal step scars, partly heat altered

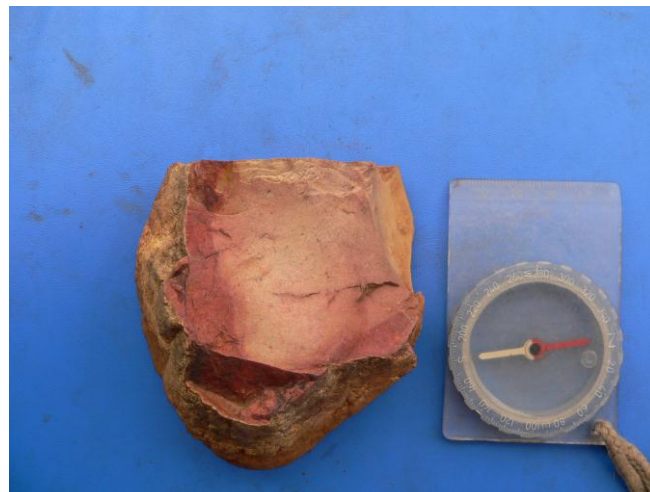


Plate 1. Core identified at TRS1



Plate 2. Location of TRS1, facing north

10.2.2 TRS2 (45-5-4290)

Site TRS2 comprised two silcrete artefacts, found 28 metres apart on elevated ground, 150 metres south of Townson Road. Landform was gentle slopes, on the northern side of the same spur but 150 metres further north of TRS1. Elevation was c.40.5 metres AHD.

The site looks down to Bells Creek, approximately 300 metres to the west. Ground surface visibility was generally good in this paddock, currently used for grazing goats. There were large areas of exposure on the spur crest, which has been cleared and sheet eroded. There were abundant gravels on the surface, including ironstones and occasional large silcrete cobbles. Soils were iron rich red. There were occasional small outcrops of laterised claystone. Vegetation was regrowth open woodland of stringybark, ironbark, box and gum eucalypts. There were no native shrubs but a sparse ground cover of native grasses.

The first findspot was on a sheet erosion exposure near a stringybark tree. Visibility was up to 30%, limited by leaf litter, ironstone gravel and thin grass. The second findspot was on a sheet eroded and goat trampled scour around three heaped silcrete cobbles. Visibility was higher, up to 80%, limited by ironstone gravels and goat scats. There was considered low potential for intact deposit here due to the extent of sheet erosion on this landform.

Table 7. Artefacts at TRS2

Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
Core	Silcrete	80	50	37	Red, glossy, fully heat altered, zero cortex, 6 alternating negative scars, longest scar = 75mm.
Core	Silcrete	115	85	60	Orange red, glossy, <30% cortex, 5 alternating negative scars, 1 elongate scar = 30 x 18mm



Plate 3. Core identified at TRS2 (80mm length)

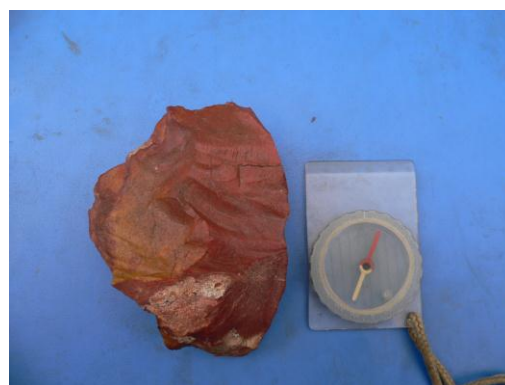


Plate 4. Core identified at TRS2 (115mm length)



Plate 5. Location of TRS2, facing north

10.2.3 TRS3 (45-5-4291)

Site TRS3 comprised a group of four separate findspots all on gentle mid slopes below an elevated spur and the main ridge. These slopes were open and formerly cleared. Currently vegetation was regrowth woodland of box and gum eucalypts with ground cover of mown grass. Currently the land use is a paintball facility.

The first findspot comprised two silcrete artefacts located on a 20 x 4 metre area of sheet erosion exposure. Visibility was good, up to 80%, limited by small ironstone gravels, leaf litter and low patchy grass. Soil was pale grey brown loam. This location looks north 100 metres to a minor drainage depression. Slopes gently incline down to the west, 300 metres to Bells Creek, a major northerly flowing tributary of Eastern Creek.

There was considered to be moderate potential in this area for intact archaeological deposit, although this would likely include colluvial material. Another four silcrete artefacts were found 38 metres to the west, on a six metre wide former trotting track. The artefacts were along the eastern edge of the track, on a drainage ditch mound. Visibility was to 50%, limited by leaf litter and abundant ironstone gravels. East of the track was considered to have moderate potential for intact deposit. On the same track, 55-60 metres further north, was an isolated silcrete backed artefact. This was on a meat ant nest, at the junction of a westerly bend in the trotting track. Visibility was up to 50%, limited by small ironstone gravels.

Three more silcrete artefacts were found 65 metres northeast of the backed artefact, on another vehicle track. This track was close to a minor drainage depression. Artefacts were within a 3 x 3m area, on a 50 x 3 metre area of good exposure. Visibility ranged from 10-60%. Sheet erosion had exposed pale grey brown loam. Off this, exposure was patchy between mown grass, with visibility up to 10%. Bells Creek was c.350 metres to the west. There was considered to be moderate potential for some intact deposit off this track to the south, although soils may be shallow.

Table 8. Artefacts at TRS3

Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
Flake	Silcrete	55	50	25	Yellow red, slight gloss, zero cortex, plain platform, plunging termination, dorsal ridge prep, unifac rotated.
Retouched flake	Silcrete	35	27	15	Yellow red, slight gloss, <30% cortex, alternating retouch scars
Flake	Silcrete	7	5	2	Pink, slight gloss, zero cortex, plain platform, feather term
Flaked piece	Silcrete	15	7	5	Red, glossy, zero cortex
Flake fragment	Silcrete	10	5	6	Pink red, slight gloss, zero cortex, heat fractured
Proximal fragment	Silcrete	12	18	4	Purple, mottled, glossy, zero cortex, faceted platform, 2 parallel dorsal ridges
Backed artefact/ Retouched Flake	Silcrete	22	12	5	Orange red, glossy, zero cortex, intact faceted platform, part retouched/probable backing, edge fracture on chord
Broken flake	Silcrete	30	30	15	Red, glossy, cortical platform, ventral erailure scar
Flake	Silcrete	25	15	4	Red, glossy, fine, zero cortex, plain platform, plunging term
Medial flake fragment	Silcrete	30	15	4	Pink red, glossy, zero cortex, 2 dorsal ridges



Plate 6. Artefacts identified at TRS3



Plate 7. Further artefacts identified at TRS3



Plate 8. Survey personnel standing at fourth TRS3 findspot. Photo looking east

10.2.4 TRS4 (45-5-4292)

Site TRS4 was an isolated silcrete artefact, found approximately 80 metres downslope of the backed artefact, on the southern edge of the former trotting track. This four metre wide track had been graded. Landform was gentle lower slopes running to Bells Creek, 250 metres to the west. Visibility on the track was generally good, limited only by leaf litter.

Visibility at the findspot was 30-50%, with a background of leaf litter and ironstone gravels. Adjacent bushland to the south had regenerated, with native shrubs and grasses. Slopes to the south and north had low to zero ground surface visibility due to this vegetation cover. These slopes have moderate archaeological potential, especially above the 1:100 year flood level.

Table 9. Artefact at TRS4

Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
Medial flake fragment	Silcrete	16	17	5	Pink, slight gloss, zero cortex



Plate 9. Artefact identified at TRS4



Plate 10. Location of TRS4, facing west

10.2.5 TRS5 (45-5-4293)

Site TRS5 was a small open artefact scatter found on an elevated spur near the eastern boundary. Artefacts were exposed at the northwest corner of the spur, within a 5 x 5 metre area. Elevation was c.44 metres AHD. The findspot looks down to a minor drainage depression, and gentle slopes leading to Bells Creek, 500 metres to the west. The spur is partly vegetated with regrowth box and stringybark eucalypts, and low grass. There were signs of recent ground disturbance, with silcrete cobbles heaped around the base of two trees. Some cobbles appeared to be machine damaged.

Six artefacts were identified amongst a background of abundant larger ironstone, laterized claystone, and pieces of naturally fractured silcrete. Surface visibility was low due to this background, up to 30%. Many silcrete pieces had crenate or heat fractured surfaces. These could not be definitively categorised as artefacts. Only those with clear evidence of flaking were recorded as artefacts. Attributes chosen included negative flake scars, bulbs of percussion, striking platforms, dorsal ridges, or terminations. Due to the abundance of surface stone, previous clearing and earthmoving, and likelihood of soil erosion, there was considered to be only a low-moderate potential for subsurface archaeological deposit to remain intact here. Remnant deposit would likely be a shallow, gravelly lag, and contain some artefacts mixed with naturally fractured silcrete. There is moderate potential here for stone extraction/quarrying, although identification of this would require further research.

Table 10. Artefacts at TRS5

Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
Flake	Silcrete	54	65	20	Purple, slight gloss, 40-60% cortex, W>L, plain platform, primary
Split/ Distal flake fragment	Silcrete	47	30	22	Yellow red, slight gloss, >70% cortex, distal left half of split flake, hinge termination, primary
Flake	Silcrete	33	36	9	Yellow red, dull, 40-60% cortex, W>L, cortical platform, hinge termination
Flake	Silcrete	32	28	8	Yellow red, dull, zero cortex, plain platform, step termination
Flake	Silcrete	20	7	5	Red, glossy, zero cortex, elongate, crushed platform, central ridge, hinge termination with finial
Distal flake fragment	Silcrete	16	5	2	Yellow, zero cortex, hinge termination



Plate 11. Artefacts identified at TRS5



Plate 12. Location of TRS5, facing west

10.2.6 TRS6 (45-5-4294)

Site TRS6 was an isolated silcrete artefact found on the former trotting track at the southern boundary of the study area. There had been clearing and grading for this track, with a drainage ditch cut along its northern edge.

Visibility on a three metre wide exposure was up to 60%, limited by small ironstone gravels and fragments of natural silcrete. Landform was gentle lower slopes leading to Bells Creek, 200 metres to the west. Immediately north of the track was a grove of *melaleucas* with low-moderate potential for intact deposit.

Table 11. Artefacts at TRS6

Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
Proximal Fragment	Silcrete	37	20	11	Red, glossy, thin plain platform, unifac, 40-60% cortex, distal tip damage

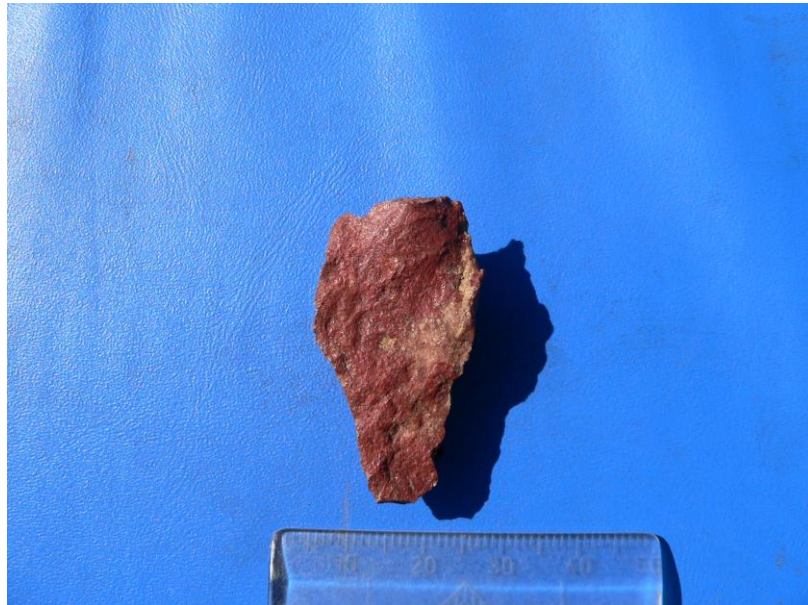


Plate 13. Artefact identified at TRS6



Plate 14. Location of TRS6, facing west. Southern boundary of study area is marked by fenceline to the left

10.2.7 TRS7 (45-5-4295)

Site TRS7 was an isolated silcrete artefact found c.120 metres northeast of the previous isolated find. This was on the same trotting track, c.20 metres south of a gate and road leading to the Heartbreak Ridge paintball entrance on Richmond Road. There was at least 250 metres of good exposure along this trotting track.

The artefact was on an excavated drain/mound along its eastern edge. Visibility was up to 50%, limited by a background of small ironstone gravels and abundant fractured silcrete. Landform was gentle mid-lower slopes which lead down to Bells Creek, 300 metres to the west. Immediately east of the track were rows of large spheres installed as a paintball range.

There was low potential at the findspot for intact deposit.

Table 12. Artefacts at TRS7

Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
Split flake	Silcrete	30	16	8	Yellow, zero cortex, distal crushing



Plate 15. Artefact identified at TRS7



Plate 16. Location of TRS7, facing north

10.2.8 TRS8 (45-5-4296)

Site TRS8 was an isolated silcrete artefact, found on a vehicle track in the southeastern corner of the study area.

Landform was the southern side of a spur off the main ridgeline. Slopes were moderate. Visibility was 50%, limited by ironstone gravels and some leaf litter. There were abundant natural silcrete fragments on the track and whole silcrete cobbles in the vicinity. There were views from this elevated findspot down to Bells Creek, 450 metres to the west.

The ridge above this had been extensively cleared and sheet eroded. Adjacent to the findspot were westerly slopes with moderate potential. Vegetation was regrowth stringybark and ironbark woodland with low grass cover.

Table 13. Artefact at TRS8

Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
Flake	Silcrete	35	30	15	Red yellow, zero cortex, focal platform, plunging termination, part heated



Plate 17. Artefact identified at TRS8



Plate 18. Location of TRS8, facing south west

11 Analysis and Discussion

Field survey of the study area identified eight Aboriginal archaeological sites: three open scatters and five isolated finds. These findings were consistent with Aboriginal heritage known for the wider area. All identified sites were defined by an association with colluvial slopes and flood corridors characteristic of the topography and geology of the study area. Scatters of slightly more intact archaeological deposit occurred where relatively less erosion has modified the deposit. Moderately significant archaeology exists where the deposit was relatively stable.

12 Scientific Values and Significance Assessment

12.1 Assessment criteria

One of the primary steps in the process of cultural heritage management is the assessment of significance. Not all sites are equally significant and not all are worthy of equal consideration and management (Sullivan and Bowdler 1984; Pearson and Sullivan 1995: 7). The determination of significance can be a difficult process as the social and scientific context within which these decisions are made is subject to change (Sullivan and Bowdler 1984). This does not lessen the value of the heritage approach, but enriches both the process and the long term outcomes for future generations as the nature of what is conserved and why, also changes over time.

The assessment of significance is a key step in the process of impact assessment for a proposed activity as the significance or value of an object, site or place will be reflected in resultant recommendations for conservation, management or mitigation.

The *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010) requires significance assessment according to criteria established in the *Australia ICOMOS Burra Charter, 1999* (Australia ICOMOS 1999). The *Burra Charter* and its accompanying guidelines are considered best practice standard for cultural heritage management, specifically conservation, in Australia.

Guidelines to the *Burra Charter* set out four criteria for the assessment of cultural significance:

- Aesthetic value - relates to the sense of the beauty of a place, object, site or item;
- Historic value - relates to the association of a place, object, site or item with historical events, people, activities or periods;
- Scientific value - scientific (or research) value relates to the importance of the data available for a place, object, site or item, based on its rarity, quality or representativeness, as well as on the degree to which the place (object, site or item) may contribute further substantial information; and
- Social value - relates to the qualities for which a place, object, site or item has become a focus of spiritual, political, national or other cultural sentiment to a group of people. In accordance with the OEH *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW*, the social or cultural value of a place (object, site or item) may be related to spiritual, traditional, historical or contemporary associations. "Social or cultural value can only be identified through consultation with Aboriginal people" (OEH 2011:8).

The assessment of these values are brought together to form a comprehensive assessment of significance.

12.2 Statement of significance

Archaeological value of the study was linked to an assessment of the intactness of subsurface deposit. Four locations exhibit at least moderate subsurface deposit suitable to curate Aboriginal objects:

Moderate significance archaeology sites/objects

- TRS3, TRS4, TRS5 and TRS8.

The remaining four archaeological sites exhibit low archaeological value because the subsurface deposit is relatively poorly preserved at these locations:

Low significance archaeology sites/objects

- TRS1, TRS2, TRS6 and TRS7.

The area holds value to the local Aboriginal community and is particularly connected with the wider Plumpton Ridge feature and associated Aboriginal heritage sites around the study area. Aboriginal stakeholders consistently identified values, including the abundance of resources in the area and connectivity with other sites.

13 Impact Assessment

An indicative layout has been prepared for the study area, which includes the majority of the land being developed. The total residential yield is expected to be approximately 411 dwellings.

All identified Aboriginal archaeological sites will be impacted by the proposed subdivision (see Figure 9). A program to mitigate the impacts to Aboriginal archaeological sites of moderate or better significance would be required.

In recognition of the strong connection and cultural heritage values of the Plumpton Ridge landform and associated sites within the study area, mitigation may also include identifying opportunities for interpretation and future educational outcomes.

14 Legislative Considerations

The *National Parks and Wildlife Act 1974* is the primary statutory control for the protection and regulation of Aboriginal heritage in New South Wales.

An “Aboriginal object” is defined under the Act as “any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains”. As such, Aboriginal objects are confined to physical evidence and are commonly referred to as Aboriginal sites.

Aboriginal objects and declared Aboriginal places are protected under section 86 of the Act. It is an offence to harm or desecrate an Aboriginal object, either knowingly [section 86 (1)] or unknowingly [section 86 (2)]. Harm includes to destroy, deface, damage or move.

Under section 87 (1) it is a defence to a prosecution for an offence under section 86 (1), (2) or (4) if “(a) the harm or desecration concerned was authorised by an Aboriginal heritage impact permit, and (b) the conditions to which that Aboriginal heritage impact permit was subject were not contravened”.

Section 87 (2) of the Act provides a defence against prosecution under section 86 (2) if “the defendant exercised due diligence to determine whether the act or omission constituting the alleged offence would harm an Aboriginal object and reasonably determined that no Aboriginal object would be harmed”. This defence appears to specifically relate to Aboriginal objects.

Section 89A of the Act relates to the notification of sites of Aboriginal objects, under which it is an offence if the location of an Aboriginal object is not notified to the Director-General in the prescribed manner within a reasonable time.

Under section 90 (1) of the Act “the Director-General may issue an Aboriginal heritage impact permit”. The regulation of Aboriginal heritage impact permits is provided in Part 6 Division 2 of the Act (sections 90 to 90R).

An Aboriginal heritage impact permit (AHIP) is required for any activity which will harm an Aboriginal object or Aboriginal place.

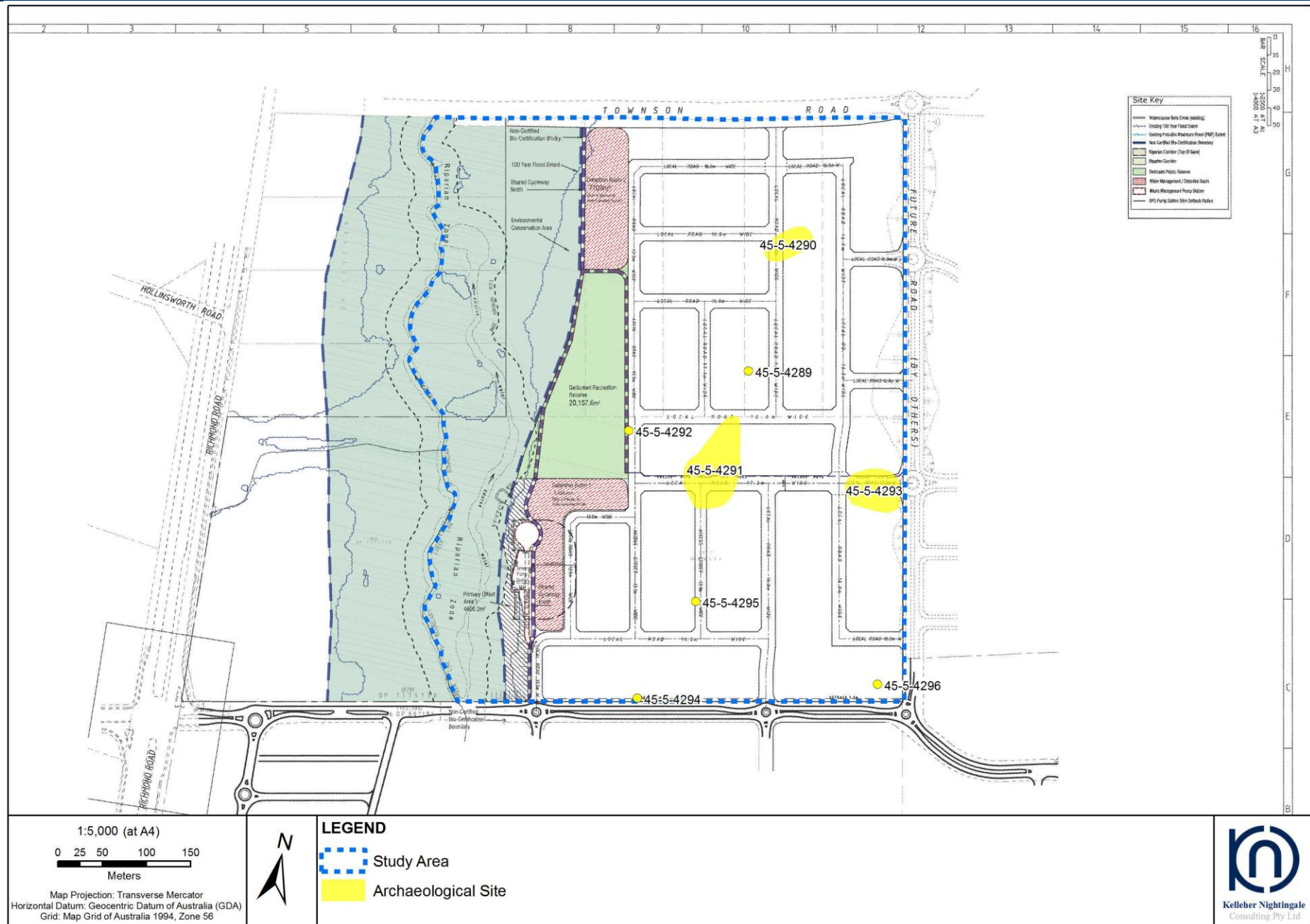


Figure 9. Development impact on Aboriginal heritage

15 Management and Mitigation Measures

None of the identified Aboriginal sites/objects should prohibit development of the property.

Best practice is to consider the location of the identified Aboriginal archaeological sites/objects during the development design. Where feasible, Aboriginal heritage should be conserved within development designs. None of the identified sites/objects are of high archaeological significance.

The local Aboriginal community expressed that the area has strong cultural value, particularly connected with the wider Plumpton Ridge feature and associated Aboriginal heritage sites around the study area. Opportunities to incorporate conservation or interpretation and recognition of the strong connection and cultural heritage values of Plumpton Ridge within the study area should be considered, to protect or mitigate Aboriginal cultural heritage values of the study area.

The proposed development layout will impact on all identified Aboriginal sites in the study area.

An Aboriginal heritage impact permit (AHIP) will be required to be obtained prior to impacting Aboriginal sites/objects. A mitigation program comprising archaeological salvage will be required prior to impacting sites exhibiting moderate significance and identified Aboriginal cultural heritage value.

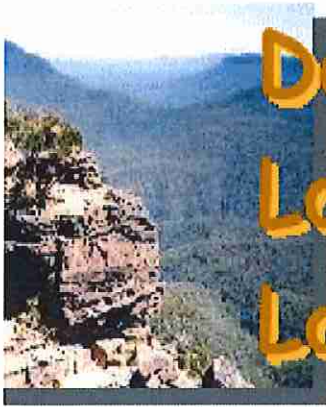
The application for an AHIP should be made following receipt of relevant development approval for the project from Blacktown Council.

Any future application for an AHIP would require ongoing consultation with Aboriginal stakeholders in accordance with Office of Environment and Heritage (OEH) requirements.

References

- Artefact Heritage Services, 2011. 51 Townson Rd, Marsden Park: Aboriginal cultural heritage assessment. Report to Grimtrans.
- Australian Museum Business Services (AMBS), 2002. Western Sydney Orbital (WSO). Plumpton Ridge Archaeological Test Excavations. Report prepared for NSW Roads & Traffic Authority (RTA).
- Baker, N. 1996. Archaeological test excavation at Plumpton Ridge, proposed Sydney Orbital Road route EIS: Excavation and analysis report. Report to Robynne Mills.
- Bannerman, S.M., Hazelton, P.A., and Tille, P.J., 1990. Penrith 1:100,000 Soil Landscape Series Sheet 9030. Soil Conservation Service of NSW, Sydney.
- Brayshaw, H., and Haglund, L. 1997. Proposed landfill operation, Richmond Road, Marsden Park, NSW: Archaeological survey for Aboriginal sites. Report to Penrith waste Services Pty Ltd through Enviro-Managers Pty Ltd.
- Brook, J. and Kohen, J.L., 1991. The Parramatta Native Institution and the Black Town: A History. New South Wales University Press, Kensington.
- Clark, N.R. and Jones, D.C., (Eds) 1991. Penrith 1:100,000 Geological Sheet 9030. New South Wales Geological Survey, Sydney
- DECCW, 2010. Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales: Part 6 National Parks and Wildlife Act 1974. Department of Environment, Climate Change and Water NSW, Sydney.
- Environmental Resources Management Australia (ERM), 2003. Historic heritage Assessment for Schofields and Adjoining Lands. Report to Medallist Developments.
- Haglund, L. 1980. Report on archaeological survey in the Blacktown area. Report to Blacktown City Council.
- Jo McDonald Cultural Heritage Management (JMCHM), 2003a. Archaeological assessment of indigenous cultural heritage values, at Schofields, NSW. Report prepared for SKM on behalf of Medallist Golf Developments.
- JMCHM, 2003b. Archaeological assessment of indigenous cultural heritage values for draft LES: Lands adjoining Colebee Release Area, NSW. Report prepared for Medallist Golf Developments on behalf of Blacktown City Council.
- JMCHM, 2006. Archaeological salvage excavation of the Colebee Release Area, Schofields, NSW. Report to Medallist Golf Holdings Pty Ltd.
- Kelleher Nightingale Consulting Pty Ltd (KNC), 2009. Marsden Park Industrial Precinct Aboriginal heritage assessment. Report to the NSW Department of Planning.
- KNC, 2011. Marsden Park Precinct: Preliminary Aboriginal heritage assessment. Report to Winten Property Group and Department of Planning and Infrastructure.
- Kohen 1985. An archaeological survey of Bells Creek, Plumpton. Report prepared for Blacktown City Council.
- McDonald, J. 1986. Preliminary archaeological reconnaissance of the proposed Schofields Regional Depot, Plumpton, NSW. Report prepared for Metropolitan Waste Disposal Authority.
- Navin Officer Heritage Consultants Pty Ltd, 2007. Replacement Flows Project: Cultural heritage impact assessment. Report prepared for Sydney Water.

Appendix A Aboriginal Community Reports



Deerubbin Local Aboriginal Land Council

Level 2, 9 Tindale Street
PENRITH NSW 2750

PO Box 40
Penrith BC
NSW 2751 AUSTRALIA

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

Mecone
Urban & Environmental Planning
Suite 805, Level 8,
185 Elizabeth Street
SYDNEY NSW 2000

Our Ref: 2303

17 December 2012

SUBJECT: PROTECTION OF ABORIGINAL CULTURAL HERITAGE
Townson Road Precinct
Marsden Park

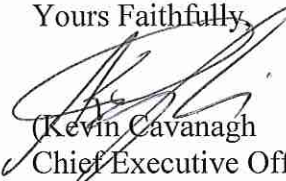
Attention: Aras Labutis, Project Manager

A representative of the Deerubbin Local Aboriginal Land Council inspected the three properties that make up the Townson Road, Precinct, Marsden Park on Thursday, 1st & Friday 2nd November 2012. An Aboriginal cultural heritage assessment was undertaken to evaluate the likely impact the proposed development has on the cultural heritage of the land.

Our representative reports, good ground surface visibility, Aboriginal cultural materials (in the form of stone artefacts, for example) were found with potential archaeological deposits, no scarred or marked trees.

Deerubbin Local Aboriginal Land Council therefore, recommends further investigation be undertaken before development occurs

Yours Faithfully,


(Kevin Cavanagh
Chief Executive Officer)

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

C.c. Mark Rawson – Kelleher Nightingale Consulting

TOWNSON ROAD PRECINCT: ABORIGINAL STAKEHOLDER CONSULTATION

Darug Tribal Aboriginal Corporation (DTAC) was invited to attend a site inspection at Townson Road Precinct, Marsden Park, on 3 September 2013. DTAC representative John Reilly attended the site inspection and was invited to provide initial comment on the Aboriginal cultural heritage values of the area. Following the completion of the walkover, Mr Reilly elected to provide a verbal report detailing his comments on behalf of DTAC in lieu of a written report. The content of this verbal report is transcribed below:

“Just giving a verbal report relating to our walkover survey at 68 Townson Road, Marsden Park. During the walkover, we found quite significant quantities of surface material, particularly in the higher parts of the location. They are quite significant artefacts, as well as surface material which would be shattered from possible heat effects over periods of time. We do feel that this is a very sensitive area, and highly significant on [sic] our ancestral people that have occupied the area many hundreds and thousands of years ago. We do agree with the report from the archaeologist, Cristany, and we support her recommendations for future activities in this area. – John Reilly, DTAC.”

Transcript of verbal report given on 03/09/2013 relating to Aboriginal cultural heritage at Townson Road Precinct, Marsden Park.

Transcript prepared by C. Milicich, Kelleher Nightingale Consulting Pty Ltd, Level 10, 25 Bligh Street, Sydney NSW 2000

DARUG - LAND - OBSERVATIONS



ABN: 87239202455
E-MAIL: gordow51@bigpond.net.au
PO BOX: 571 Plumpton. NSW 2761
Phone: 029831 8868 or 0415 663 763



23-9-2013

Cristany Milicich
Archaeologist
Kelleher Nightingale Consulting Pty Ltd

Re: Townson Road, Marsden Park.

D.L.O finds that this area is of the highest concerns being part of Stone Cutters Ridge where big cobble stones are still found here. Plus big Song and Story Lines here for the DARUG People so D.L.O hopes that more care and work is carried out here.

Yours faithfully

**Uncle
Gordon Workman
Darug Elder**

Sites Officer



Tocomwall Pty Ltd

PO Box 76 Caringbah NSW 1495

Tel: 02 9542 7714 Fax: 02 9524 4146

Email: info@tocomwall.com.au www.tocomwall.com.au

ABN: 13 137 694 618

20 September 2013

Matthew Kelleher
Kelleher Nightingale Consulting
Via email: matthew.kelleher@knconsult.com.au

Dear Mathew,

Please find below my comments for the inspection of the site on "Townsend road", you can clearly see the Abundance of "silcrete" and occasionally "mudstone" in situ all along the Property.

There is a gentle slope to the east of the property that has grabbed my interest. As it is a natural rise and could hold some good materials as well as the potential for a camp site. This particular area is interesting in the fact that there is some sizeable "cobble Stones" composed of mainly "Silcrete" with the cortex still intact.

The Bed load the rivers possessed would have been substantial considering the old stream cuttings you can see are meandering. To lift and place these materials so far along the ancient alluvial beds this body of water would of Contained some great inertia. Information just from the size of the cobbles and the strength of the bed load can demonstrate the energy that this area once held. The river and streams snaking in and out of the countryside would have been Healthy and had fresh flowing water. This would entail the food sources for the Darug people and also ceremonial practices, even trading. Another interesting note is that this part of the countryside correlates with Stonecutters ridge through ancient trails created from the Darug people thus creating a strong connection for a trade route which enables our song line. This is a strong connection and must be held in continuity otherwise the Darug people will face losing invaluable cultural knowledge for the further inter- connection and Education of our younger generation. I hope you can appreciate that my comments are short but agree that they are strait to the point and need no further comment to help you and the proponent get some insight of the importance of this area to our people.

I would like to thank you for the time to escort me on site and provide me with thorough information regarding what you have found to assist me in giving you this information to build into your ACHMP, I also look forward to being involved in any field work on these areas.

Regards

Danny Franks
Senior Field Manager

From: mulgokiwi@bigpond.com
Sent: Monday, 23 September 2013 9:20 PM
To: Cristany Milicich
Subject: Re: Townson Road (Marsden Park) Letter

Dear Christany,

The Darug Custodian Aboriginal Corporation have lived and worked in this area for many years, many of our elders families also resided in and around this area for many generations. Evidence also shows that our people lived in this area for thousands of years, the area surveyed is also an area that Darug people revisited for the resources that occur here.

Darug sites are all connected and this area is a highly significant area and is connected to the sites in and around the Townson Road area.

I have in previous years surveyed this area and participated in many archaeological excavations, Thomas who attended the survey mentioned that locating artefacts within such a numerous amount of material proved difficult, in previous studies we have identified numerous artefacts at different stages of reduction and flaking.

Our group see the Plumpton ridge landform as a highly significant landform and area, and recommend that this landform be preserved, much of this significant landform has already been destroyed through development.

Darug landforms of such high significance within the complex of sites in this area need to be conserved and adopt a long term management plan with educational outcomes.

Please contact us with all further enquiries on this email or 0415770163.

Regards

Leanne Watson

Darug Aboriginal Cultural Heritage Assessments

ABN 51734106483

Gordon Morton

Mob: 0422 865 831
Fax: 45 677 421

Celestine Everingham
90 Hermitage Rd., Currajong Hills, 2758
Ph/Fax: 45677 421
Mob: 0432 528 891

23.9.15

Attention:

Cristianj Milech
Kellehen & Nightingale

re Richmond Road upgrade - Towns Road
to South Street, Marsden Park.

This area is part of a large Darug landscape which is very important to the community. It is in this area where massive sites have been located. The area was resource rich for the traditional owners, having plenty of food, water and plentiful food in the bush for the many animals and food plants. Because of these factors DACHA would recommend a cultural investigation to expand our knowledge of this important Darug area.

Yours Sincerely,
C. Everingham

Appendix B AHIMS Search Results

Kelleher Nightingale Consulting Pty Ltd
suite 911-912 155 King Street
Sydney New South Wales 2000

Attention: Alison Nightingale

Email: alison.nightingale@knconsult.com.au

Dear Sir or Madam:

Date: 11 October 2012

AHIMS Web Service search for the following area at Datum :GDA, Zone : 56, Eastings : 300000 - 303000, Northings : 6265000 - 6269000 with a Buffer of 50 meters. conducted by Alison Nightingale on 11 October 2012

A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

110	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](http://www.nsw.gov.au/gazette) (<http://www.nsw.gov.au/gazette>) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit 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 be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage 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 Number : 1206
Client Service ID : 82482

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-5-2036	MP8 Marsden Park	AGD	56	299850	6266700	Open site	Valid	Artefact : -	Open Camp Site	4152
	Contact	Recorders	Helen Brayshaw,Ms.Laila Haglund					Permits	3531	
45-5-0471	Eastern Creek 4 Schofields Aerodrome	AGD	56	302800	6267400	Open site	Valid	Artefact : -	Open Camp Site	1018
	Contact	Recorders	Jim Kohen					Permits		
45-5-0398	Blacktown Native Institute Mission	AGD	56	300075	6265915	Open site	Valid	Aboriginal Ceremony and Dreaming : -		77,1018
	Contact	Recorders	Annie Bickford					Permits	2163,3515	
45-5-0419	Bells Creek_4 A, B & C	AGD	56	300080	6264930	Open site	Valid	Artefact : -	Open Camp Site	413,1018,2622
	Contact	Recorders	G Happ					Permits		
45-5-0420	Bells Creek 2	AGD	56	300090	6264930	Open site	Valid	Artefact : -	Open Camp Site	413,1018,2622
	Contact	Recorders	G Happ					Permits		
45-5-0421	Bells Creek_3	AGD	56	300090	6264940	Open site	Valid	Artefact : -	Open Camp Site	413,1018,2622
	Contact	Recorders	G Happ					Permits		
45-5-0422	Blacktown Plumpton	AGD	56	300660	6265230	Open site	Valid	Artefact : -	Open Camp Site	521,755,1018,9827 9,98280
	Contact	Recorders	Doctor:Jo McDonald					Permits	1596	
45-5-0441	Bells Creek_1	AGD	56	300100	6264780	Open site	Valid	Artefact : -	Open Camp Site	413,1018,2622
	Contact	Recorders	G Happ					Permits		
45-5-0543	SA 6 Riverstone	AGD	56	301280	6266490	Open site	Valid	Stone Quarry : -, Artefact : -	Quarry	1018
	Contact	Recorders	Doctor:Jo McDonald					Permits	2084,2596	
45-5-0544	SA 8 Riverstone	AGD	56	301900	6266860	Open site	Valid	Artefact : -	Open Camp Site	1018,100450
	Contact	Recorders	Doctor:Jo McDonald					Permits	2084,2596	
45-5-0245	Eastern Creek Plumpton	AGD	56	301410	6265120	Open site	Valid	Artefact : -, Stone Quarry : -	Open Camp Site,Quarry	109,157,158,205,2 65,704,1018,1030
	Contact	Recorders	Jim Kohen					Permits	825,2084,2596	
45-5-0826	Schofields 1;	AGD	56	301800	6267100	Open site	Valid	Artefact : -	Open Camp Site	2080,2081
	Contact	Recorders	Annie Nicholson					Permits		
45-5-0827	Schofields 2;	AGD	56	301100	6267200	Open site	Valid	Artefact : -	Open Camp Site	2080,2081
	Contact	Recorders	Annie Nicholson					Permits		
45-5-0828	Schofields 3;	AGD	56	301600	6267200	Open site	Valid	Artefact : -	Open Camp Site	2080,2081
	Contact	Recorders	Annie Nicholson					Permits		
45-5-0829	Schofields 4;	AGD	56	301700	6267100	Open site	Valid	Artefact : -	Open Camp Site	2080,2081
	Contact	Recorders	Annie Nicholson					Permits		

Report generated by AHIMS Web Service on 11/10/2012 for Alison Nightingale for the following area at Datum :GDA, Zone : 56, Eastings : 300000 - 303000, Northings : 6265000 - 6269000 with a Buffer of 50 meters.Additional Info : Due diligence assessment. Number of Aboriginal sites and Aboriginal objects found is 110

This information is not guaranteed to be free from error omission. Office of Environment and 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 Number : 1206

Client Service ID : 82482

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-5-0830	Schofields 5;	AGD	56	301500	6267200	Open site	Valid	Artefact : -	Open Camp Site	2080,2081
	<u>Contact</u>	<u>Recorders</u>	Annie Nicholson <u>Permits</u>							
45-5-0831	Schofields 6;	AGD	56	301400	6267200	Open site	Valid	Artefact : -	Open Camp Site	2080,2081
	<u>Contact</u>	<u>Recorders</u>	Annie Nicholson <u>Permits</u>							
45-5-0832	Schofields 7;	AGD	56	301300	6267200	Open site	Valid	Artefact : -	Open Camp Site	2080,2081
	<u>Contact</u>	<u>Recorders</u>	Annie Nicholson <u>Permits</u>							
45-5-0252	Rooty Hill Road North Plumpton	AGD	56	300549	6265010	Open site	Valid	Artefact : -	Open Camp Site	367,1018
	<u>Contact</u>	<u>Recorders</u>	Ms.Laila Haglund <u>Permits</u>							
45-5-0253	Eastern Creek Symonds Rd	AGD	56	301720	6265140	Open site	Valid	Artefact : -	Open Camp Site	157,367,1018
	<u>Contact</u>	<u>Recorders</u>	Ms.Laila Haglund <u>Permits</u>							
45-5-0545	SA 9 Riverstone	AGD	56	301770	6266930	Open site	Valid	Artefact : -	Open Camp Site	1018
	<u>Contact</u>	<u>Recorders</u>	Doctor.Jo McDonald <u>Permits</u> 2084,2596							
45-5-0546	SA 10 Riverstone	AGD	56	301850	6266960	Open site	Valid	Artefact : -	Open Camp Site	1018
	<u>Contact</u>	<u>Recorders</u>	Doctor.Jo McDonald <u>Permits</u> 2084,2596							
45-5-0547	SA 11 Riverstone	AGD	56	301840	6267020	Open site	Valid	Artefact : -	Open Camp Site	1018,98187
	<u>Contact</u>	<u>Recorders</u>	Doctor.Jo McDonald <u>Permits</u> 2084,2596							
45-5-0548	SA 12 Riverstone	AGD	56	301650	6267030	Open site	Valid	Artefact : -	Open Camp Site	1018
	<u>Contact</u>	<u>Recorders</u>	Doctor.Jo McDonald <u>Permits</u> 2084,2596							
45-5-0549	SA 2 Riverstone	AGD	56	301200	6266750	Open site	Valid	Stone Quarry : -, Artefact : -	Quarry	1018
	<u>Contact</u>	<u>Recorders</u>	Doctor.Jo McDonald <u>Permits</u> 2084,2596							
45-5-0550	SA 3 Riverstone	AGD	56	301200	6266670	Open site	Partially Destroyed	Stone Quarry : -, Artefact : -	Quarry	1018,100450
	<u>Contact</u>	<u>Recorders</u>	Doctor.Jo McDonald <u>Permits</u> 2084,2596							
45-5-0551	SA 4 Riverstone	AGD	56	301290	6266650	Open site	Valid	Stone Quarry : -, Artefact : -	Quarry	1018
	<u>Contact</u>	<u>Recorders</u>	Doctor.Jo McDonald <u>Permits</u> 2084,2596							
45-5-0552	SA 5 Riverstone	AGD	56	301600	6266500	Open site	Partially Destroyed	Artefact : -	Open Camp Site	1018,100450
	<u>Contact</u>	<u>Recorders</u>	Doctor.Jo McDonald <u>Permits</u> 2084,2596							
45-5-0553	SA 7 Riverstone	AGD	56	301330	6266380	Open site	Partially Destroyed	Stone Quarry : -, Artefact : -	Quarry	1015,1018,100450
	<u>Contact</u>	<u>Recorders</u>	Doctor.Jo McDonald <u>Permits</u> 2084,2596							
45-5-0554	SA 1 Riverstone	AGD	56	301240	6266500	Open site	Partially Destroyed	Stone Quarry : -, Artefact : -	Quarry	1018,100450

Report generated by AHIMS Web Service on 11/10/2012 for Alison Nightingale for the following area at Datum :GDA, Zone : 56, Eastings : 300000 - 303000, Northings : 6265000 - 6269000 with a Buffer of 50 meters.Additional Info : Due diligence assessment. Number of Aboriginal sites and Aboriginal objects found is 110

This information is not guaranteed to be free from error omission. Office of Environment and 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 Number : 1206
Client Service ID : 82482

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
	<u>Contact</u>	<u>Recorders</u>	Doctor:Jo McDonald							
45-5-0486	Bells Creek A (Rooty Hill)	AGD	56	300180	6265200	Open site	Valid	Artefact : -	Open Camp Site	1006,1018,2622
	<u>Contact</u>	<u>Recorders</u>	Jim Kohen							
45-5-0498	Eastern Creek 5 Schofields Aerodrome	AGD	56	302300	6267600	Open site	Valid	Artefact : -	Open Camp Site	521,1018,98187
	<u>Contact</u>	<u>Recorders</u>	Jim Kohen							
45-5-2647	Plumpton Ridge PAD - Same as 45-5-3798	AGD	56	301320	6265493	Open site	Valid	Potential Archaeological Deposit (PAD) : -		101057
	<u>Contact</u>	<u>Recorders</u>	Robynne Mills							
45-5-2651	Richmond Road 1	AGD	56	300445	6265435	Open site	Valid	Artefact : -		1300,3226
	<u>Contact</u>	<u>Recorders</u>	Michael Therin							
45-5-2726	SYDNEY ORBITAL OPEN SCATTER 8 (SO-OS-8)	AGD	56	301170	6265520	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Neville Baker,Megan Mebberson							
45-5-2716	PAD-OS-15N	AGD	56	302800	6265030	Open site	Valid	Artefact : -		1397
	<u>Contact</u>	<u>Recorders</u>	Robynne Mills							
45-5-2717	PAD-OS-13	AGD	56	302530	6265030	Open site	Valid	Artefact : -		1396
	<u>Contact</u>	<u>Recorders</u>	Robynne Mills							
45-5-2794	PAD-OS-12	AGD	56	302450	6265030	Open site	Valid	Artefact : -		1396
	<u>Contact</u>	<u>Recorders</u>	Robynne Mills							
45-5-2988	Colebee and Nurragingy's Land Grant PAD	AGD	56	300250	6266000	Open site	Partially Destroyed	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>	<u>Recorders</u>	Ms.Mary-Jean Sutton							
45-5-2995	PAD14	AGD	56	302100	6266180	Open site	Valid	Potential Archaeological Deposit (PAD) : -		2019,3434,3515
	<u>Contact</u>	<u>Recorders</u>	Doctor:Jo McDonald							
45-5-2996	PAD10	AGD	56	301980	6266200	Open site	Valid	Potential Archaeological Deposit (PAD) : -		2084,2596
	<u>Contact</u>	<u>Recorders</u>	Doctor:Jo McDonald							
45-5-2997	PAD 5 & 6	AGD	56	301845	6266390	Open site	Valid	Potential Archaeological Deposit (PAD) : -		2084,2596
	<u>Contact</u>	<u>Recorders</u>	Doctor:Jo McDonald							

Report generated by AHIMS Web Service on 11/10/2012 for Alison Nightingale for the following area at Datum :GDA, Zone : 56, Eastings : 300000 - 303000, Northings : 6265000 - 6269000 with a Buffer of 50 meters.Additional Info : Due diligence assessment. Number of Aboriginal sites and Aboriginal objects found is 110

This information is not guaranteed to be free from error omission. Office of Environment and 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 Number : 1206
Client Service ID : 82482

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-5-2998	SA16	AGD	56	300960	6266550	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>									
	<u>Recorders</u>			Doctor:Jo McDonald						
45-5-2999	SA17	AGD	56	300970	6266700	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>									
	<u>Recorders</u>			Doctor:Jo McDonald						
45-5-3000	SA13	AGD	56	300820	6266190	Open site	Partially Destroyed	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>									
	<u>Recorders</u>			Doctor:Jo McDonald						
45-5-3001	SA14	AGD	56	301200	6266450	Open site	Partially Destroyed	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>									
	<u>Recorders</u>			Doctor:Jo McDonald						
45-5-3002	SA15	AGD	56	301210	6266340	Open site	Partially Destroyed	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>									
	<u>Recorders</u>			Doctor:Jo McDonald						
45-5-3003	PAD1 Schofields	AGD	56	301110	6266640	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>									
	<u>Recorders</u>			Doctor:Jo McDonald						
45-5-3004	PAD5	AGD	56	301810	6266620	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>									
	<u>Recorders</u>			Doctor:Jo McDonald						
45-5-3005	PAD8	AGD	56	301990	6266280	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>									
	<u>Recorders</u>			Doctor:Jo McDonald						
45-5-3006	PAD9	AGD	56	301960	6266540	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>									
	<u>Recorders</u>			Doctor:Jo McDonald						

Report generated by AHIMS Web Service on 11/10/2012 for Alison Nightingale for the following area at Datum :GDA, Zone : 56, Eastings : 300000 - 303000, Northings : 6265000 - 6269000 with a Buffer of 50 meters.Additional Info : Due diligence assessment. Number of Aboriginal sites and Aboriginal objects found is 110

This information is not guaranteed to be free from error omission. Office of Environment and 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 Number : 1206
Client Service ID : 82482

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-5-3007	PAD11	AGD	56	302090	6266300	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	Contact			Recorders	Doctor.Jo McDonald			Permits	2084,2596	
45-5-3008	PAD12	AGD	56	301950	6266920	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	Contact			Recorders	Doctor.Jo McDonald			Permits	2084,2596	
45-5-3009	PAD15	AGD	56	302200	6265980	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	Contact			Recorders	Doctor.Jo McDonald			Permits	2084,2596	
45-5-3010	PAD16	AGD	56	302280	6265920	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	Contact			Recorders	Doctor.Jo McDonald			Permits	2084,2596	
45-5-3322	Western Sydney PAD 3	GDA	56	300350	6265600	Open site	Valid	Potential Archaeological Deposit (PAD) : -		100554
	Contact Searle			Recorders	Navin Officer Heritage Consultants Pty Ltd			Permits	3515	
45-5-3313	Western Sydney 1	GDA	56	301307	6265476	Open site	Valid	Artefact : 3		100554
	Contact Searle			Recorders	Navin Officer Heritage Consultants Pty Ltd			Permits	3226	
45-5-3320	Western Sydney PAD 1	GDA	56	302955	6264975	Open site	Valid	Potential Archaeological Deposit (PAD) : -		100554
	Contact Searle			Recorders	Navin Officer Heritage Consultants Pty Ltd			Permits		
45-5-3321	Western Sydney PAD 2	GDA	56	302200	6265150	Open site	Valid	Potential Archaeological Deposit (PAD) : -		100554
	Contact Searle			Recorders	Navin Officer Heritage Consultants Pty Ltd			Permits		
45-5-3516	FD1	AGD	56	301050	6266500	Open site	Valid	Artefact : 2		
	Contact			Recorders	Ms.Mary Dallas			Permits	2995	
45-5-0485	Bells Creek B (Rooty Hill)	AGD	56	300050	6265900	Open site	Valid	Artefact : -	Open Camp Site	1006,1018,2622
	Contact			Recorders	Jim Kohen			Permits		
45-5-3667	EC132kVPAD 25	GDA	56	302511	6264954	Open site	Valid	Potential Archaeological Deposit (PAD) : -		

Report generated by AHIMS Web Service on 11/10/2012 for Alison Nightingale for the following area at Datum :GDA, Zone : 56, Eastings : 300000 - 303000, Northings : 6265000 - 6269000 with a Buffer of 50 meters.Additional Info : Due diligence assessment. Number of Aboriginal sites and Aboriginal objects found is 110

This information is not guaranteed to be free from error omission. Office of Environment and 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 Number : 1206
Client Service ID : 82482

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
	<u>Contact</u>	<u>Recorders</u>	Mr.Oliver Brown					<u>Permits</u>	3133	
45-5-3668	EC132kVPAD 26	GDA	56	302554	6265030	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Oliver Brown					<u>Permits</u>	3133	
45-5-3669	EC132kVPAD 27	GDA	56	302604	6265114	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Oliver Brown					<u>Permits</u>	3133	
45-5-3670	EC132kVPAD 28	GDA	56	302686	6265172	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Oliver Brown					<u>Permits</u>	3133	
45-5-3671	EC132kVPAD 29	GDA	56	302749	6265215	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Oliver Brown					<u>Permits</u>	3133	
45-5-3672	EC132kVPAD 30	GDA	56	302816	6265264	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Oliver Brown					<u>Permits</u>	3133	
45-5-3673	EC132kVPAD 31	GDA	56	302902	6265260	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<u>Contact</u>	<u>Recorders</u>	Mr.Oliver Brown					<u>Permits</u>	3133	
45-5-3726	MPIP 5	GDA	56	300187	6267996	Open site	Valid	Artefact : 3		
	<u>Contact</u>	<u>Recorders</u>	Kelleher Nightingale Consulting Pty Ltd					<u>Permits</u>		
45-5-3727	MPIP 5A	GDA	56	300036	6267912	Open site	Valid	Artefact : 5		
	<u>Contact</u>	<u>Recorders</u>	Kelleher Nightingale Consulting Pty Ltd					<u>Permits</u>		
45-5-3729	MPIP 5C	GDA	56	300231	6267975	Open site	Valid	Artefact : 30		
	<u>Contact</u>	<u>Recorders</u>	Kelleher Nightingale Consulting Pty Ltd					<u>Permits</u>		
45-5-3730	MPIP 6	GDA	56	300150	6267770	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>	Kelleher Nightingale Consulting Pty Ltd					<u>Permits</u>		
45-5-3731	MPIP 6A	GDA	56	300162	6267731	Open site	Valid	Artefact : 5		
	<u>Contact</u>	<u>Recorders</u>	Kelleher Nightingale Consulting Pty Ltd					<u>Permits</u>		
45-5-3732	MPIP 7	GDA	56	299970	6267650	Open site	Valid	Artefact : 1		

Report generated by AHIMS Web Service on 11/10/2012 for Alison Nightingale for the following area at Datum :GDA, Zone : 56, Eastings : 300000 - 303000, Northings : 6265000 - 6269000 with a Buffer of 50 meters.Additional Info : Due diligence assessment. Number of Aboriginal sites and Aboriginal objects found is 110

This information is not guaranteed to be free from error omission. Office of Environment and 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 Number : 1206

Client Service ID : 82482

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
	Contact	Recorders						Permits	3515	
45-5-3733	MPIP 7A	GDA	56	300010	6267662	Open site	Valid	Artefact : 6		
	Contact	Recorders						Permits	3515	
45-5-3734	MPIP 8	GDA	56	300050	6267530	Open site	Valid	Artefact : 1		
	Contact	Recorders						Permits	3515	
45-5-3735	MPIP 8A	GDA	56	300083	6267503	Open site	Valid	Artefact : 6		
	Contact	Recorders						Permits	3515	
45-5-3736	MPIP 9	GDA	56	300115	6267437	Open site	Valid	Artefact : 5		
	Contact	Recorders						Permits	3515	
45-5-3737	MPIP 10	GDA	56	300244	6267246	Open site	Valid	Artefact : 3		
	Contact	Recorders						Permits		
45-5-3738	MPIP 11	GDA	56	300280	6267140	Open site	Valid	Artefact : 2		
	Contact	Recorders						Permits	3515	
45-5-3739	MPIP 11A	GDA	56	300277	6267168	Open site	Valid	Artefact : 10		
	Contact	Recorders						Permits		
45-5-3740	MPIP 11B	GDA	56	300281	6267117	Open site	Valid	Artefact : 1		
	Contact	Recorders						Permits		
45-5-3741	MPIP 12	GDA	56	300258	6266119	Open site	Valid	Artefact : 5		
	Contact	Recorders						Permits		
45-5-3742	MPIP 13	GDA	56	301231	6266330	Open site	Valid	Artefact : 2		
	Contact	Recorders						Permits		
45-5-3778	SA19 Plumpton ridge	AGD	56	301110	6266640	Open site	Valid	Stone Quarry : -		
	Contact	Recorders						Permits		
45-5-3798	Reserve 687 - Duplicate of 45-5-2647	AGD	56	301320	6265493	Open site	Deleted	Stone Quarry : -, Artefact : -		
	Contact	Recorders						Permits		
45-5-3998	TR3 (Riverstone)	GDA	56	300700	6267165	Open site	Destroyed	Artefact : 3		102254
	Contact	Recorders						Permits	3446	
45-5-4061	TR1 (Riverstone)	GDA	56	300614	6267516	Open site	Valid	Artefact : -		
	Contact	Recorders						Permits		
45-5-4062	TR2 (Riverstone)	GDA	56	300598	6267397	Open site	Valid	Artefact : -		
	Contact	Recorders						Permits		
45-5-4086	Isolated Object 1025-5	GDA	56	302031	6268677	Open site	Valid	Artefact : -		

Report generated by AHIMS Web Service on 11/10/2012 for Alison Nightingale for the following area at Datum :GDA, Zone : 56, Eastings : 300000 - 303000, Northings : 6265000 - 6269000 with a Buffer of 50 meters.Additional Info : Due diligence assessment. Number of Aboriginal sites and Aboriginal objects found is 110

This information is not guaranteed to be free from error omission. Office of Environment and 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 Number : 1206

Client Service ID : 82482

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
	<u>Contact</u>	<u>Recorders</u>	Archaeological & Heritage Management Solutions Pty Ltd (AHMS),Mr.Alan William: <u>Permits</u>							
45-5-4087	Artefact Scatter PAD 1026-46	GDA	56	301842	6268842	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>	<u>Recorders</u>	Archaeological & Heritage Management Solutions Pty Ltd (AHMS),Mr.Alan William: <u>Permits</u>							
45-5-4093	PAD 1035-6	GDA	56	302243	6268470	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>	<u>Recorders</u>	Archaeological & Heritage Management Solutions Pty Ltd (AHMS),Mr.Alan William: <u>Permits</u>							
45-5-4177	MPP-14	GDA	56	300222	6267844	Open site	Valid	Artefact : 5		
	<u>Contact</u>	<u>Recorders</u>	Kelleher Nightingale Consulting Pty Ltd <u>Permits</u>							
45-5-4184	CN/SAC1	GDA	56	300504	6266217	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>	Godden Mackay Logan Heritage Consultants <u>Permits</u>							
45-5-4185	CN/SAC2	GDA	56	300510	6266198	Open site	Valid	Artefact : 1		3434
	<u>Contact</u>	<u>Recorders</u>	Godden Mackay Logan Heritage Consultants <u>Permits</u>							
45-5-4186	CN/SAC3	GDA	56	300678	6266218	Open site	Valid	Artefact : 1		3434
	<u>Contact</u>	<u>Recorders</u>	Godden Mackay Logan Heritage Consultants <u>Permits</u>							
45-5-4116	Schofields Village AS1	GDA	56	302202	6268541	Open site	Valid	Artefact : 136		
	<u>Contact</u>	<u>Recorders</u>	Mr.Luke Kirkwood,AECOM-Canberra <u>Permits</u>							
45-5-4117	Schofields Village AS2	GDA	56	302273	6268430	Open site	Valid	Artefact : 188		3525
	<u>Contact</u>	<u>Recorders</u>	AECOM Australia Pty Ltd (previously HLA-Envirosciences),Mr.Luke Kirkwood <u>Permits</u>							
45-5-4118	Schofields Village AS3	GDA	56	302404	6268458	Open site	Valid	Artefact : 22		3525
	<u>Contact</u>	<u>Recorders</u>	AECOM Australia Pty Ltd (previously HLA-Envirosciences),Mr.Luke Kirkwood <u>Permits</u>							
45-5-4119	Schofields Village AS4	GDA	56	302478	6268554	Open site	Valid	Artefact : 3		3525
	<u>Contact</u>	<u>Recorders</u>	AECOM Australia Pty Ltd (previously HLA-Envirosciences),Mr.Luke Kirkwood <u>Permits</u>							
45-5-4120	Schofields Village AS5	GDA	56	302229	6268331	Open site	Valid	Artefact : 63		3525
	<u>Contact</u>	<u>Recorders</u>	AECOM Australia Pty Ltd (previously HLA-Envirosciences),Mr.Luke Kirkwood <u>Permits</u>							
45-5-4121	Schofields Village AS6	GDA	56	302372	6268163	Open site	Valid	Artefact : 4		3525
	<u>Contact</u>	<u>Recorders</u>	AECOM Australia Pty Ltd (previously HLA-Envirosciences),Mr.Luke Kirkwood <u>Permits</u>							
45-5-4122	Schofields Village AS7	GDA	56	302552	6268270	Open site	Valid	Artefact : 4		3525
	<u>Contact</u>	<u>Recorders</u>	AECOM Australia Pty Ltd (previously HLA-Envirosciences),Mr.Luke Kirkwood <u>Permits</u>							
45-5-4123	Schofields Village AS8	GDA	56	302584	6268143	Open site	Valid	Artefact : 77		3525
	<u>Contact</u>	<u>Recorders</u>	AECOM Australia Pty Ltd (previously HLA-Envirosciences),Mr.Luke Kirkwood <u>Permits</u>							
45-5-4124	Schofields Village AS9	GDA	56	302900	6268362	Open site	Valid	Artefact : 2		

Report generated by AHIMS Web Service on 11/10/2012 for Alison Nightingale for the following area at Datum :GDA, Zone : 56, Eastings : 300000 - 303000, Northings : 6265000 - 6269000 with a Buffer of 50 meters.Additional Info : Due diligence assessment. Number of Aboriginal sites and Aboriginal objects found is 110

This information is not guaranteed to be free from error omission. Office of Environment and 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 Number : 1206
Client Service ID : 82482

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
	<u>Contact</u>	<u>Recorders</u>	AECOM Australia Pty Ltd (previously HLA-Envirosciences),Mr.Luke Kirkwood							
45-5-4125	SC IA1	GDA	56	302779	6268654	Open site	Valid	Artefact : 1	Permits	3525
	<u>Contact</u>	<u>Recorders</u>	AECOM Australia Pty Ltd (previously HLA-Envirosciences),Mr.Luke Kirkwood							
45-5-4152	VR1	GDA	56	302173	6268573	Open site	Valid	Artefact : 2	Permits	3525
	<u>Contact</u>	<u>Recorders</u>	Kelleher Nightingale Consulting Pty Ltd							
45-5-4198	SS5	GDA	56	299984	6268283	Open site	Valid	Artefact : 1	Permits	
	<u>Contact</u>	<u>Recorders</u>	Kelleher Nightingale Consulting Pty Ltd							
45-5-4199	SS4 IF	GDA	56	300119	6268312	Open site	Valid	Artefact : 1	Permits	
	<u>Contact</u>	<u>Recorders</u>	Kelleher Nightingale Consulting Pty Ltd							
45-5-4127	SC IA2	GDA	56	302821	6266032	Open site	Valid	Artefact : 1	Permits	
	<u>Contact</u>	<u>Recorders</u>	AECOM Australia Pty Ltd (previously HLA-Envirosciences),Mr.Luke Kirkwood							

Report generated by AHIMS Web Service on 11/10/2012 for Alison Nightingale for the following area at Datum :GDA, Zone : 56, Eastings : 300000 - 303000, Northings : 6265000 - 6269000 with a Buffer of 50 meters.Additional Info : Due diligence assessment. Number of Aboriginal sites and Aboriginal objects found is 110

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