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Cobbitty Sub-Precinct 5 Preliminary Aboriginal Heritage Assessment

Boyuan Holdings (BHL Group)

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Project Manager	Karyn McLeod
Prepared by	Charlotte Bradshaw
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1. Introduction

1.1 Project background

Boyuan Holdings (BHL Group) engaged Eco Logical Australia Pty Ltd (ELA) to undertake a Preliminary Aboriginal Heritage Assessment to assess the cultural heritage within the 'Cobbitty Sub-Precinct 5' (or 'Precinct 5') of the South Creek West (SCW) release area, which forms part of the South West Growth Area (SWGA) (hereafter referred to as the 'study area'; Figure 1).

The purpose of this report is to assess any cultural heritage constraints and to inform the Planning Proposal and Draft Indicative Layout Plan (ILP) for Precinct 5. The study area comprises of four lots that are currently zoned RU1 for primary production and has been characterised by agricultural land uses, primarily in the form of cattle grazing.

It is noted that the findings/recommendations of this Preliminary Aboriginal Heritage Assessment were based on a previous ILP which considered the entirety of Sub-Precinct 5. The current ILP only incorporates Lots 2 & 4 in DP 1216380, Lot 2 in DP 1241819 and Lot 500 in DP 1231858 as shown in Figure 2.

The findings/recommendations/conclusions of this report remain relevant, providing a holistic assessment of the precinct to inform future development on the subject site. It is intended this report will be updated to reflect the refined ILP and any comments received following public notification.

The aim of this report is to identify any areas that possess sensitivity for Aboriginal sites in order to inform any future development constraints.

The Draft ILP for Precinct 5 has been provided by BHL Group (Figure 2).

This assessment outlines the findings of this Preliminary Aboriginal Heritage Assessment, in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010b).

1.2 Study area

The study area is situated within the South Creek West Land Release Area, located on The Northern Road in Cobbitty and Bringelly, NSW. The study area is located in the Parish of Cook in the County of Cumberland, within the Camden Local Government Area (LGA). The study area falls within the Tharawal Local Aboriginal Land Council boundaries.

The study area is approximately 303 ha.

1.3 Limitations

Due to limitations in property access, Lot 2 and 4 DP 1216380 were not able to be surveyed as part of this assessment. Lot 2 DP 1241819 was not surveyed due to ongoing construction conducted by Sydney Water; however, the area has previously been assessed (KNC, 2019) (Figure 3).

1.4 Proposed activity and future development

BHL, as the major landholder in the precinct, seeks to initiate the preparation of a planning proposal for the rezoning of Precinct 5, consistent with the Draft Indicative Layout Plan (ILP). This is to facilitate the orderly redevelopment of Precinct 5 into a residential community.

The intended outcome of this Planning Proposal is to amend the current *State Environmental Planning Policy (Sydney Region Growth Centres) 2006* to facilitate the urban development of Precinct 5 as part of the South West Growth Centre as envisaged in the Greater Sydney Commission's Regional Plan and District Plan.

The Draft ILP has been prepared to support the planning proposal and precinct rezoning and has been informed by extensive specialist consultant studies. The site will comprise approximately 3,800 dwellings and a population of approximately 12,000 people within a thriving community supported by:

- Easy access to jobs in the Western Sydney Aerotropolis
- Local shops, community uses and services, and proximity to the Oran Park Town Centre
- Over 78ha of open space, including 32 ha of sporting fields and local parks
 - Open space typologies also include creeks, grasslands, playgrounds, and other nature-based recreations areas
- Pedestrian and cycling connections including a central green corridor
- Prominent creeks and riparian areas that retain water in the local environment
- A future local school
- Integrated stormwater and services infrastructure that improve local amenity

The proposed new planning controls comprise amendments to *State Environmental Planning Policy (Sydney Region Growth Centres) 2006* and associated environmental planning instruments including the rezoning of the precinct to reflect land uses shown in the Draft ILP.

This Planning Proposal also seeks to introduce a site-specific Schedule to the *Camden Growth Centre Precincts Development Control Plan* to support the Precincts development in accordance with the Draft ILP and supporting technical investigations.

Table 1: Key parameters of the Indicative Layout Plan

Key Parameter	ILP
Precinct name:	Cobbitty Sub Precinct 5 / (Precinct 5)
Proponent reference:	BHL Group
Total site size:	303.15 ha (approx. 303)
Total public open space:	31.79 ha (approx. 32)
Total passive open space:	16.8 ha (approx. 17)
Total active open space	14.99 ha (approx. 15)
Riparian corridor area:	40.93 ha (approx. 41)
Detention Basins:	14.8 ha (approx. 15)
Grassland areas (Easement)	5.67 ha (approx. 6)
Projected Dwelling Yield:	3,800 (approx. 3,800)

Key Parameter	ILP
Average Household Size:	3.1
Projected total population	11,903 (approx. 12,000)

1.5 Assessment process

The methodology of this Preliminary Aboriginal Heritage Assessment includes:

- Undertake an extensive search of the Aboriginal Heritage Information Management System (AHIMS) maintained by Heritage NSW, Department of Premier and Cabinet (Heritage NSW) to establish if there are any previously recorded Aboriginal objects or places within the study area.
- Undertake a search of the Camden Local Environmental Plan (2010), the NSW State Heritage Inventory and the Australian Heritage Database in order to determine if there are any sites of Aboriginal significance or sensitivity located within the study area.
- Undertake a desktop review of relevant previous archaeological assessments to understand the local archaeological context and assist in predicting the likely occurrence of unrecorded Aboriginal sites or objects, and
- Undertake an archaeological survey with Registered Aboriginal Parties (RAP) participation to identify any Aboriginal sites, areas of sensitive landforms and evidence of ground disturbance.
- Identify areas with potential for archaeological deposits

The aim of this report is to establish whether known or additional unrecorded Aboriginal objects are present within the study area, identify areas of sensitivity and determine whether further archaeological investigation is required.

If harm cannot be avoided, further technical studies and approvals will be required (see section 9).

1.6 Consultation

The field survey was undertaken with Rebecca Chalker of Cubbitch Barta Native Title Claimants Aboriginal Corporation in attendance.

1.7 Authorship

This Preliminary Aboriginal Heritage Assessment has been prepared by ELA Archaeologist Charlotte Bradshaw. It was reviewed by ELA Principal Heritage Consultant, Karyn McLeod.

Charlotte Bradshaw has a BA (Archaeology) from the University of Sydney. Karyn McLeod has a BA Honours (Archaeology) from the University of Sydney and a MA (Cultural Heritage) from Deakin University.



Figure 1: The study area

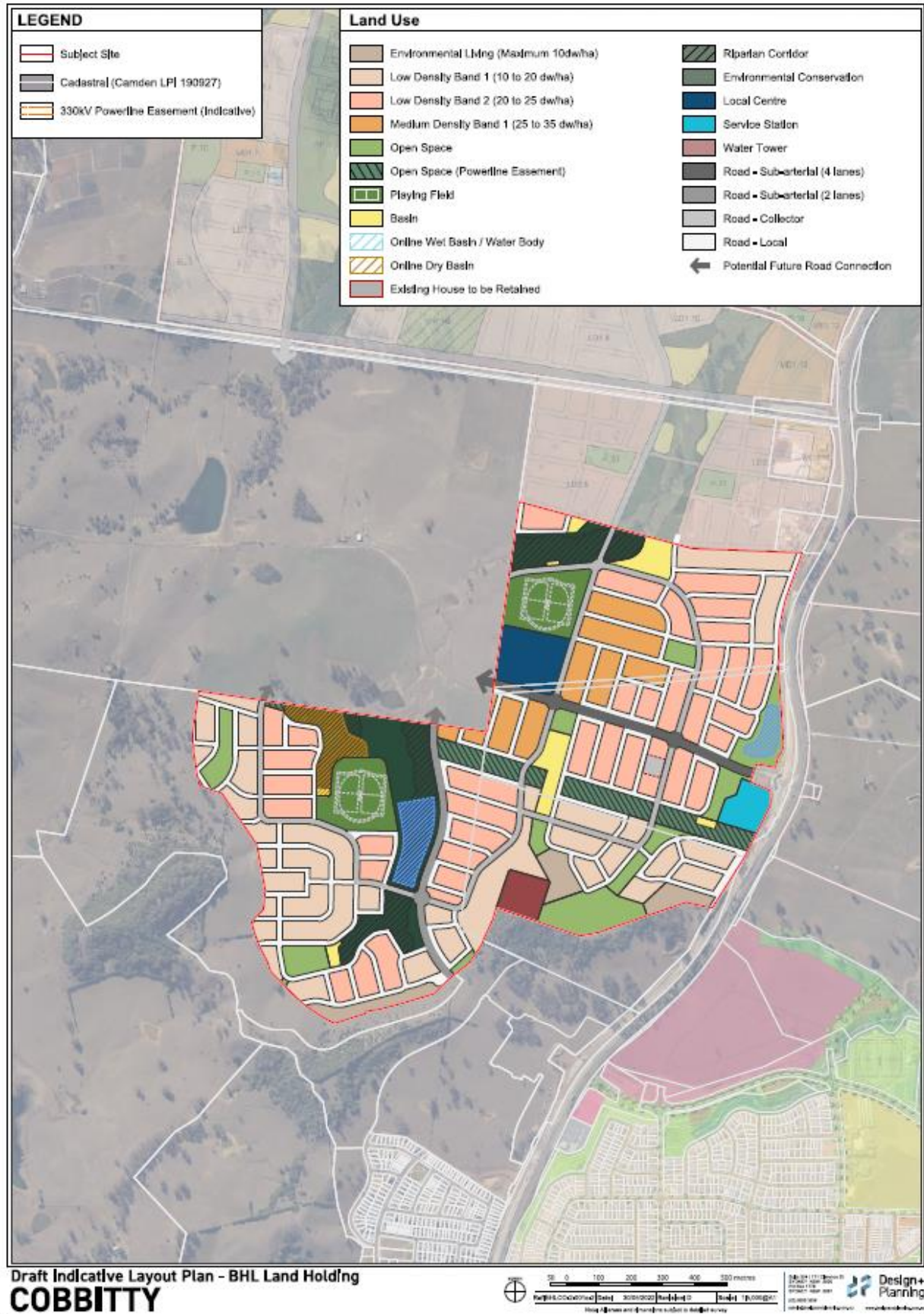


Figure 2: Draft indicative layout plan for the Cobbitty portion of the South Creek West Land Release Area (source: BHL Group 2022)

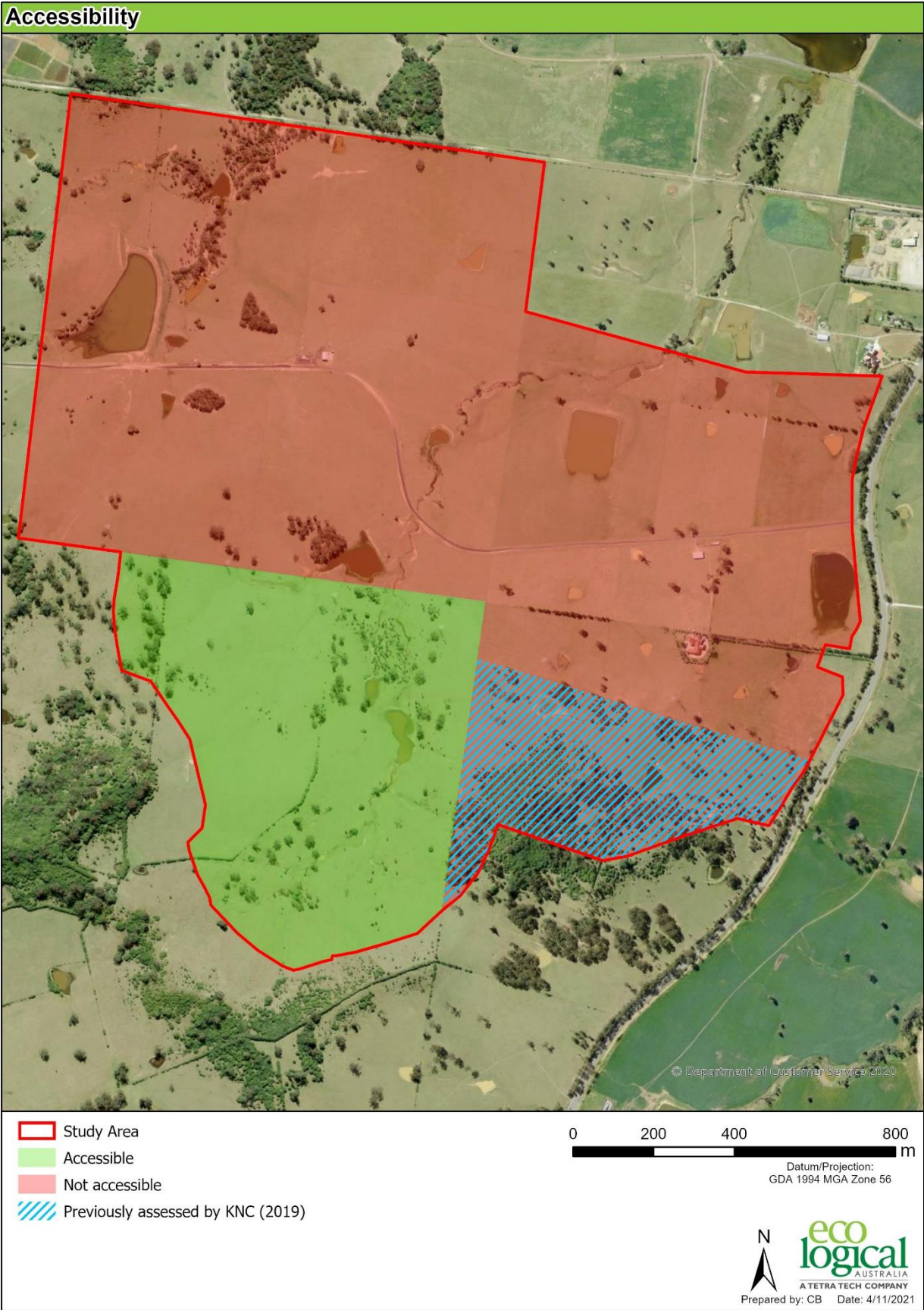


Figure 3: Accessibility within the study area and area investigated by KNC (2019)

2. Basis for cultural heritage management

Places of cultural significance enrich people's lives, often providing a deep and inspirational sense of connection to community and landscape, to the past, and to lived experiences ... they are irreplaceable and precious (Australia ICOMOS Burra Charter 2013:1).

Traditionally, heritage and archaeological assessments have focused on the significance of the tangible elements of cultural heritage (Brown 2008). Items such as structures and archaeological artefacts have been considered predominantly in terms of their scientific/research potential and representativeness (New South Wales Heritage Office 2015:20-24). By focusing on the scientific qualities of heritage, many of the intangible qualities of heritage were not considered. This is especially crucial when participating in the management and protection of Aboriginal cultural heritage. By nature, Aboriginal cultural heritage is multi-faceted: it consists not only of tangible structures and objects of value for scientific investigations, but also of a deeply complex array of intangible expressions, such as stories, memories, and traditions. Many of the rights and interests of Aboriginal communities in their own heritage is formed on the basis of this intangibility. It stems from their spirituality, customary law, original ownership, and continuing custodianship (Australian Heritage Commission 2002:5). These intangible expressions often share a strong link with the landscape. Byrne *et al.* (2003:3) describe this connection in the form of a map, where individuals:

Carry around in [their] heads a map of the landscape which has all these places and their meanings detailed on it. When we walk through our landscapes the sight of a place will often trigger the memories and the feelings [that] go with them ... it is the landscape talking to us.

Crucially, those who are not connected to the landscape in question will not be able to discern these intangible meanings embedded in the landscape; they can only come to recognise the significance by consulting with local knowledge holders (Byrne *et al.* 2003:3). And, even so, they may vary between individuals, reflecting unique experiences.

By recognising the rights and interests of Aboriginal knowledge holders and community members in their cultural heritage, all parties involved in the identification, conservation, and management of this cultural heritage must acknowledge that Aboriginal people (Australian Heritage Commission 2002:6):

- Are the primary source of information on the value of their heritage and how this is best conserved; and
- Must have an active role in any heritage planning processes; and
- Must have input into primary decision-making in relation to their heritage so that they can continue to fulfil their obligations towards this heritage; and
- Must control the intellectual property and other information relating specifically to their heritage, as this may be an integral aspect of its heritage value.

As such, cultural heritage sites and objects are fundamental elements of Aboriginal peoples' identities, connections, and belonging to their communities. The careful protection and management of this heritage is essential for the preservation of connection between past, present, and future.

3. Legislative context

3.1 State legislation

3.1.1 National Parks and Wildlife Act 1974

Aboriginal cultural heritage in NSW is afforded protection under the provisions of the *National Parks and Wildlife Act 1974 (NSW)* [NPW Act]. The Act is administered by Heritage NSW, which has responsibilities under the legislation for the proper care, preservation, and protection of 'Aboriginal objects' and 'Aboriginal places'.

Under the provisions of the NPW Act, all Aboriginal objects are protected irrespective of their level of significance or issues of land tenure. Aboriginal objects are defined by the Act as, *any deposit, object or material evidence (that is not a handicraft made for sale) relating to Aboriginal habitation of NSW, before or during the occupation of that area by persons of non-Aboriginal extraction (and includes Aboriginal remains)*. Aboriginal objects are limited to physical evidence and may be referred to as 'Aboriginal sites', 'relics' or 'cultural material'. Aboriginal objects can include scarred trees, artefact scatters, middens, rock art and engravings, as well as post-contact sites and activities such as fringe camps and stockyards. Heritage NSW must be notified about the discovery of Aboriginal objects under section 89A of the NPW Act.

Part 5 of the NPW Act provides specific protection for Aboriginal objects and places by making it an offence to destroy, deface, damage, or move them from the land. *The Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (CoP)* (DECCW 2010b) as adopted by the and Wildlife Regulation 2019 (NPW Regulation) made under the NPW Act, provides guidance to individuals and organisations to exercise due diligence when carrying out activities that may harm Aboriginal objects. The CoP also determines whether proponents should apply for consent in the form of an Aboriginal Heritage Impact Permit (AHIP) under section 90 of the Act. The CoP can be used for all activities across all environments. The NPW Act provides that a person who exercises due diligence in determining that their actions will not harm Aboriginal objects has a defence against prosecution for the strict liability offence if they later unknowingly harm an object without an AHIP. However, if an Aboriginal object is encountered in the course of an activity work must cease and an application should be made for an AHIP.

The Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2010a) assists in establishing the requirements for undertaking test excavation as a part of archaeological investigation without an AHIP or establishing the requirements that must be followed when carrying out archaeological investigation in NSW where an application for an AHIP is likely to be made. Heritage NSW recommends that the requirements of this Code also be followed where a proponent may be uncertain about whether or not their proposed activity may have the potential to harm Aboriginal objects or declared Aboriginal places.

3.1.2 Native Title Act 1994

The *Native Title (New South Wales) Act 1994* was introduced to work in conjunction with the Commonwealth *Native Title Act 1993*. Native Title claims, registers and Indigenous Land Use Agreements are administered under the Act.

3.1.3 Aboriginal Land Rights Acts 1983

The *Aboriginal Land Rights Act 1983* (ALR Act) established Aboriginal Land Councils (at State and Local levels). Division 1A outlines the functions of Local Aboriginal Land Councils and their statutory obligation under the ALR Act to:

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

The study area is within the boundary of the Tharawal Local Aboriginal Land Council (LALC).

3.1.4 Environmental Planning & Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (NSW) [EP&A Act] requires that consideration is given to environmental impacts as part of the land use planning process. In NSW, environmental impacts are interpreted as including cultural heritage impact. Proposed activities and development are considered under different parts of the EP&A Act, including:

- Major projects (State Significant Development under Part 4.1 and State Significant Infrastructure under Part 5.1), requiring the approval of the Minister for Planning;
- Minor or routine developments, requiring local council consent, are usually undertaken under Part 4. In limited circumstances, projects may require the Minister's consent; and
- Part 5 activities which do not require development consent. These are often infrastructure projects approved by local councils or the State agency undertaking the project.

The EP&A Act also controls the making of environmental planning instruments (EPIs) such as Local Environment Plans (LEPs) and State Environmental Planning Policies (SEPPs). The study area is within the Camden LGA and activities undertaken on this land are controlled by the *State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Camden Growth Centres Precinct Plan)*. SEPPs commonly identify and have provisions for the protection of local heritage items, heritage conservation areas and archaeological sites. SEPPs are prepared by the state government to guide planning and management decisions in the LGAs and establish the requirements for the use and development of land. Part 5.10 of the SEPP *Camden Growth Centres Precinct Plan* states that the consent authority must, before granting consent under this clause to the carrying out of development in an Aboriginal place of heritage significance—

- (a) consider the effect of the proposed development on the heritage significance of the place and any Aboriginal object known or reasonably likely to be located at the place by means of an adequate investigation and assessment (which may involve consideration of a heritage impact statement), and
- (b) notify the local Aboriginal communities, in writing or in such other manner as may be appropriate, about the application and take into consideration any response received within 28 days after the notice is sent.

3.2 Commonwealth Legislation

3.2.1 Environment Protection and Biodiversity Conservation Act 1999

The *Environment and Heritage Legislation Amendment Act (No.1) 2003* amends the *Environment Protection and Diversity Conservation Act 1999* (EPBC Act) to include 'national heritage' as a matter of National Environmental Significance and protects listed places to the fullest extent under the Constitution. It also establishes the National Heritage List (NHL) and the Commonwealth Heritage List (CHL).

The *Australian Heritage Council Act 2003* (AHC Act) establishes a new heritage advisory body - the Australian Heritage Council (AHC), to the Minister for the Environment and Heritage and retains the Register of the National Estate (RNE).

The *Australian Heritage Council (Consequential and Transitional Provisions) Act 2003* repeals the *Australian Heritage Commission Act 1975*, amends various Acts as a consequence of this repeal and allows the transition to the current heritage system.

Together the above three Acts provide protection for Australia's natural, Aboriginal, and historical heritage. The new features include:

- A new NHL of places of national heritage significance.
- A new CHL of heritage places owned or managed by the Commonwealth.
- The creation of the AHC, an independent expert body to advise the Minister on the listing and protection of heritage places.
- Continued management of the Register of the National Estate (RNE)

3.2.2 Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The Commonwealth Act, *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* deals with Aboriginal cultural property in a wider sense, encompassing the protection of any areas and objects that 'are of particular significance to Aboriginals [Aboriginal people] in accordance with Aboriginal tradition'. In most cases, archaeological sites and objects registered under the State Act will also be Aboriginal places subject to the provisions of the Commonwealth Act. The Commonwealth Act takes precedence over State cultural heritage legislation where there is conflict. The responsible Minister may make a declaration under Section 10 of the Commonwealth Act in situations where state or territory laws do not provide adequate protection of heritage places.

4. Environmental context

4.1 Bioregion

The study area is situated within the Cumberland subregion of the NSW Sydney Basin bioregion of NSW. A summary of the geology, landforms, soils, and vegetation typical within this subregion is provided in Table 2 below:

Table 2: Cumberland Plain subregion summary (source: NSW Department of Planning, Industry and Environment)

Cumberland Subregion	
Geology	Triassic Wianamatta groups shales and sandstones. A down warped block on the coastal side of the Lapstone monocline. Intruded by a small number of volcanic vents and partly covered by Tertiary river gravels and sands. Quaternary alluvium along the mains streams.
Characteristic Landforms	Low rolling hills and wide valleys in a rain shadow area below the Blue Mountains. At least three terrace levels evident in the gravel splays. Volcanics from low hills in the shale landscapes. Swamps and lagoons on the floodplain of the Nepean River.
Typical Soils	Red and yellow texture contrast soils on slopes, becoming harsher and sometimes affected by salt in tributary valley floors. Pedal uniform red to brown clays on volcanics. Poor uniform stony soils, often with texture contrast profiles on older gravels, high quality loams on modern floodplain alluvium.
Vegetation	Grey box, forest red gum, narrow-leaved ironbark woodland with some spotted gum on the shale hills. Hard-leaved scribbly gum, rough-barked apple and old man banksia on alluvial sands and gravels. Broad-leaved apple, cabbage gum and forest red gum with abundant swamp oak on river flats. Tall spike rush, and juncus with Parramatta red gum in lagoons and swamps.

4.2 Soil Landscapes

The study area is located across three soil landscapes (Figure 4):

BLACKTOWN RESIDUAL SOIL LANDSCAPE

Blacktown Residual Soil Landscape consists of shallow to moderately deep soil with a relatively low susceptibility to erosion. Blacktown soils are conducive to artefact survivability however the acidity within in these soils quickly removes organics. In addition, the tendency of these soils to deflate often result in a temporal collapse where archaeological objects from multiple time periods can accumulate within a single layer.

LUDDENHAM EROSIONAL SOIL LANDSCAPE

The Luddenham Erosional Soil Landscape occurs on undulating to rolling low hills in the Campbelltown/Camden area. Crests the characteristic soils include friable dark brown loam atop <40cm sandy overlaying weathered shale bedrock with abrupt horizons. On the upper and mid-slopes, soils include <10cm of friable dark brown loam atop <40cm clay to fine sandy clay loam overlaying >50cm silty to heavy clay. The lower slopes and drainage lines, soils are <50cm of grey-brown loamy sand overlaying >100cm of sandy clay. The soil landscape is erosional, with minor gully and rill erosion along unpaved roads, and moderate to severe sheet erosion in overgrazed paddocks. Within the upper and mid-slopes, high shrink-swell is common making them more susceptible to collapse and disturbance meaning less likelihood to have *in situ* deposits. The deposits within the soil landscape are conducive to

in situ archaeological deposits within areas of minor erodibility but the strongly to moderately acidic range will have low survivability of organic matter.

SOUTH CREEK ALLUVIAL SOIL LANDSCAPE

South Creek Alluvial Soil Landscape typically occurs along creek lines associated with large drainage lines within the Cumberland Plain. Soils in this landscape consist of deep, loamy soils atop orange-brown clay. Due to consistent exposure to flooding and waterflow from associated creek lines, soils in this landscape are highly erodible, compromising the stratigraphic integrity of any artefact deposits within these soils.

4.3 Hydrology

The study area contains non-perennial low order tributaries of South Creek and Lowes Creek which are present to the south of the study area and Thompsons Creek, a tributary of South Creek is located to the west of the study area. Several small non perennial chain ponds and dams are also present along the creek line (Figure 4).

4.4 Vegetation

Across a majority of the study area, native vegetation has been cleared for pastoral land use with a few small stands of remnant vegetation. The landscape would have been open woodland with dry sclerophyll forest, the native vegetation would have been dominated by tree species including Grey box (*E. moluccana*) and Forest red gum (*E. tereticornis*) Broad-leaved ironbark, narrow-leaved ironbark, Woollybutt and forest oak would have been less common. The understorey would have hosted various shrub and grass species.

4.5 Land use history

The study area has historically been used for pastoral land use, primarily for grazing cattle, and has undergone minimal disturbance. The earliest available aerial imagery from 1956 shows that the area has historically been cleared of native vegetation and used for pastoral activities, including the construction of dams within the third order drainage lines (Figure 5). By 1989, The Northern Road had been realigned, residential dwellings were constructed, two large dams had been built and the eastern portion had also been ploughed (Figure 6). The aerial imagery from 1998 shows further disturbance in the north-east portion, with market gardening, the stripping of topsoil and the installation of an in-ground pool adjacent to the residence (Figure 7).

4.6 Summary

Overall, the characteristics of the study area present moderate to high sensitivity for evidence of Aboriginal occupation. There is the highest potential for archaeological deposits in sheltered and relatively flat areas in close proximity to the third order streams. As a majority of the area has been extensively cleared of vegetation, very few mature growth trees remain. A majority of the south-west portion of the study area has undergone only minor disturbance from vegetation clearance. Due to activities associated with pastoral land use, farming and grazing, the eastern portion of the study area has undergone moderate disturbance.

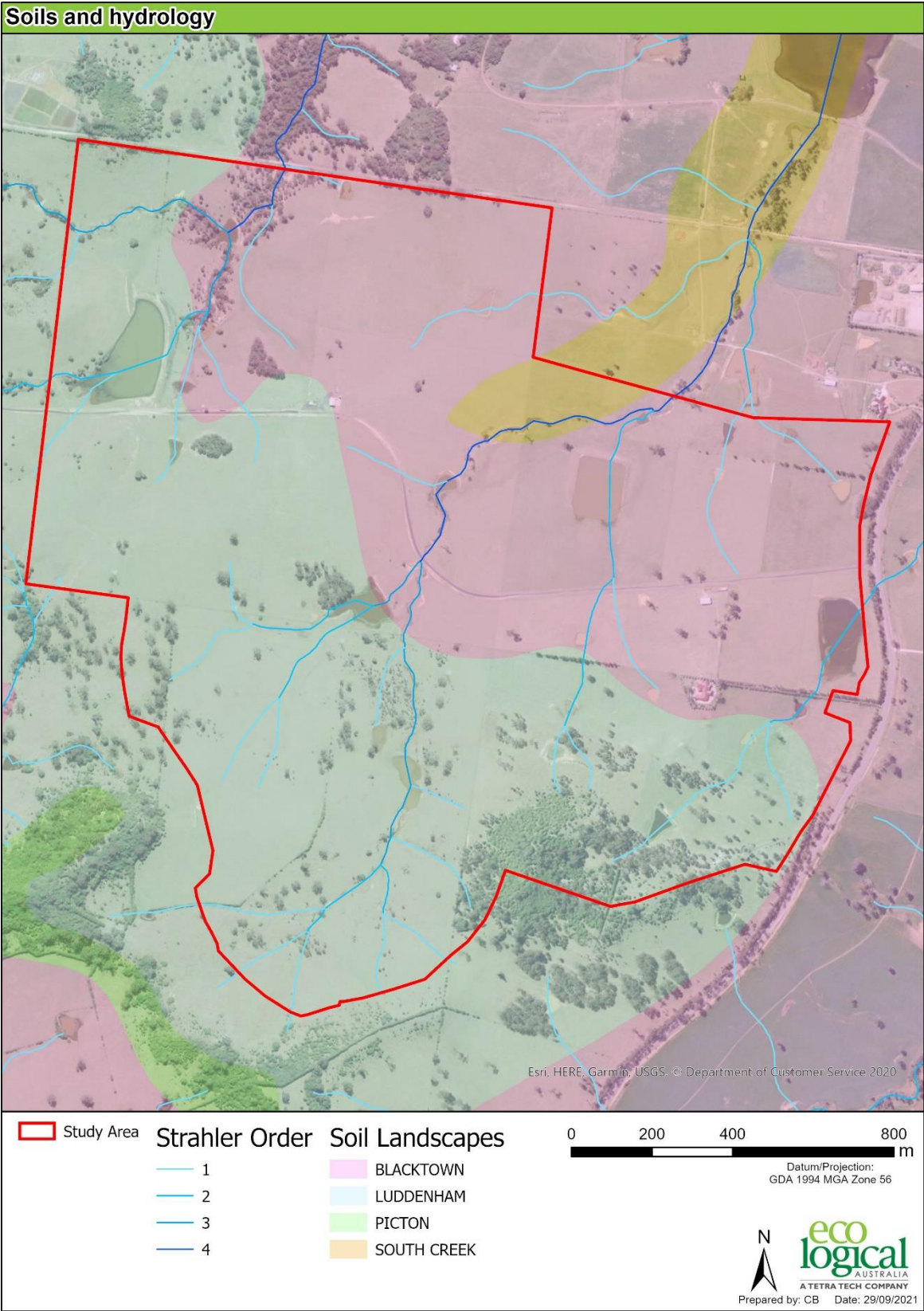


Figure 4: Soils and hydrology within the study area

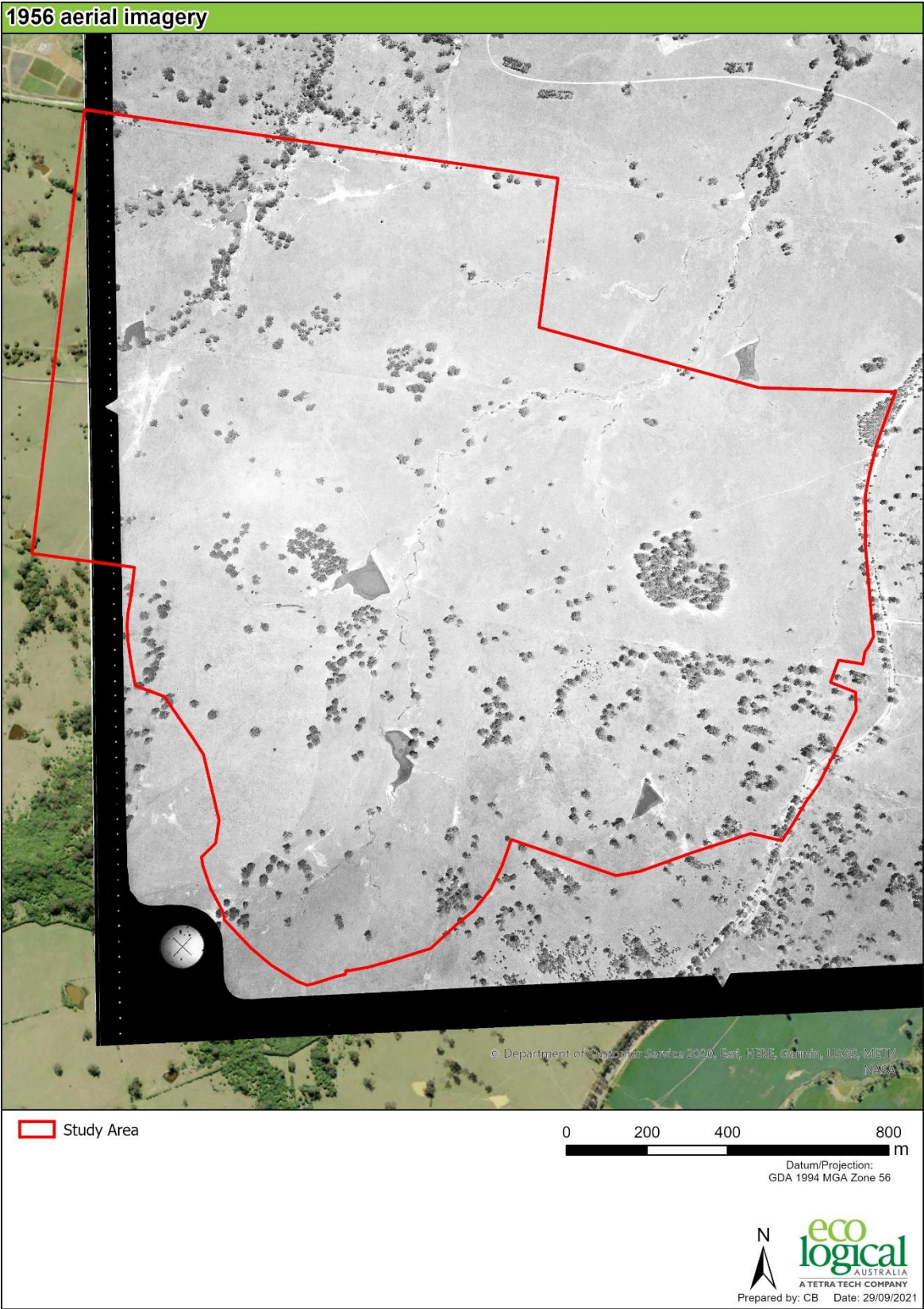


Figure 5: 1956 aerial imagery

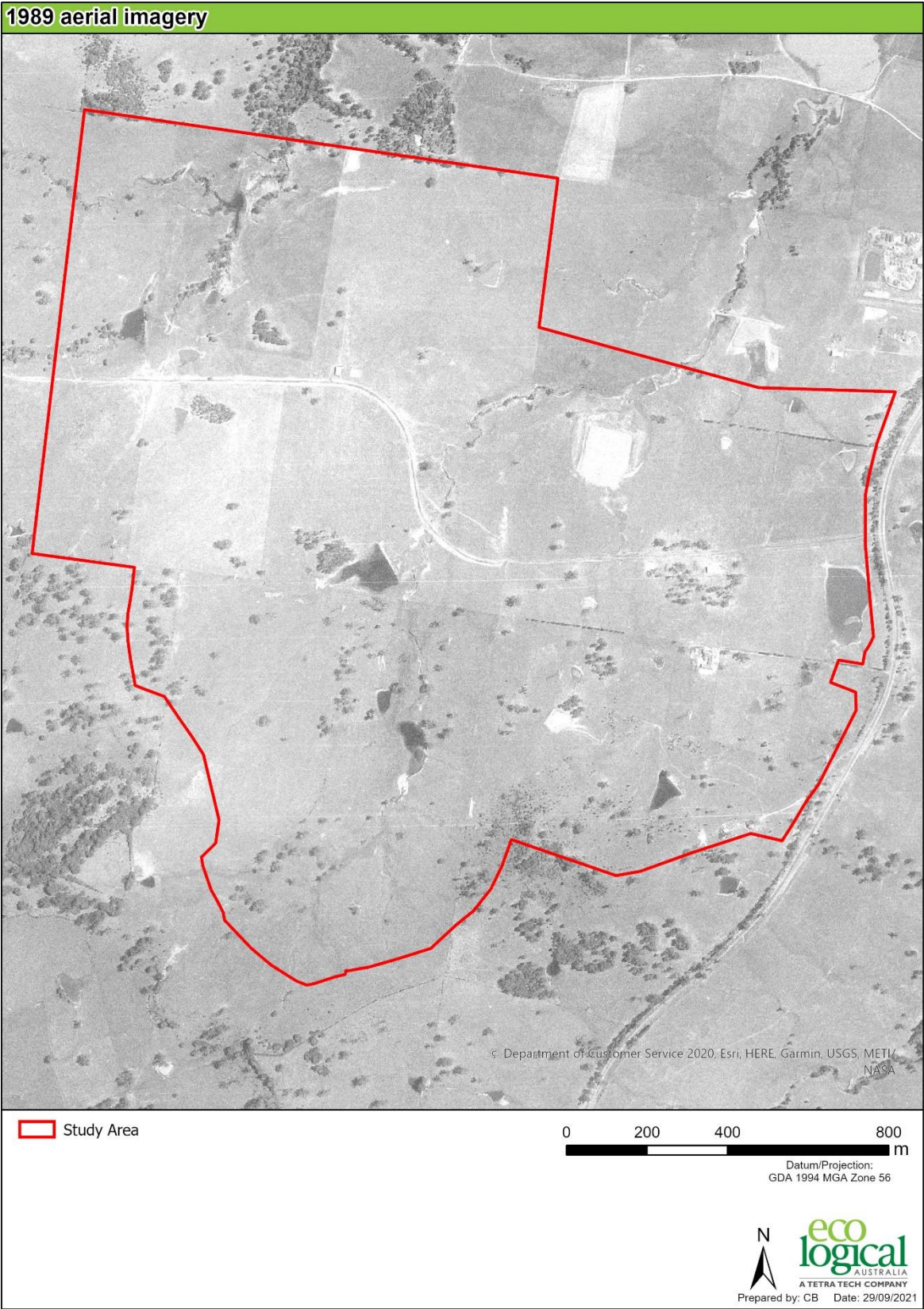


Figure 6: 1989 aerial imagery



Figure 7: 1998 aerial imagery

5. Aboriginal context

5.1 Ethnohistory

An accurate reconstruction of past lifeways, technologies and land-use patterns of the Aboriginal people who inhabited the Camden region is often hindered by a lack of written records and an ethnocentric bias of European settlers. Oral histories by Aboriginal people provide valuable insights into the past, though these are not always available.

Aboriginal people have continuously occupied Australia for at least 65,000 years, utilising the land and available resources. Dates of the earliest occupation of the continent by Aboriginal people are subject to continued revision as more research is undertaken. The earliest undisputed radiocarbon date from the region comes from a rock shelter site north of Penrith, Shaw's Creek, dated to around 14,700 BP (Attenbrow 2010). Alternate artefactual evidence found on the Nepean River suggests Aboriginal people have occupied the Sydney region for at least 40,000 years (Nanson *et al.* 1987; Stockton & Holland 1974).

The Camden region lies within a transitional area between the tribal boundaries of the Dharug, Dharawal and Gundungurra language groups (Attenbrow, 2002). Little information about the original inhabitants of the Camden area remains as contact between the local Aboriginal population and early European settlers was sparse and the local Aboriginal population had no written language. Despite this, the Dharug tribal group appear in ethnographic records and are widely considered to have occupied the south-western parts of the Cumberland Plain and much of the Sydney Basin. Anthropologist R.H. Matthews writes:

"The Dharukk speaking people adjoined the Thurrawal on the north, extending along the coast to the Hawkesbury River, and inland to what are now Windsor, Penrith, Campbelltown, and intervening towns." (Matthew, 1901d: 55 in Attenbrow, 2010: 32)

The Darug people were semi-nomadic hunter gatherers who utilised available resources, including the various animals and plants in the region. Aboriginal people hunted wallabies, kangaroos, possums, flying foxes, birds and fish and collected wild honey and yams, which also served as important food sources. Family groups belonged to clans who were united by languages and cultural affinities and had ties to specific areas of land.

The Aboriginal groups which lived in Camden and the surrounding areas were known as the 'Cowpastures tribe' by European settlers. This name is derived from the disappearance of two bulls and four cows from Sydney Cove six months after the arrival of the First Fleet. The livestock travelled across the Cook and Nepean River systems, 50 km south-west towards the Menangle-Camden area where they established themselves on good grazing land and populated to a larger herd. The large herd was rediscovered by settlers two years later. Aboriginal people saw these unfamiliar creatures and documented them on the wall of sandstone rock shelter in Kentlyn known as 'Bull Cave' (Liston, 1988).

The arrival of European settlers severely impacted the lives of the local Aboriginal populations as it led to a smallpox epidemic which spread to neighbouring regions and killed over half of the Aboriginal population in the Sydney Basin region (Organ, 1990). In the Cumberland Plains region, European graziers slowly took over the traditional Aboriginal land, creating a competition for resources, widespread social

disruption to traditional ways of life and ultimately led to a disconnection of local Aboriginal people from their traditional lands. Some Aboriginal people remained and continued to live a semi-traditional life on the peripheries of European settlements until at least the mid-1800s, despite the impacts to their traditional ways of being (Attenbrow, 2002).

5.2 Archaeological context

5.2.1 Previous archaeological investigations

Several archaeological assessments have been carried out in the wider Greater Western Sydney region in recent years as there has been an increasing number of residential developments in the area. The most relevant investigations to this project will be summarised below.

AMBS, 2012. *Indigenous Heritage Assessment Project: Austral and Leppington North Precincts, South West Growth Centres*. Prepared for the NSW Department of Planning and Infrastructure.

Australian Museum Business Services (AMBS) was commissioned by the NSW Department of Planning and Infrastructure to prepare an Aboriginal heritage assessment for the Austral and Leppington North Precincts of the South West Growth Centres (SWGEC).

The AMBS study was important for the establishment of areas of archaeological potential in the Austral and Leppington North Precinct and its contribution to predictive modelling for artefact distribution and density within the area. This model is based primarily on proximity to water courses and the level of ground disturbance within an area. AMBS defined disturbance areas in Austral and North Leppington as:

- High disturbance – “road corridors, underground gas pipelines, dams, and properties classified as childcare centres, churches, commercial, community halls, industrial, market gardens, poultry, Rebels club, residential/retirement village and schools, as well as the SWRL corridor which will be constructed in the near future”.
- Moderate disturbance – “Transmission lines and properties classified as dual occupancy/large residential”.
- Low disturbance - “Properties classified as parks, significant vegetation / bushland, and vacant / grazing/ developable.”

The AMBS report recommended that conservation zones be established for areas of moderate and high archaeological potential. Where this is not possible, detailed Aboriginal heritage impact assessments of site-specific development areas was recommended to be undertaken including, if necessary, archaeological test excavation.

Artefact Heritage, 2012. *The Northern Road upgrade from The Old Northern Road, Narellan to Mersey Rd, Bringelly – Aboriginal Archaeological Survey Report*. Prepared for Roads and Maritime Services (RMS).

Artefact Heritage were previously engaged by Sinclair Knight Merz (SKM), on behalf of the NSW Roads and Maritime Services (RMS), to conduct an Aboriginal archaeological survey and assessment report for the proposed upgrade of the Northern Road. The proposed upgrade included 15km of the Northern

Road between the Old Northern Road, Narellan and Mersey Road, Bringelly located within the Camden and Liverpool LGAs.

An initial desktop assessment, including an extensive search of the AHIMS database, identified eighteen Aboriginal sites within the study area. Fourteen previously unrecorded Aboriginal sites were identified in the site survey, with two of the sites being re-recordings of previous sites. Five of the sites were artefacts scatters and nine were isolated finds. Four previously recorded sites and PADs within the study area were found to be either destroyed or disturbed and five were found to be subject to existing AHIPS.

The survey resulted in the identification of twenty-four Aboriginal sites within the study area, with seven sites located more than 20m outside of the study area and two new sites more than 50m outside. Fifteen sites were identified as being directly impacted by the proposal. Ten sites were assessed as having a low archaeological significance and five were assessed as having a moderate archaeological significance.

Recommendations included that salvage excavations be conducted for the five sites with moderate archaeological significance that could not be avoided by the proposed works and that an Aboriginal Heritage Impact Permit (AHIP) be sought prior to any impacts.

Eco Logical Australia, 2016. Camden Lakeside Golf Club Residential Development Application – Aboriginal Heritage Due Diligence. Prepared for SH Camden Valley Pty Ltd.

Eco Logical Australia (ELA) was previously engaged by SH Camden Lakeside Pty Ltd (SH) to prepare an Aboriginal Heritage Due Diligence Assessment (ADD) to support a Development Application (DA) for a residential development at Camden Lakeside Gold Club, 50 Raby Road Gledswood Hills, located approximately 10.8km southeast of the current study area.

A desktop assessment, including an extensive AHIMS search, did not identify any Aboriginal sites or objects within the study area. Two sites were identified within 50m of the study area (AHIMS ID 52-2-4107), an isolated stone artefact 10m from the study area and (AHIMS ID 52-2-3311), a stone artefact scatter of 12 artefacts located 13m from the study area.

A site survey noted that the study area had been subject to a high level of soil disturbance in association with the existing golf course, including native vegetation clearing, levelling of the land and the creation of fairways for golf buggies and vehicles. The two previously recorded AHIMS sites were found to be outside of the study area and would not be impacted by the proposed works and no new Aboriginal sites were recorded. Recommendations for the two sites located within 50m included a fence be built around them to avoid impacts during the proposed site works.

As a result of the desktop assessment and site survey which identified extensive disturbance due to the golf course construction, the study area was considered to be of low archaeological potential. In line with previous archaeological assessments which did not recommend further assessments be undertaken in the study area, recommendations included that no further archaeological assessments were warranted, and works should proceed with caution.

Eco Logical Australia, 2019. 365 – 405 Denham Court Road, Leppington: Aboriginal Cultural Heritage Assessment. Prepared for Stockland.

ELA was engaged by Stockland to prepare an ACHA for the proposed residential subdivision of three lots at 365-405 Denham Court Road, Leppington, NSW, located approximately 15km south-east of the current study area in a similar landform. The proposed works consisted of the design and construction of 223 residential lots as well as associated infrastructure.

Background research identified two registered AHIMS sites within the study area. Field survey identified varying levels of disturbance across the properties. The cause of disturbance within the study area was primarily construction of residential dwellings, infrastructure (such as sewerage lines) and past agricultural practices. The area of highest potential was within 395 Denham Court Road. Each of the three lots were targeted for test excavation in areas considered the least disturbed and that possessed the highest archaeological potential due to surrounding landscape features.

A test excavation program was conducted at three locations within the study area. The test excavation program consisted of a total of 19 test pits across the 3 testing locations. All test pits were 50cm x 50cm in size and resulted in the retrieval of 35 lithic artefacts. Low density subsurface artefact scatters were identified in two of the three testing locations. The test excavations resulted in the identification of no new Aboriginal sites and confirmed low density subsurface assemblages associated with two previously registered sites.

The presence of subsurface artefacts within the study area drops considerably the further the test pits were from an established, second-order watercourse to the north (Bonds Creek). Transect A was placed in the least disturbed portion of the study area and yielded the highest recovery of subsurface artefacts (n=28). Transect A was also the closest of the three transects to Bonds Creek. The distribution of the limited subsurface assemblage across the current study area is consistent with current predictive models for Aboriginal land use which states that third-order creeks and above were often the locations of repeated and sustained occupation sites while low artefact density artefact assemblages identified over 200m from higher order watercourses are considered consistent with brief, potentially one off, occupation events.

Kelleher Nightingale Consulting Pty Ltd., 2019. Prospect South to Macarthur System Drinking Water Link Aboriginal Cultural Heritage Assessment. Prepared for Sydney Water.

As part of the Prospect South to Macarthur System Drinking Water Link project for Sydney Water, Kelleher Nightingale Consulting (KNC) conducted an Aboriginal Cultural Heritage Assessment (ACHA). Their study area includes a lot within the current study area (Lot 2 DP 1241819). The wider study area stretched across the Camden, Campbelltown, Fairfield, and Liverpool LGAs. Within the study area, there are eight (8) existing AHIPs and eleven (11) Aboriginal sites.

As part of the ACHA, KNC conducted a field survey with LALC participation. The survey resulted in the identification of eight (8) additional sites. Most relevant to the current study area is AHIMS ID 45-5-5282 ('Denbigh Trig AFT 1') located within the study area (Lot 2 DP 1241819), which was assessed to possess moderate significance with moderate archaeological research potential due to low levels of ground disturbance, the presence of surface artefacts and an elevated position on a prominent ridgeline.

Denbigh Trig AFT 1 consisted of five silcrete surface artefacts across three areas of surface exposure. KNC mapped areas of PAD associated with surface artefacts.

In the ACHA, KNC recommended further investigation be conducted for sites possessing moderate potential, including Denbigh Trig AFT 1 which would be partially impacted under the scope of works. As part of the mitigation measures prior to any impact, KNC recommended salvage excavations be conducted within the areas mapped as PAD and an AHIP be issued for the impact area.

ELA understands that salvage excavation has subsequently been conducted and an AHIP has been issued over the impact area (AHIP C0005620). Multiple attempts were made to attain the accompanying report and updated site card, though were ultimately unsuccessful.

Niche Environment and Heritage, 2019. Aboriginal Cultural Heritage Assessment Report South Creek West Precinct (South-West) Release Area Rezoning, The Northern Road Bringelly, NSW. Prepared for BHL Group.

Niche Environment and Heritage (Niche) was previously engaged by Boyuan Holdings Limited (BHL Group) to conduct an Aboriginal Cultural Heritage Assessment Report for the rezoning of the South Creek West Release Area (South-West) Precinct. This area comprised of the current study area; however, Niche did not complete their assessment. The study area comprised of five separate lots that were zoned for primary production and had been used for agriculture, primarily cattle grazing. Previous archaeological assessments, the desktop assessment and visual inspection that was completed for the report indicated that the proposed rezoning of the study area could potentially impact five registered AHIMS sites (AHIMS ID 45-5-3359, AHIMS ID 45-5-5282, AHIMS ID 45-5-3542, AHIMS ID 45-5-4139 and AHIMS ID 45-5-3543).

The study area comprised of the lots (Lot 2 DP1216380, Lot 4 DP1216380, Lot 102 DP1217062, Lot 500 DP1231858 and Lot 45 DP1104369). A desktop assessment and AHIMS search identified 79 recorded Aboriginal sites and no Aboriginal places within the vicinity of the study area, and 5 sites were recorded as being within the study area. The study area was found to contain several landscape features, including raised level creek terraces along tributaries of Cobbitty, South and Lowes Creek which have the potential to yield surface and or buried Aboriginal objects. Due to the proximity of permanent water sources and the landscape, the study area was considered to have a high archaeological potential. However, according to previous investigations and predictive models, the wider region was thought to have been sporadically used by past Aboriginal people.

5.2.2 Database searches

AHIMS SEARCH

The AHIMS database maintained by Heritage NSW and regulated under Section 90Q of the *National Parks and Wildlife Act 1974*. The AHIMS database holds information and records regarding the registered Aboriginal archaeological sites (Aboriginal objects, as defined under the Act) and declared Aboriginal places that exist in NSW.

A search of the AHIMS database was conducted on 8 July 2021 to identify if any registered Aboriginal sites were present within the study area (Appendix A). The search covered 3 km surrounding the study

area to understand the known archaeological resource and provide an understanding of the types of features that might be present in the current landscape.

Table 3: Parameters for the AHIMS database search and results

Search Parameters		Search Result	
GDA Zone	56	Aboriginal sites recorded	112
Eastings	286938-292938	Aboriginal places declared	0
Northings	6232975-6239975		
Buffer	0m		

The extensive search identified a total of 112 Aboriginal sites within the search parameters. The distribution of recorded Aboriginal sites adjacent to the study area is shown in Figure 9. The frequencies of site types and contexts recorded within the AHIMS database search area are listed below.

Table 4: Frequencies of site types

Site Features	Number	%
Artefact	85	75.8
Potential Archaeological Deposit (PAD)	5	4.5
Artefact, PAD	16	14.3
Art (Pigment or Engraved), PAD	1	0.9
Modified Tree (Carved or Scarred)	5	4.5
Total	112	100

The majority of Aboriginal sites within the search parameters are artefact scatters or isolated finds (75.8%), followed by Potential Archaeological Deposits (PAD) with artefacts (14.3%).

Three (3) Aboriginal sites have been identified by the AHIMS search as located within the study area (Table 5).

Table 5: AHIMS sites within the study area

AHIMS ID	Site name	Site features	Description
45-5-3359	OPD-6	Artefact	Recorded by Jo McDonald Cultural Heritage Management (2007) for the archaeological assessment of South West Growth Centre. The site card identifies the site as being 3 m from a water source (first order tributary). The site is comprised of a low-density lithic scatter with artefacts visible on erosion at edges of tributaries south of dam, located approximately 1.2 km north east of Denbigh Homestead. The artefacts include 1 x red silcrete scraper, 3 x tuff fragments and 5 x quartz fragments.
45-5-5282	Denbigh Trig AFT 1	Artefact	Recorded by Kelleher Nightingale Consulting (KNC) (2019) as part of the prospect south to Macarthur drinking water link. The site card describes the location as 400 m west of the Northern Road at Denbigh Trig Station. The site is comprised of five silcrete artefacts across three areas of surface exposures within vehicle tracks on the crest of the hill. KNC subsequently conducted salvage excavations, however further information concerning the results,

AHIMS ID	Site name	Site features	Description
			analysis, or methodology could not be attained. AHIP C0005620, which encompasses Denbigh Trig AFT 1 and the impact area, has since been issued. The status of AHIMS ID 45-5-5282 is 'Destroyed'.
45-5-4139	TNRU3	Artefact	Recorded by Artefact Heritage (2011) as part of the Northern Road upgrade. The site is comprised of an isolated artefact – 1 x pink silcrete flake. The artefact was identified within a small exposure within a paddock, beginning at the entrance to the Maryland Homestead.

LOCAL, STATE AND NATIONAL HERITAGE REGISTERS

Searches of the Australian Heritage Database, the State Heritage Register (SHR), the *Camden LEP 2010* and the *SEPP (Sydney Region Growth Centres) 2006* utilising the terms “The Northern Road/Cobbitty/Bringelly” were conducted on 8 July 2021 in order to determine if any places of Aboriginal significance are located within the study area.

No Aboriginal sites or heritage items with Aboriginal significance were recorded on these databases within the study area.

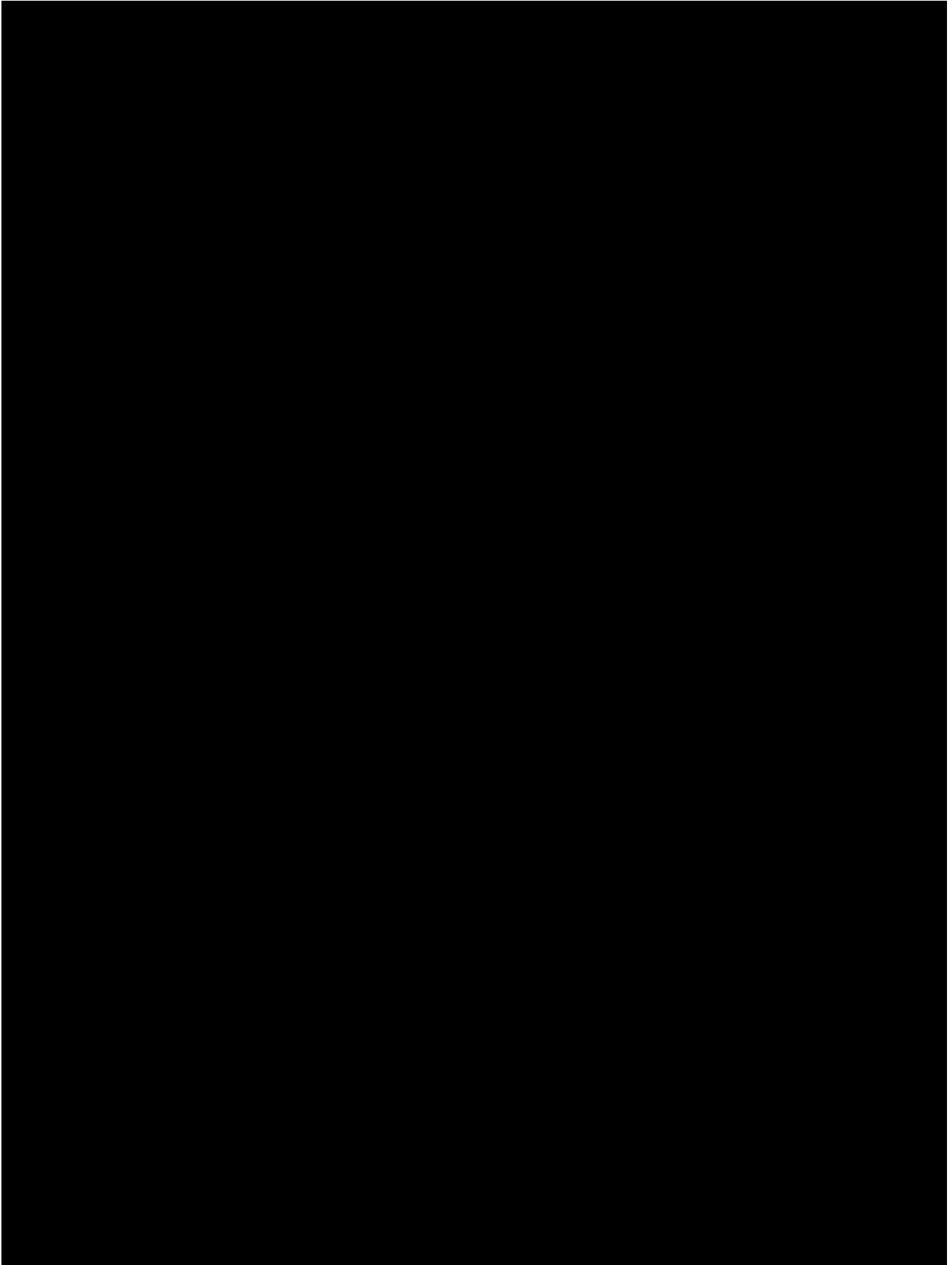


Figure 8: Regional overview of AHIMS sites surrounding the study area

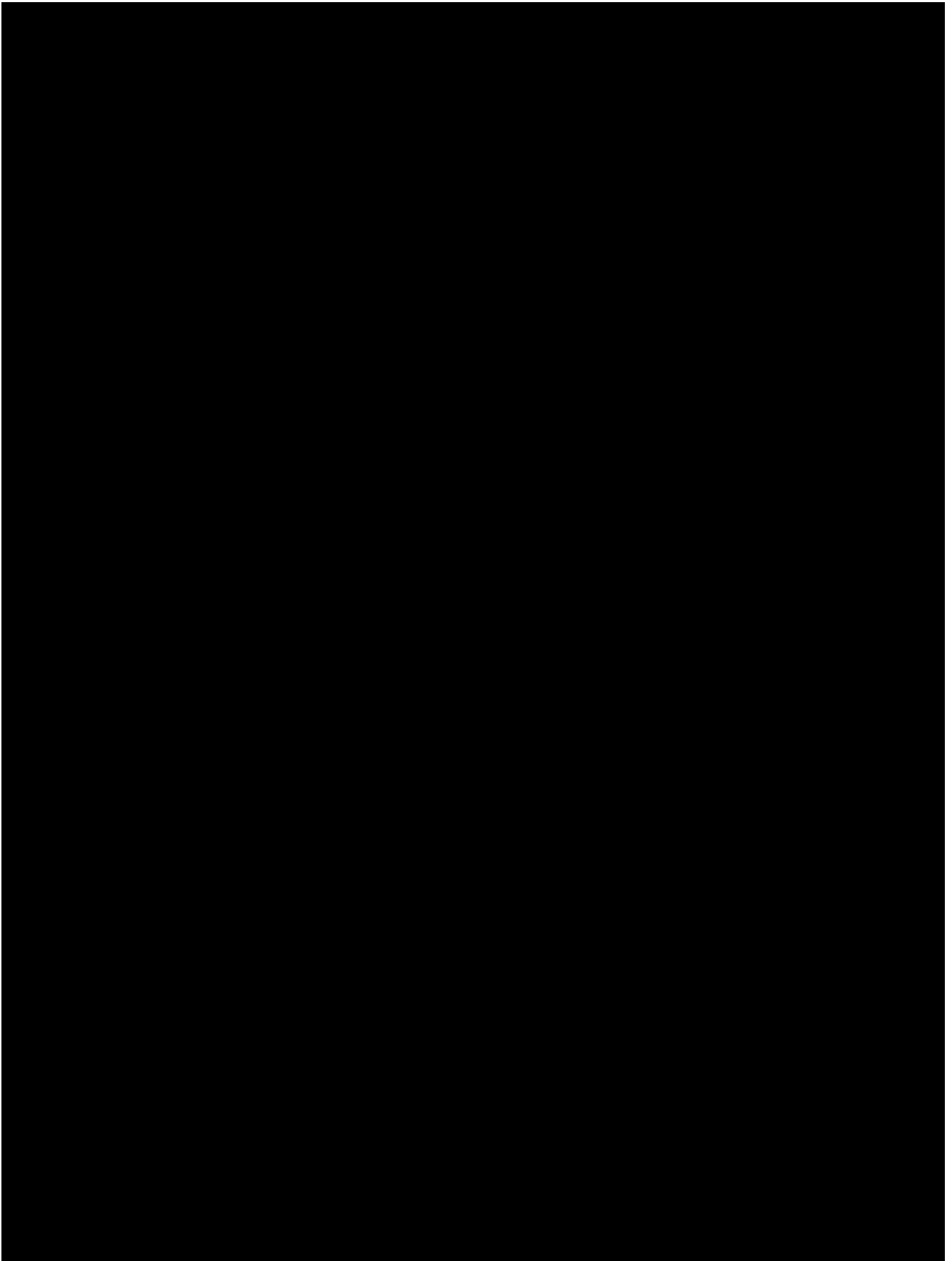


Figure 9: AHIMS sites within and proximity to the study area

5.3 Landscape sensitivity

A sensitive landscape is an area that has the potential for Aboriginal sites and potential archaeological material to be present. According to the *Due Diligence Code of Practice* (DECCW 2010a), sensitive landscapes can include areas:

- Within 200m of waters
- Located within a sand dune system
- Located on a ridge top, ridge line, headland
- Located within 200m below or above a cliff face
- Within 20m of or in a cave, rock shelter, or a cave mouth; and is on land that is not disturbed land

The *Due Diligence Code of Practice* (DECCW 2010a:18) defines disturbed land as areas that have any land that:

“Has been the subject of a human activity that has changed the land’s surface, being changes that remain clear and observable. Examples include ploughing, construction of rural infrastructure (such as dams and fences), construction of roads, trails and tracks (including fire trails and tracks and walking tracks), clearing vegetation, construction of buildings and the erection of other structures, construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure) and construction of earthworks.”

The sensitivity mapping for the study area considers the above guidelines, ground disturbance, predictive modelling formulated by previous investigations and soil landscape characteristics (Figure 10). Following the archaeological survey investigations areas of sensitivity may be updated if Aboriginal objects or evidence of Aboriginal land use area identified.

HIGH SENSITIVITY

Areas of high sensitivity represent landform features that contain known Aboriginal objects or are likely to contain evidence of Aboriginal land use. These areas exhibit nil to low levels of disturbance.

MODERATE SENSITIVITY

Areas of moderate sensitivity are in close proximity to areas of high sensitivity or represent landform features that are likely to contain evidence of Aboriginal land use. These areas exhibit low to moderate levels of disturbance.

LOW SENSITIVITY

Areas of low sensitivity represent landform features that have been heavily disturbed from prior and current land use. They also represent landform features that are unlikely to contain evidence of Aboriginal land use.

5.4 Predictive Model

Based on the material evidence and range of Aboriginal sites across the region, it is clear that Aboriginal people have been utilising the land and resources within the South West Sydney region for thousands of years. The predictive model outlined in Table 6 below has been developed for the study area based on the AHIMS search results, landscape assessment and regional and local Aboriginal archaeological context outlined above.

Table 6: Predictive model

Site Type	Description	Likelihood to occur
Open camp sites/stone artefact scatters/isolated finds	Open camp sites represent past Aboriginal subsistence and stone knapping activities and include archaeological remains such as stone artefacts and hearths. This site type usually appears as surface scatters of stone artefacts in areas where vegetation is limited, and ground surface visibility increases. Isolated finds may represent a single item discard event or be the result of limited stone knapping activity. The presence of such isolated artefacts may indicate the presence of a more extensive, in situ buried archaeological deposit, or a larger deposit obscured by low ground visibility.	High. The proximity to South Creek and other streams, combined with minimal historic disturbance, there is sensitivity for Aboriginal objects. Furthermore, there are AHIMS sites within the study area identifying camp sites and artefact scatters.
Potential Archaeological Deposit	Potential Archaeological Deposits (or PADs) are areas where there is no surface expression of stone artefacts, but due to a landscape feature there is a strong likelihood that the area will contain buried deposits of stone artefacts.	High. The occurrence of artefact sites within the study area and areas of low disturbance within certain soil landscapes suggests a high likelihood for PADs.
Scarred or carved trees	Tree bark was utilised by Aboriginal people for various purposes, including the construction of shelters (huts), canoes, paddles, shields, baskets and bowls, fishing lines, cloaks, torches, and bedding, as well as being beaten into fibre for string bags or ornaments (sources cited in Attenbrow 2002: 113). Trees may also have been scarred in order to gain access to food resources (e.g., cutting toe-holds so as to climb the tree and catch possums or birds), or to mark locations such as tribal territories. Such scars, when they occur, are typically described as scarred trees.	Low. Across a majority of the study area, native vegetation has been cleared, though there are clusters of native trees.
Axe grinding grooves	Grinding grooves are the physical evidence of tool making or food processing activities undertaken by Aboriginal people. The manual rubbing of stones against other stones creates grooves in the rock; these are usually found on flat areas of abrasive rock such as sandstone.	Low. Desktop assessment does not suggest sandstone exposure required for grinding grooves within the study area.
Bora/ceremonial	Aboriginal ceremonial sites are locations that have spiritual or ceremonial values to Aboriginal people. Aboriginal ceremonial sites may comprise natural landforms and, in some cases, will also have archaeological material. Bora grounds are a ceremonial site type, usually consisting of a cleared area around one or more raised earth circles, and often comprised of two circles of different sizes, connected by a pathway, and accompanied by ground drawings or mouldings of people, animals or deities, and geometrically carved designs on the surrounding trees.	Low to moderate. Whilst the AHIMS search and land formation does not suggest the study area is a bora/ceremonial site, these sites can often be intangible and informed only by oral history and cultural knowledge.

Site Type	Description	Likelihood to occur
Burial	Mortuary practices often took place in proximity to camp sites, as most people tended to die in or close to camp and it is difficult to move a body over a long distance. Soft, sandy soils on or close to rivers and creeks allowed for easier removal of earth for burial. Similarly, rock shelters or middens also provided accessible burial places. Burial sites may be marked by stone cairns, modified trees, or a natural landmark. They may also be identified through historic records or oral histories.	Low. While the study area is in close proximity to creek lines and within a landscape of sandy soils, prior subsurface testing has documented a moderately shallow soil depth within the study area.
Contact/historical sites	Artefacts located at such sites may involve the use of introduced materials such as glass or ceramics by Aboriginal people or be sites of Aboriginal occupation in the historical period.	Low. No AHIMS sites in proximity to the study area record contact/historical sites.

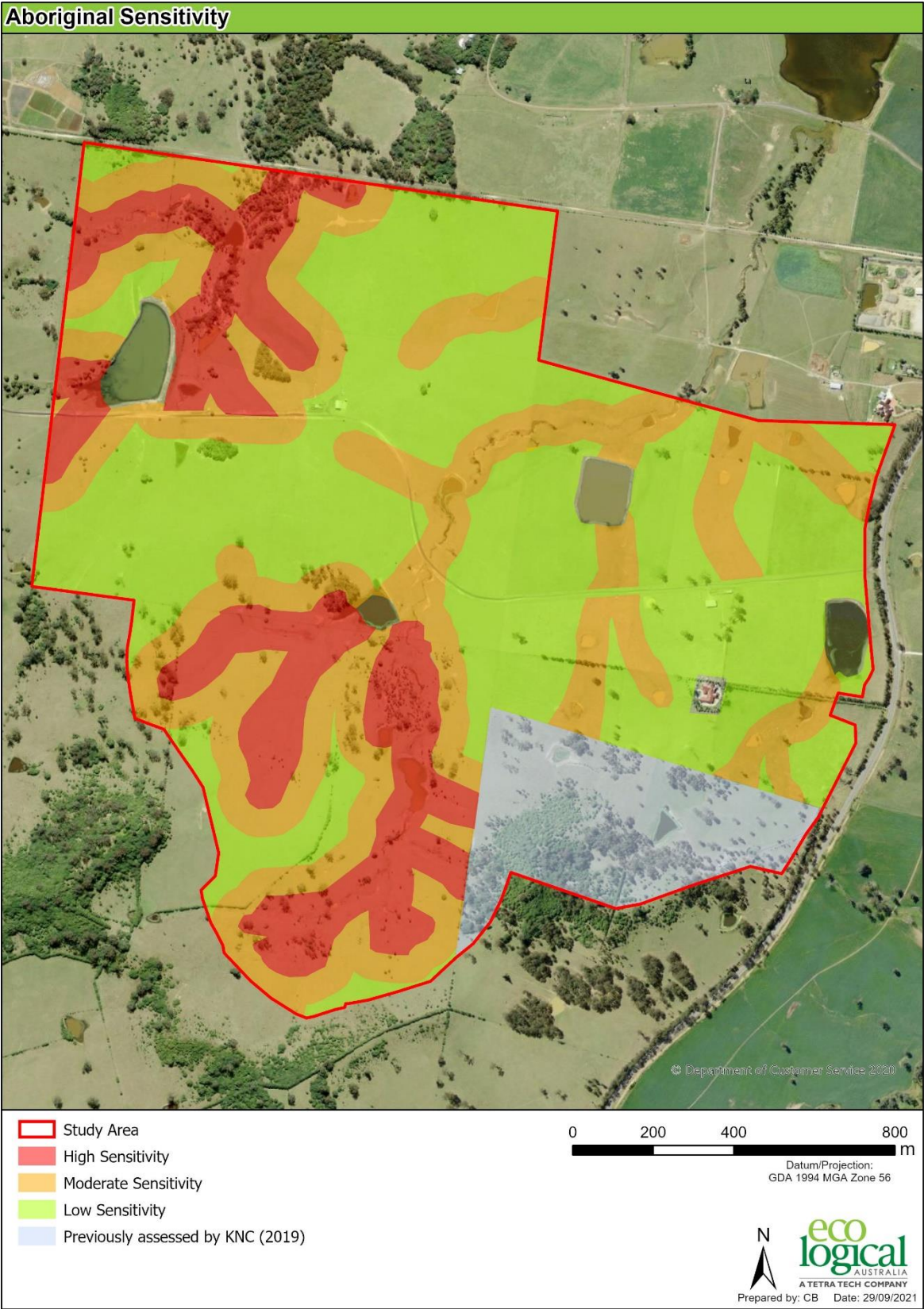


Figure 10: Sensitivity for Aboriginal sites within the study area

6. Archaeological survey

6.1 Purpose

The purpose of the survey was to assess the current condition of the site and to identify any unrecorded Aboriginal sites or objects. Areas of subsurface archaeological potential identified in the desktop assessment were also inspected and potential areas for archaeological testing were considered.

6.2 Survey strategy

Archaeological survey of the study area was conducted on foot, in accordance with the Code of Practice. The overall strategy was to complete a full coverage survey, as the entire study area will be impacted by the proposed works. A handheld Global Positioning System (GPS) was used to track the survey area covered and record the location of key features (disturbances, areas of archaeological sensitivity/potential). The coordinate system projection used for all site recording was GDA94 MGA 56.

The field survey methodology was as follows:

- Record the landform, general soil information, surface conditions and vegetation conditions encountered during the survey and how these impact on the visibility of objects
- Define the boundaries of any Aboriginal sites and areas of PAD based on landmarks and historical maps
- Reinspect previously identified Aboriginal sites and areas of archaeological potential within the study area
- Identify areas of disturbance which may have impacted the presence of intact soils and archaeological features
- Consultation with Aboriginal representatives to discuss the proposal and the intangible cultural heritage values of the study area
- Collect information to ascertain whether further archaeological investigation is required.

All ground exposures were examined for Aboriginal objects (stone artefacts, imported shell, or other traces of Aboriginal occupation and old growth trees were examined for signs of cultural scarring and marking.

A photographic record was kept during the survey. Photographs were taken to record aspects of survey units including vegetation and disturbance. Scales were used for photographs where appropriate.

6.2.1 Site definition and recording

An Aboriginal site is generally defined as an Aboriginal object or place. An Aboriginal object is the material evidence of Aboriginal land use, such as stone tools, scarred trees, or rock art. Some sites, or Aboriginal places can also be intangible and although they might not be visible, these places have cultural significance to Aboriginal people.

The Heritage NSW guidelines state in regard to site definition that one or more of the following criteria must be used when recording material traces of Aboriginal land use:

- The spatial extent of the visible objects, or direct evidence of their location.

- Obvious physical boundaries where present, e.g., mound site and middens (if visibility is good), a ceremonial ground.
- Identification by the Aboriginal community on the basis of cultural information.

For the purposes of this study an Aboriginal site would be defined by recording the spatial extent of visible traces or the direct evidence of their location.

6.2.2 Protocol for recording Potential Archaeological Deposits

Where areas of PAD are identified towards the margins of each survey unit, efforts must be made by the survey team to delineate each area of potential beyond the survey unit. Where the extent of the PAD extends beyond the survey unit, efforts must be made to map the extent of that feature up to approximately 70 m outside the survey unit. If it is likely that these PADs continue beyond that point, the survey team must justify that the distance is adequate to provide an accurate representation of the PAD with regard to future planning and design for the project.

6.3 Timing and personnel

The field survey was conducted on 27 August 2021 by ELA Archaeologists Jennifer Norfolk and Charlotte Bradshaw and field officer Rebecca Chalker from Cubbitch Barta Native Title Claimants Aboriginal Corporation. An accompanying report authored by Rebecca Chalker outlining the findings of the field survey is included in Appendix B.

6.4 Limitations

Access to large portions of the study area was not possible so predictions and further assessment required is based on the sampling of landforms in accessible sections of the study area. Due to dense grass coverage across a majority of the study area, there was low surface visibility so predictions regarding the potential for further subsurface archaeological materials to exist within the study area is based on evidence from surface indications, environmental contexts, local artefact distribution patterns and previous archaeological excavations in the area. As such, it is noted that some sub-surface archaeological material may survive in particular areas despite current evidence suggesting that they do not.

6.5 Survey results

6.5.1 Survey Unit 1

Survey Unit 1 (SU1) is located east of the third order drainage line on a relatively flat landform with a gentle west-east slope. The overall landform has gentle undulations and there are depressions in the landform caused by gully erosion and the changing course of the waterways (Figure 15). Vegetation has historically been cleared across SU1. Amongst the isolated clumps of open woodland, there were very few mature growth trees. All mature trees were inspected for evidence of cultural scarring though nothing was identified. Overall, there was low visibility with thick grass coverage across a majority of SU1. Areas of surface visibility and exposures were found along the drainage line. Surface visibility amounted to 15% and there were only minor soil exposures amounting to 10%. An isolated red silcrete flake (Figure 13) was identified in an eroded patch east of the dam (AHIMS ID 45-5-5518) (Figure 14). Three areas of PAD were identified within SU1, in flat, sheltered areas in close proximity to water with little evidence of ground disturbance.



Figure 11: Facing east at the northern-most point of SU1, showing the relatively flat landform which rises to a moderate slope further west



Figure 12: Facing south, parallel to the creek line, showing the gentle undulations in the landform



Figure 13: The red silcrete isolated find (AHIMS ID 45-5-5518) located near the dam



Figure 14: The landscape context for AHIMS ID 45-5-5518



Figure 15: Facing south-west within the dry creek bed of the drainage line, showing the slopes caused by gully erosion



Figure 16: Facing east, showing a raised, flat landform adjacent to the creek

6.5.2 Survey Unit 2

Survey Unit 2 (SU2) is located along the western bank of the third order drainage line. Overall, the landform gently slopes west-east towards the drainage line. The drainage line has been dammed and modified for pastoral use (Figure 22). The vegetation within the area is characterised by isolated clumps of open woodland dispersed along the drainage line (Figure 23). The species are predominately native and of young growth. Trees identified to be of mature growth were inspected for any signs of cultural scarring, however none were identified. Soil exposures were present in areas of gully erosion associated with the drainage line. The exposures towards the southern end of SU2 show an A Horizon of ~400 mm depth, of loamy sand overlaying hard-setting medium clay (Figure 20). Further north, soil exposures reveal a moderately shallow A Horizon of loamy sand overlaying hard-setting clay mixed with decomposing sandstone bedrock (Figure 24). Overall, SU2 possessed surface visibility of 30% and exposure of 20% due to erosion and visibility within dry creek beds.

One known Aboriginal site was re-identified, and one new Aboriginal site was recorded. A red silcrete flake was identified a short distance from where AHIMS ID 45-5-3359 was previously plotted and fits the description of the “red silcrete thumbnail scraper” outlined in the site card (Jo McDonald Cultural Heritage Management, 2007) (Figure 18). A mudstone flake was identified within a dry patch within the creek bed (Figure 19). Three areas of PAD were identified within SU2, within relatively flat, sheltered areas in close proximity to water.



Figure 17: Facing west, showing the gentle south-north sloping and gentle undulations in the landform



Figure 18: An artefact from the AHIMS ID 45-5-3359 artefact scatter re-identified



Figure 19: The mudstone isolated find (AHIMS ID 45-5-5517) identified within the creek bed



Figure 20: Soil exposure within the drainage line



Figure 21: Facing south within the creek line, showing the soil exposures surface visibility from gully erosion



Figure 22: Facing north next to the large dam



Figure 23: Facing north, within a cluster of open woodland parallel to the creek, showing a relatively flat and sheltered landform



Figure 24: Soil exposure in the northern-most section of SU2

6.5.3 Survey Unit 3

Survey Unit 3 (SU3) is characterised by low rolling hills. The landform slopes west-east from the hill situated just west of the study area. The northern-most portion of SU3 reaches the highest point within the survey area. A majority of SU3 has been cleared of vegetation. Surface visibility was most evident surrounding trees and in areas disturbed by vehicular activity (Figure 26 and Figure 27).

Overall, there was low surface visibility amounting to 7% and minor soil exposures amounting to 2%. No new Aboriginal objects or sites were identified during the coverage of this survey unit.



Figure 25: Facing west, at the northern-most section of SU3, showing the mid-slope and moderate rise towards the hill further west



Figure 26: Facing north-east, showing the undulations in the landform and ground disturbance caused by vehicular activity



Figure 27: Minor surface visibility in SU3, predominately surrounding tree growth



Figure 28: Facing south, showing the surface visibility on mid-slopes and disturbance

6.5.4 Survey Unit 4

Survey Unit 4 (SU4) is located on a south-west to north-east gently sloping landform that descends to a flat along the creek bank in the north-eastern portion. Due to the extensive erosion within the old drainage line, there is moderate surface visibility and soil exposures, amounting to 15% surface visibility and 10% exposure. Soil exposure within a large erosion scour revealed intact soil deposits with approximately 300-400 mm A Horizon (Figure 31). A majority of the study area has been cleared of vegetation. Isolated clumps of trees remain in the north-west portion of SU4.

One isolated artefact was identified within an erosion scour south of the fence line (Figure 30). The artefact is a red silcrete flake (Figure 32). Outside the surveyable study area, north of the fence line, an artefact scatter was identified (Figure 33). A total of six artefacts were identified within the scatter, including one volcanic fine-grained siliceous (FGS) flake, one yellow silcrete flake, one beige chert flake, one tuff flake and two red silcrete flakes. They have likely washed down from an upper deposit. Two areas of PAD were identified during the survey within relatively flat, sheltered areas in close proximity to water and where artefacts were identified.



Figure 29: Facing north-west, showing the west-east sloping landform from the lower slope



Figure 30: Facing west, showing the erosion scour at the eastern-most portion of SU4



Figure 31: Soil exposure within erosion scour, showing intact soil deposits



Figure 32: The isolated find (AHIMS ID 45-5-5520) identified within the erosion scour



Figure 33: Facing north-west, within an eroded patch north of the fence line, outside the study area



Figure 34: Two artefacts from the AHIMS ID 45-5-5519 scatter

6.6 Survey coverage

In accordance with Heritage NSW *Code of Practice* the study area was surveyed in relation to survey units, landforms, and landscapes.

Table 7: Survey coverage

Survey Unit	Landform	Survey Unit Area (m ²)	Visibility (%)	Exposure (%)	Effective coverage (ECA)	Effective coverage %
SU1	Lower slope	15,937	0	0	0	0
	Flat	10,298	15	10	154.47	1.5
SU2	Lower slope	16,967	0	0	0	0
	Flat	9,829	10	5	49.15	0.5
	Creek bank	24,712	20	15	741.36	3
SU3	Slope	59,713	7	2	83.6	0.14
SU4	Slope	40,925	0	0	0	0
	Creek bank	13,105	15	10	196.6	1.5

Table 8: Landform summary

Landform	Landform area	Area effectively surveyed	% landform effectively surveyed	Number of sites	Number of artefacts or features
Lower slope	32,904	0	0	0	0
Slope	100,638	83.6	0.08	0	0
Creek bank	37,817	937.96	2.48	4	12
Flat	20,127	203.62	1.01	1	1

The field survey identified that a majority of the surveyable study area has undergone low levels of disturbance, primarily due to vegetation clearance and livestock activities. There was moderate surface visibility and soil exposure across all survey units, primarily in association with the gully erosion within the drainage line.

A total of four (4) new Aboriginal sites and nine (9) areas of PAD were identified as a result of the survey. Furthermore, AHIMS ID 45-5-3359 was successfully re-identified. All mature trees were inspected however there was no evidence of cultural scarring. Areas that have been subject to previous archaeological investigations (Lot 2 DP 1241819) will not require further investigation.

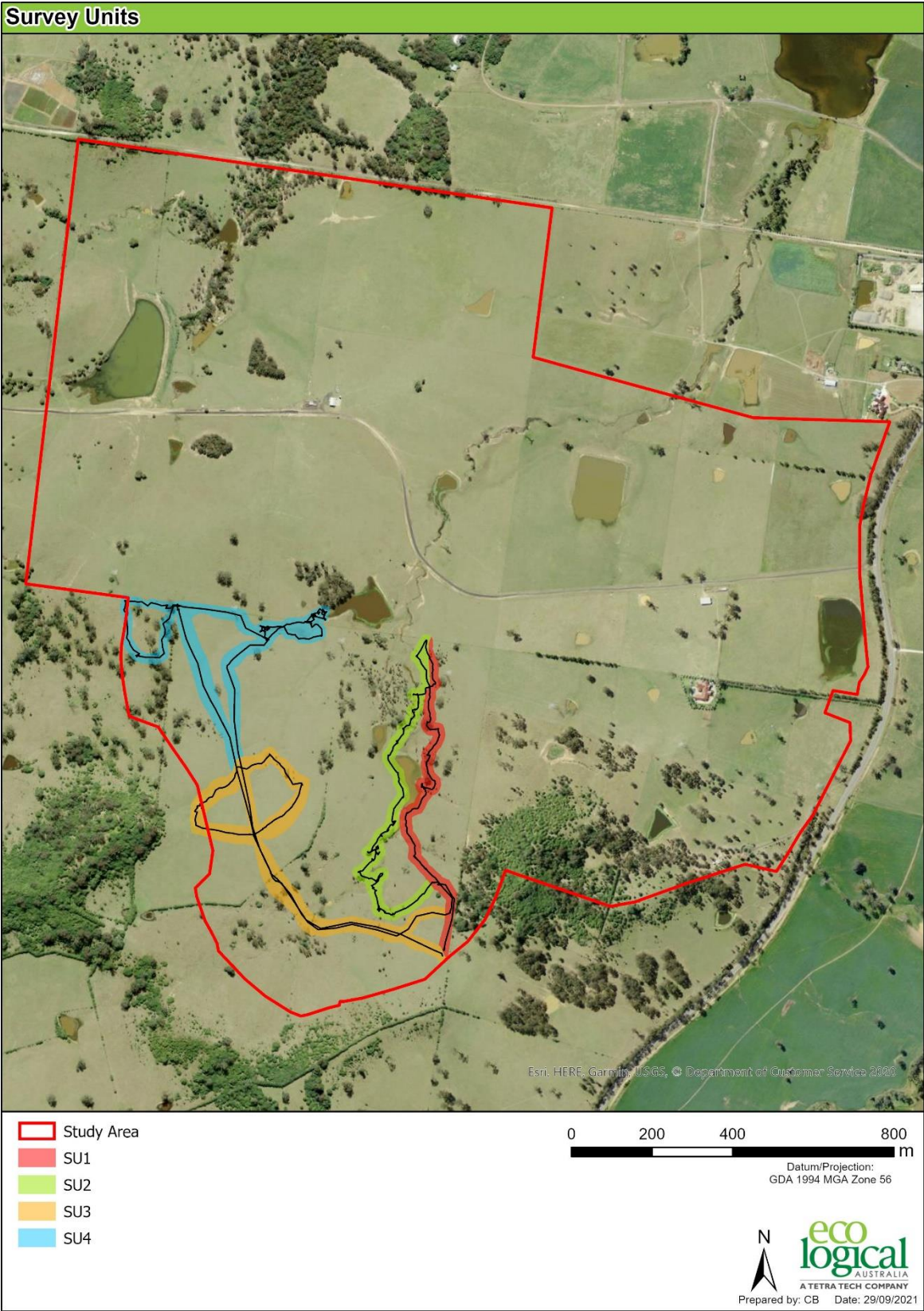


Figure 35: Study area divided into survey units

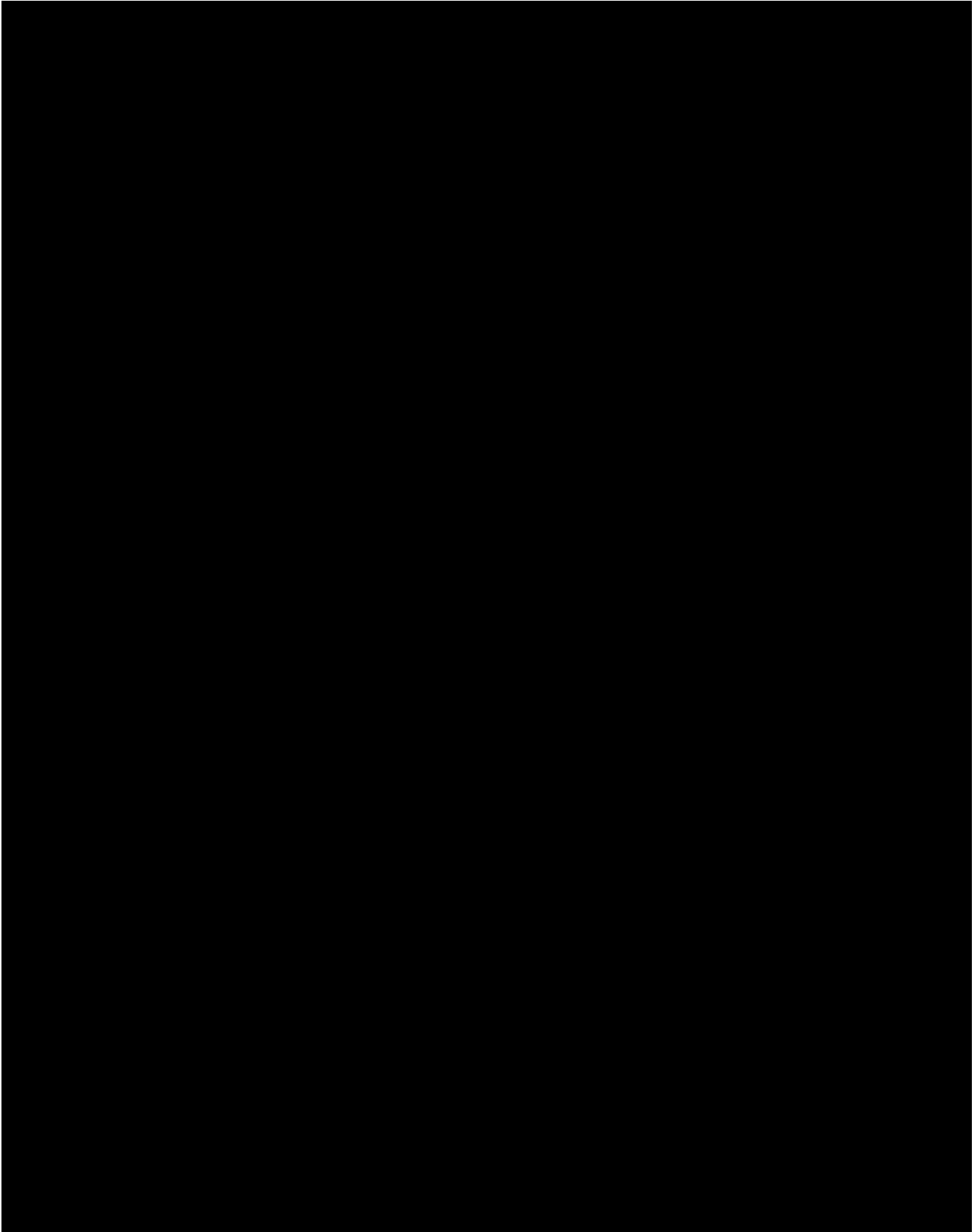


Figure 36: Survey results

6.7 Discussion

The study area possesses sensitive landforms due to the presence of a third order drainage line and the low ground disturbance across a majority of the study area. A total of four (4) new Aboriginal sites and nine (9) areas of PAD were identified as a result of the survey. Furthermore, AHIMS ID 45-5-3359 was successfully re-identified. As a majority of the study area was not accessible to survey, more detailed surveying needs to be conducted as part of any future assessments. This is consistent with the advice provided by Rebecca Chalker of Cubbitch Barta Native Title Claimants who was in attendance for the survey (Appendix C).

7. Scientific values and significance assessment

7.1.1 Significance assessment criteria

This significance assessment has been undertaken in accordance with the Guide to Investigating Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales (OEH 2011). Archaeological significance refers to the archaeological or scientific importance of a landscape or area. This is characterised by using the archaeological criteria such as archaeological research potential, representativeness and rarity of the archaeological resource and potential for educational values. These are outlined below:

- Research potential: does the evidence suggest any potential to contribute to an understanding of the area and/or region and/ or states natural and cultural history?
- Representativeness: how much variability (outside and/or inside the study area) exists, what is already conserved, how much connectivity is there?
- Rarity: is the study area important to demonstrating a distinctive way of life, custom, process, land-use, function or design no longer practised? Is it in danger of being lost or of exceptional interest?
- Education potential: does the study area contain teaching sites or sites that might have teaching potential?

7.1.2 Scientific significance assessment

Artefact sites make up 75.9% of the site features in the 3 km area surrounding the study area and are well represented in the regional archaeological record. Previous investigations both within and in the vicinity to the study area have identified predominately low-density artefact scatters. The raw materials of the artefacts identified within the study area are all locally acquired and are not indicative of long-distance trade. This significance assessment addresses only the scientific significance. Cultural significance can only be informed by consultation with the local Aboriginal community.

A summary of the scientific significance of AHIMS sites identified during archaeological survey is presented in Table 9.

Table 9: Scientific significance assessment

Site name (AHIMS ID)	Research potential	Representative	Rarity	Education potential	Scientific Significance
(AHIMS ID 45-5-3359)	Low	Low	Low	Low	Low
Denbigh IF1 (AHIMS ID 45-5-5517)	Low	Low	Low	Low	Low
Denbigh IF2 (AHIMS ID 45-5-5518)	Low	Low	Low	Low	Low
Denbigh IF3 (AHIMS ID 45-5-5520)	Low	Low	Low	Low	Low
Denbigh AS1 (AHIMS ID 45-5-5519)	Low	Low	Low	Low	Low
PAD	Unknown	Unknown	Unknown	Unknown	Unknown

8. Management and mitigation measures

8.1 Impact assessment

The proposed neighbourhood plan indicates that the study area will be impacted by future development and associated infrastructure. Subsequent development stages would impact the ground surface and will require further assessment.

8.2 Avoidance and conservation

Avoidance to known Aboriginal sites (AHIMS ID 45-5-3359, AHIMS ID 45-5-4139, AHIMS ID 45-5-5517, AHIMS ID 45-5-5518, AHIMS ID 45-5-5519 and AHIMS ID 45-5-5520) is recommended. If impacts to Aboriginal sites are unavoidable, an Aboriginal Heritage Impact Permit (AHIP) is required prior to any impacts, including development, infrastructure or drainage works.

An Aboriginal Cultural Heritage Assessment will be required to support the AHIP application and would be undertaken in accordance with the *Guide to Investigating, Assessing, and Reporting on Aboriginal Cultural Heritage in New South Wales* (OEH, 2011).

8.3 Further archaeological investigation

The sampling survey resulted in the identification of Aboriginal objects therefore the portions that were not accessible for survey will require further archaeological investigations in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010b).

Areas of moderate to high sensitivity may require subsurface archaeological investigations in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010b). If Aboriginal objects are identified, an impact assessment is required in accordance with the *Guide to Investigating, Assessing, and Reporting on Aboriginal Cultural Heritage in New South Wales* (OEH, 2011).

Areas of PAD will require subsurface archaeological investigations in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010b) with full Aboriginal community consultation in accordance with *Aboriginal cultural heritage consultation requirements for proponents* (DECCW, 2010b).

9. Recommendations

The following recommendations were based on consideration of the *Statutory requirements under the National Parks and Wildlife Act 1974, Aboriginal cultural heritage in NSW* (OEH 2011), *Code of Practice* (DECCW 2010) and *Aboriginal cultural heritage consultation requirements for proponents* (DECCW 2010b):

- Designs of any future subdivision/development must take into account the known Aboriginal sites and likely archaeological potential identified by this report.
- Where possible, impacts to the sites and areas of high sensitivity identified by this report must be avoided and conservation advised.
- Where impacts to PAD and areas of moderate to high sensitivity identified by this report cannot be avoided, further archaeological investigation (survey and test excavation) must be undertaken
- If Aboriginal objects might be impacted, an Aboriginal Cultural Heritage Assessment (ACHA) must be undertaken to assess the potential impacts to the Aboriginal Cultural values, provide more detailed management and mitigation measures and support the application for an AHIP where impacts to Aboriginal sites cannot be avoided.

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Appendix A – AHIMS Search Results

Office of
Environment
& HeritageAHIMS Web Services (AWS)
Extensive search - Site list report

Your Ref/PO Number : 18954

Client Service ID : 605042

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-5-3357	OPD-3	AGD	56	289446	6235838	Open site	Destroyed	Artefact : 1		
	<u>Contact</u> T Russell	<u>Recorders</u>	Mr.Geordie Oakes,Jo McDonald Cultural Heritage Management see GML							
								<u>Permits</u>	3113	
52-2-3534	OPD-4	AGD	56	288431	6235337	Open site	Valid	Artefact : 5		
	<u>Contact</u> T Russell	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML							
								<u>Permits</u>	3113	
45-5-3358	OPD-5	AGD	56	289563	6236032	Open site	Destroyed	Artefact : 1		
	<u>Contact</u> T Russell	<u>Recorders</u>	Mr.Geordie Oakes,Jo McDonald Cultural Heritage Management see GML							
								<u>Permits</u>	3113	
45-5-3359	OPD-6	AGD	56	289310	6236295	Open site	Valid	Artefact : 6		
	<u>Contact</u> T Russell	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML							
								<u>Permits</u>		
45-5-3360	OPD-7	AGD	56	288624	6236193	Open site	Valid	Artefact : 6		
	<u>Contact</u> T Russell	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML							
								<u>Permits</u>	3113	
45-5-3361	OPD-12	AGD	56	288382	6235590	Open site	Valid	Artefact : 1		
	<u>Contact</u> T Russell	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML							
								<u>Permits</u>	3113	
45-5-3362	OPD-13	AGD	56	288072	6236476	Open site	Valid	Artefact : 3		
	<u>Contact</u> T Russell	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML							
								<u>Permits</u>	3113	
52-2-3535	OPD-14	AGD	56	289652	6234911	Open site	Destroyed	Artefact : 1		102151
	<u>Contact</u> T Russell	<u>Recorders</u>	Mr.Geordie Oakes,Jo McDonald Cultural Heritage Management see GML							
								<u>Permits</u>	3113	
52-2-3536	OPD-15	AGD	56	288622	6234169	Open site	Destroyed	Artefact : -		102151
	<u>Contact</u> T Russell	<u>Recorders</u>	Mr.Geordie Oakes,Jo McDonald Cultural Heritage Management see GML							
								<u>Permits</u>	3113	
52-2-3537	OPD-16	AGD	56	289512	6234044	Open site	Valid	Artefact : 1		102151
	<u>Contact</u> T Russell	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML							
								<u>Permits</u>		
52-2-3538	OPM-1	AGD	56	289686	6234725	Open site	Destroyed	Artefact : 1		102151
	<u>Contact</u> T Russell	<u>Recorders</u>	Mr.Geordie Oakes,Jo McDonald Cultural Heritage Management see GML							
								<u>Permits</u>		
52-2-3539	OPM-2	AGD	56	289616	6234265	Open site	Valid	Modified Tree (Carved or Scarred) : 1		102151
	<u>Contact</u> T Russell	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML							
								<u>Permits</u>		
52-2-3540	OPM-3	AGD	56	289180	6234283	Open site	Valid	Artefact : 5		102151
	<u>Contact</u> T Russell	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML							
								<u>Permits</u>		
45-5-3363	OPR1	GDA	56	290329	6235896	Open site	Destroyed	Artefact : 11		
	<u>Contact</u> T Russell	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML,Kelleher Nightingale Consulti							
								<u>Permits</u>	3106	
45-5-3364	OPR2	GDA	56	289981	6235798	Open site	Destroyed	Artefact : 5		
	<u>Contact</u> T Russell	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML,Kelleher Nightingale Consulti							
								<u>Permits</u>	3106	
45-5-3365	OPR3	GDA	56	290741	6236089	Open site	Destroyed	Artefact : 3		
	<u>Contact</u> T Russell	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML,Kelleher Nightingale Consulti							
								<u>Permits</u>	2792,3106	

Report generated by AHIMS Web Service on 08/07/2021 for Kate Storan for the following area at Datum :GDA, Zone : 56, Eastings : 286938 - 292938, Northings : 6233975 - 6239975 with a Buffer of 0 meters. Additional Info : Archaeological Assessment. Number of Aboriginal sites and Aboriginal objects found is 112

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 18954

Client Service ID : 605042

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
52-2-3541	OPR-4	AGD	56	290629	6235207	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	<u>Contact</u>	T Russell								
	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML						<u>Permits</u>		
52-2-3542	OPR5	GDA	56	290527	6234631	Open site	Destroyed	Artefact : 10		102151
	<u>Contact</u>	T Russell								
	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML,Kelleher Nightingale Consulti						<u>Permits</u>	3106	
52-2-3543	OPR6	GDA	56	291141	6235342	Open site	Destroyed	Artefact : 5		
	<u>Contact</u>	T Russell								
	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML,Kelleher Nightingale Consulti						<u>Permits</u>	3106	
52-2-3544	OPR7	GDA	56	291323	6235207	Open site	Destroyed	Artefact : 2		
	<u>Contact</u>	T Russell								
	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML,Kelleher Nightingale Consulti						<u>Permits</u>	3106	
45-5-3366	OPR8	GDA	56	291057	6235834	Open site	Destroyed	Artefact : 2		
	<u>Contact</u>	T Russell								
	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML,Kelleher Nightingale Consulti						<u>Permits</u>	3106	
45-5-3367	OPR-9	AGD	56	291163	6236351	Open site	Valid	Artefact : 7		
	<u>Contact</u>	T Russell								
	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML						<u>Permits</u>	3106	
45-5-3368	OPR10	GDA	56	290891	6235756	Open site	Destroyed	Artefact : 2		
	<u>Contact</u>	T Russell								
	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML,Kelleher Nightingale Consulti						<u>Permits</u>	3106	
45-5-3369	OPR-11	AGD	56	291328	6236006	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	<u>Contact</u>	T Russell								
	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML						<u>Permits</u>	3106	
52-2-3545	OPR12	GDA	56	291321	6234921	Open site	Destroyed	Artefact : -		
	<u>Contact</u>	T Russell								
	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML,Kelleher Nightingale Consulti						<u>Permits</u>	3106	
52-2-3546	OPR13	GDA	56	290667	6234966	Open site	Destroyed	Artefact : 5		
	<u>Contact</u>	T Russell								
	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML,Kelleher Nightingale Consulti						<u>Permits</u>	3106	
52-2-3547	OPR14	GDA	56	290886	6234840	Open site	Destroyed	Artefact : 1		
	<u>Contact</u>	T Russell								
	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML,Kelleher Nightingale Consulti						<u>Permits</u>	3106	
45-5-3370	OPR-15	AGD	56	291821	6236286	Open site	Valid	Artefact : 193		
	<u>Contact</u>	T Russell								
	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML						<u>Permits</u>	3106	
45-5-3371	OPR-16	AGD	56	292304	6236000	Open site	Valid	Artefact : 5		
	<u>Contact</u>	T Russell								
	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML						<u>Permits</u>	3106	
52-2-3548	OPR-17	AGD	56	291755	6234756	Open site	Valid	Artefact : 2		
	<u>Contact</u>	T Russell								
	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML						<u>Permits</u>	3106	
52-2-3549	OPR-18	AGD	56	292271	6234941	Open site	Valid	Artefact : 3		102190
	<u>Contact</u>	T Russell								
	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML						<u>Permits</u>	2792,3106	
52-2-3550	OPR-19	AGD	56	292405	6235177	Open site	Valid	Artefact : 3		102190
	<u>Contact</u>	T Russell								
	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML						<u>Permits</u>	3106	

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Extensive search - Site list report

Your Ref/PO Number : 18954

Client Service ID : 605042

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
52-2-3551	OPR20	GDA	56	292638	6235527	Open site	Destroyed	Artefact : 1		102190
	<u>Contact</u> T Russell	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML,Kelleher Nightingale Consulti							
52-2-3552	OPR21	GDA	56	290575	6234340	Open site	Destroyed	Artefact : 11	3106	102151
	<u>Contact</u> T Russell	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML,Kelleher Nightingale Consulti							
52-2-3553	OPR-23	AGD	56	291250	6234437	Open site	Valid	Artefact : 1		
	<u>Contact</u> T Russell	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML							
52-2-3554	OPR24	GDA	56	292182	6235414	Open site	Destroyed	Artefact : 2	3106	
	<u>Contact</u> T Russell	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML,Kelleher Nightingale Consulti							
45-5-3372	OPR-25	AGD	56	292153	6236395	Open site	Valid	Artefact : 12		
	<u>Contact</u> T Russell	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML							
52-2-3555	OPR26	GDA	56	292019	6235063	Open site	Destroyed	Artefact : 1	3106	
	<u>Contact</u> T Russell	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML,Kelleher Nightingale Consulti							
52-2-3556	OPR27	GDA	56	290174	6234639	Open site	Destroyed	Artefact : 2		102151
	<u>Contact</u> T Russell	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML,Kelleher Nightingale Consulti							
45-5-4035	PAD 2038-6	GDA	56	290650	6236896	Open site	Valid	Potential Archaeological Deposit (PAD) : -	3106	
	<u>Contact</u>	<u>Recorders</u>	Extent Heritage Pty Ltd - Pyrmont - Individual users,Doctor.Alan Williams,Artefact							
45-5-4036	Isolated Object 2039-5	GDA	56	292272	6239621	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Extent Heritage Pty Ltd - Pyrmont - Individual users,Doctor.Alan Williams							
45-5-4037	Artefact Scatter PAD 2040-46	GDA	56	292173	6239335	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>	<u>Recorders</u>	Extent Heritage Pty Ltd - Pyrmont - Individual users,Doctor.Alan Williams							
45-5-4038	Isolated Object 2041-5	GDA	56	292100	6238735	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Extent Heritage Pty Ltd - Pyrmont - Individual users,Doctor.Alan Williams							
45-5-4039	Artefact Scatter 2042-5	GDA	56	292227	6238721	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Extent Heritage Pty Ltd - Pyrmont - Individual users,Doctor.Alan Williams							
45-5-4040	Isolated Object 2043-5	GDA	56	292441	6238836	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Extent Heritage Pty Ltd - Pyrmont - Individual users,Doctor.Alan Williams							
45-5-4041	Artefact Scatter PAD 2044-46	GDA	56	292572	6238553	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>	<u>Recorders</u>	Extent Heritage Pty Ltd - Pyrmont - Individual users,Doctor.Alan Williams							
45-5-4042	Isolated Object 2045-5	GDA	56	292571	6237172	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Extent Heritage Pty Ltd - Pyrmont - Individual users,Doctor.Alan Williams							

Report generated by AHIMS Web Service on 08/07/2021 for Kate Storan for the following area at Datum :GDA, Zone : 56, Eastings : 286938 - 292938, Northings : 6233975 - 6239975 with a Buffer of 0 meters. Additional Info : Archaeological Assessment. Number of Aboriginal sites and Aboriginal objects found is 112

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 18954

Client Service ID : 605042

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-5-4043	Isolated Object 2046-5	GDA	56	292371	6237199	Open site	Valid	Artefact : -		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users, Doctor, Alan Williams							Permits
45-5-4044	Isolated Object 2047-5	GDA	56	290809	6236164	Open site	Valid	Artefact : -		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users, Doctor, Alan Williams							Permits
45-5-4045	Isolated Object 2048-5	GDA	56	290883	6236222	Open site	Valid	Artefact : -		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users, Doctor, Alan Williams							Permits
45-5-4046	PAD 2049-6	GDA	56	291011	6236224	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users, Doctor, Alan Williams							Permits
45-5-4047	Artefact Scatter PAD 2051-46	GDA	56	292685	6236201	Open site	Partially Destroyed	Artefact : -, Potential Archaeological Deposit (PAD) : -		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users, Doctor, Alan Williams, Kelleher							Permits 3955
45-5-4048	Artefact Scatter PAD 2052-46	GDA	56	292628	6235770	Open site	Partially Destroyed	Artefact : -, Potential Archaeological Deposit (PAD) : -		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users, Doctor, Alan Williams, Kelleher							Permits 3955
52-2-3848	Artefact Scatter PAD 2053-46	GDA	56	292639	6235653	Open site	Partially Destroyed	Artefact : -, Potential Archaeological Deposit (PAD) : -		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users, Doctor, Alan Williams, Kelleher							Permits 3955
45-5-4058	Artefact Scatter PAD 2065-6	GDA	56	291344	6236549	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : -		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users, Doctor, Alan Williams							Permits
45-5-5282	Denbigh Trig AFT 1	GDA	56	289775	6236637	Open site	Destroyed	Artefact : -		
	Contact	Recorders	Mr, Matthew Kelleher, Mr, Matthew Kelleher, Kelleher Nightingale Consulting Pty Ltd							Permits 4577
45-5-3541	NR3	GDA	56	289962	6235845	Open site	Destroyed	Artefact : 1		
	Contact	Recorders	Ms, Mel Thomson, Kelleher Nightingale Consulting Pty Ltd, Miss, Kristen Taylor							Permits 3106
45-5-3542	Northern Road 4 (NR4)	GDA	56	290605	6237353	Open site	Valid	Artefact : 1		
	Contact	Recorders	Ms, Mel Thomson							Permits 3894
45-5-3543	Northern Road 5	GDA	56	290645	6237563	Open site	Valid	Artefact : 1, Potential Archaeological Deposit (PAD) : -		
	Contact	Recorders	Doctor, Alan Williams, Ms, Mel Thomson							Permits 3894

Report generated by AHIMS Web Service on 08/07/2021 for Kate Storan for the following area at Datum :GDA, Zone : 56, Eastings : 286938 - 292938, Northings : 6233975 - 6239975 with a Buffer of 0 meters. Additional Info : Archaeological Assessment. Number of Aboriginal sites and Aboriginal objects found is 112

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Extensive search - Site list report

Your Ref/PO Number : 18954

Client Service ID : 605042

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-5-3545	Northern Road PAD 2	GDA	56	291126	6239937	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	Contact							Permits		
45-5-3546	Northern Road Scar Tree 1	GDA	56	291075	6239900	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact							Permits	4103	
52-2-3644	DM 20	GDA	56	291301	6235953	Closed site	Valid	Art (Pigment or Engraved) : -, Potential Archaeological Deposit (PAD) : -		
	Contact							Permits	3081,4741	
52-2-3926	CFPP-02	GDA	56	292450	6234180	Open site	Destroyed	Artefact : -		
	Contact							Permits	3744	
52-2-3927	CFPP-03	GDA	56	292441	6235180	Open site	Destroyed	Artefact : 1		
	Contact							Permits	3826	
52-2-3928	CFPP-04	GDA	56	291455	6234535	Open site	Destroyed	Potential Archaeological Deposit (PAD) : 1, Artefact : -		
	Contact							Permits	3826	
52-2-3929	CFPP-05	GDA	56	291865	6234875	Open site	Destroyed	Potential Archaeological Deposit (PAD) : 1, Artefact : -		
	Contact							Permits	3826	
52-2-3930	CFPP-06	GDA	56	292625	6235380	Open site	Destroyed	Potential Archaeological Deposit (PAD) : 1, Artefact : -		
	Contact							Permits	3826	
52-2-3932	CFPP_08	GDA	56	292675	6234510	Open site	Destroyed	Artefact : 2		
	Contact							Permits	3744	
45-5-4139	TNRU3	GDA	56	290597	6237523	Open site	Valid	Artefact : 1		
	Contact							Permits	4103	
45-5-4141	TNRU5	GDA	56	291011	6239861	Open site	Valid	Artefact : 1		
	Contact							Permits	4103	

Report generated by AHIMS Web Service on 08/07/2021 for Kate Storan for the following area at Datum :GDA, Zone : 56, Eastings : 286938 - 292938, Northings : 6233975 - 6239975 with a Buffer of 0 meters. Additional Info : Archaeological Assessment. Number of Aboriginal sites and Aboriginal objects found is 112

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 18954

Client Service ID : 605042

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
52-2-4174	CFPP-17	GDA	56	292847	6235101	Open site	Destroyed	Artefact :-		
	Contact	Recorders	Matthew Kelleher,Kelleher Nightingale Consulting Pty Ltd, Miss.Kristen Taylor							Permits 3826
52-2-4175	CFPP-16	GDA	56	292477	6234852	Open site	Destroyed	Artefact :-		
	Contact	Recorders	Matthew Kelleher,Kelleher Nightingale Consulting Pty Ltd, Miss.Kristen Taylor							Permits 3826
45-5-4958	Pondicherry AFT 2	GDA	56	291413	6237278	Open site	Valid	Artefact :-		
	Contact	Recorders	Kelleher Nightingale Consulting Pty Ltd, Miss.Kristen Taylor							Permits
45-5-4959	Pondicherry AFT 1	GDA	56	290806	6237328	Open site	Valid	Artefact :-		
	Contact	Recorders	Kelleher Nightingale Consulting Pty Ltd, Miss.Kristen Taylor							Permits
45-5-4950	OPR-15 North	GDA	56	291937	6236747	Open site	Valid	Artefact :-		
	Contact	Recorders	Kelleher Nightingale Consulting Pty Ltd, Ms.Cristany Milicich							Permits
45-5-5196	LCM IF 16	GDA	56	289684	6239441	Open site	Valid	Artefact :-		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users, Ms.Georgia Burnett							Permits
45-5-5197	LCM IF 15	GDA	56	290480	6239817	Open site	Valid	Artefact :-		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users, Ms.Georgia Burnett							Permits
45-5-5199	LCM IF 1	GDA	56	290490	6238414	Open site	Valid	Artefact :-		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users, Ms.Georgia Burnett							Permits
45-5-5200	LCM AS 2	GDA	56	290495	6238444	Open site	Valid	Artefact :- , Potential Archaeological Deposit (PAD) :-		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users, Ms.Georgia Burnett							Permits
45-5-5201	LCM IF 3	GDA	56	290427	6238762	Open site	Valid	Artefact :-		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users, Ms.Georgia Burnett							Permits
45-5-5222	CF-IA1-19	GDA	56	292819	6237177	Open site	Destroyed	Artefact :-		
	Contact	Recorders	Mr.Geordie Oakes, Mr.Geordie Oakes, AECOM Australia Pty Ltd - Sydney, AECOM Aus							Permits 4539
45-5-5223	SC-IA2-19	GDA	56	292360	6239882	Open site	Valid	Artefact :-		
	Contact	Recorders	Mr.Geordie Oakes, AECOM Australia Pty Ltd - Sydney							Permits 4539
45-5-5224	SC-IA1-19	GDA	56	292372	6239961	Open site	Valid	Artefact :-		
	Contact	Recorders	Mr.Geordie Oakes, AECOM Australia Pty Ltd - Sydney							Permits 4539
45-5-5202	LCM IF 4	GDA	56	290416	6238794	Open site	Valid	Artefact :-		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users, Ms.Georgia Burnett							Permits
45-5-5203	LCM IF 5	GDA	56	290394	6238931	Open site	Valid	Artefact :-		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users, Ms.Georgia Burnett							Permits
45-5-5204	LCM IF 6	GDA	56	290761	6238849	Open site	Valid	Artefact :-		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users, Ms.Georgia Burnett							Permits
45-5-5205	LCM IF 8	GDA	56	289513	6238379	Open site	Valid	Artefact :-		

Report generated by AHIMS Web Service on 08/07/2021 for Kate Storan for the following area at Datum :GDA, Zone : 56, Eastings : 286938 - 292938, Northings : 6233975 - 6239975 with a Buffer of 0 meters. Additional Info : Archaeological Assessment. Number of Aboriginal sites and Aboriginal objects found is 112

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AHIMS Web Services (AWS) Extensive search - Site list report

Your Ref/PO Number : 18954

Client Service ID : 605042

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users,Ms.Georgia Burnett							Permits
45-5-5206	LCM IF 7	GDA	56	289518	6238407	Open site	Valid	Artefact : -		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users,Ms.Georgia Burnett							Permits
45-5-5207	LCM IF 10	GDA	56	289307	6238744	Open site	Valid	Artefact : -		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users,Ms.Georgia Burnett							Permits
45-5-5208	LCM AS 11	GDA	56	289088	6238764	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : -		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users,Ms.Georgia Burnett							Permits
45-5-5209	LCM AS 12	GDA	56	289318	6239235	Open site	Valid	Artefact : -		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users,Ms.Georgia Burnett							Permits
45-5-5211	LCM ST 19	GDA	56	289244	6239865	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users,Ms.Georgia Burnett							Permits
45-5-5212	LCM AS 21	GDA	56	288913	6239917	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : -		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users,Ms.Georgia Burnett							Permits
45-5-5214	LCM IF 23	GDA	56	288624	6239316	Open site	Valid	Artefact : -		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users,Ms.Georgia Burnett							Permits
45-5-3800	TNR-2	GDA	56	289817	6235744	Open site	Valid	Artefact : -		
	Contact	Recorders	Ms.Andrea Ward,Mr.Josh Symons							Permits 3229,3894
52-2-3760	OPW_P1	GDA	56	292496	6235208	Open site	Destroyed	Potential Archaeological Deposit (PAD) : -		
	Contact	Recorders	Kelleher Nightingale Consulting Pty Ltd,Mr.Rick Bullers,Miss.Kristen Taylor							Permits 3225,3826
52-2-3763	OPW2	GDA	56	292496	6235208	Open site	Destroyed	Artefact : 1		
	Contact	Recorders	Kelleher Nightingale Consulting Pty Ltd,Mr.Rick Bullers,Miss.Kristen Taylor							Permits 3225,3826
45-5-3766	OP1	GDA	56	292660	6236540	Open site	Valid	Artefact : 103, Potential Archaeological Deposit (PAD) : -		
	Contact	Recorders	Doctor.Alan Williams,AECOM Australia Pty Ltd - Sydney							Permits
45-5-3767	OP2	GDA	56	290950	6236270	Open site	Valid	Artefact : 415		
	Contact	Recorders	AECOM Australia Pty Ltd - Sydney							Permits
45-5-3768	OP3	GDA	56	292250	6236276	Open site	Valid	Artefact : 66		
	Contact	Recorders	AECOM Australia Pty Ltd - Sydney							Permits

Report generated by AHIMS Web Service on 08/07/2021 for Kate Storan for the following area at Datum :GDA, Zone : 56, Eastings : 286938 - 292938, Northings : 6233975 - 6239975 with a Buffer of 0 meters. Additional Info : Archaeological Assessment. Number of Aboriginal sites and Aboriginal objects found is 112

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Extensive search - Site list report

Your Ref/PO Number : 18954

Client Service ID : 605042

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-5-3769	OP Transect A	GDA	56	290840	6236310	Open site	Valid	Artefact : 1		
	Contact	Recorders	AECOM Australia Pty Ltd - Sydney					Permits		
45-5-3770	OP Transect B	GDA	56	291870	6235880	Open site	Valid	Artefact : 1		
	Contact	Recorders	AECOM Australia Pty Ltd - Sydney					Permits		
45-5-3771	OP Transect C	GDA	56	292550	6235480	Open site	Valid	Artefact : 1		
	Contact	Recorders	AECOM Australia Pty Ltd - Sydney					Permits		
45-5-3772	OP Transect D	GDA	56	292360	6236700	Open site	Valid	Artefact : 1		
	Contact	Recorders	AECOM Australia Pty Ltd - Sydney					Permits		
52-2-3774	OPW_PAD1	GDA	56	288260	6234240	Open site	Valid	Artefact : 1, Potential Archaeological Deposit (PAD) : 1		102151
	Contact	Recorders	Mr.Geordie Oakes,Mr.Geordie Oakes					Permits		
52-2-3775	OPW_PAD2	GDA	56	289380	6234550	Open site	Valid	Artefact : 1, Potential Archaeological Deposit (PAD) : 1		102151
	Contact	Recorders	Mr.Geordie Oakes,Mr.Geordie Oakes					Permits	3363	
45-2-2524	OPW_01_09	GDA	56	288092	6234371	Open site	Valid	Artefact : 2		
	Contact	Recorders	Mr.Geordie Oakes					Permits		
52-2-3773	OPW_02_09	GDA	56	288950	6234354	Open site	Valid	Artefact : 2		102151
	Contact	Recorders	Mr.Geordie Oakes					Permits		
52-2-4102	CFPP_09A	GDA	56	292869	6233989	Open site	Destroyed	Artefact : 1		
	Contact	Recorders	Matthew Kelleher,Kelleher Nightingale Consulting Pty Ltd, Miss.Kristen Taylor					Permits	3744	
52-2-4106	CFPP_15	GDA	56	292321	6234531	Open site	Destroyed	Artefact : 1		
	Contact	Recorders	Matthew Kelleher,Kelleher Nightingale Consulting Pty Ltd, Miss.Kristen Taylor					Permits	3744	
45-5-4909	MSC 2	GDA	56	292264	6237219	Open site	Valid	Artefact : -		
	Contact	Recorders	Kelleher Nightingale Consulting Pty Ltd, Miss.Kristen Taylor					Permits		
45-5-4931	Lowes Creek PAD	GDA	56	291165	6239601	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	Contact	Recorders	Artefact - Cultural Heritage Management - Pymont,Mr.Matthew Kelleher,Kelleher					Permits	4577	

Report generated by AHIMS Web Service on 08/07/2021 for Kate Storan for the following area at Datum :GDA, Zone : 56, Eastings : 286938 - 292938, Northings : 6233975 - 6239975 with a Buffer of 0 meters. Additional Info : Archaeological Assessment. Number of Aboriginal sites and Aboriginal objects found is 112

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Appendix B – Cubbitch Barta Native Title Claimants Survey Summary

Cubbitch Barta Native Title Claimants
Aboriginal Corporation
55 Nightingale Road,
PHEASANTS NEST, N.S.W. 2574.
14th September, 2021

Ecological
P.O Box Q1082,
QVBUILDING, N.S.W. 1230

Dear Charlotte,

RE; SOUTH CREEK WEST RELEASE AREA
COBBITTY/ BRINGELLY

On Friday 27th August, Rebecca Chalker accompanied Charlotte Bradshaw and Jennifer Norfolk from Ecological on a Cultural Heritage Survey on the property identified as the Southwest Creek release area proposed for rezoning, as a representative of the Cubbitch Barta Native Title Claimants Aboriginal Corporation.

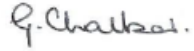
The proposed development area has been mostly cleared and is currently used in a rural manner for pastures, supporting livestock. There is also some evidence of earth reshaping for dams and mounds that appear to be made to possibly load stock on vehicles. Rubbish dumping for the purpose of controlling erosion was evident in some of the creek line. These disturbances are minimal with most ground disturbance having little to no effect on the landscape terrain. The majority of the area appears to have minimal disturbance on the terrain and cultural landscape.

Visibility was limited to the areas of erosion and in the creek embankments. Visibility was obscured in open paddock areas due to the thick growth of grasses in the study area. Visual surface inspection revealed the presence of artefacts in areas of visibility mentioned above. The presence of artefacts in these areas, particularly areas that have eroded indicated that there is a high possibility of artefacts being present in surface and subsurface areas of relatively undisturbed paddock areas with no visibility. The location of the proposed rezoning being surrounded by ridgeline and in close proximity to the creek also indicated an area that is a high cultural and resource value.

The proposed rezoning to urban development would be detrimental to the cultural significance that remains largely in situ within the study area. Urban planning that involves massive earth shifting and reshaping destroys everything that remains in the area. The cultural landscape in the wider area has been fragmented due to urban development and continues to be destroyed with new development. It is important to both Indigenous and non-Indigenous people to work together to achieve results that allow outcomes that will preserve and interpret the cultural landscapes that remain.

It is Rebecca's opinion that before rezoning and planning is done within the study area further archaeological investigation of the area should be undertaken to assist in creating culturally aware and respectful planning decisions

Yours faithfully,

A handwritten signature in black ink, appearing to read 'G. Chalker'.

Glenda Chalker

Phone 0427218425

kgchalker@bigpond.com

Appendix C – Site Cards



Office of
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& Heritage

Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville 2220 NSW

AHIMS site ID: <input style="width: 150px;" type="text" value="45-5517"/>		Date recorded: <input style="width: 100px;" type="text" value="27-09-2021"/>	
--	--	---	--

Site Location Information

Site name:

Easting:
Northing:
Coordinates must be in GDA (MGA)

Horizontal Accuracy (m):

Zone:
Location method:

Recorder Information
(The person responsible for the completion and submission of this form)

Title	Surname	First name
<input style="width: 40px;" type="text" value="Ms."/>	<input style="width: 250px;" type="text" value="Norfolk"/>	<input style="width: 250px;" type="text" value="Jennifer"/>

Organisation:

Address:

Phone:
E-mail:

Site Context Information

Land Form Pattern: <input style="width: 200px;" type="text"/>	Land Use: <input style="width: 200px;" type="text"/>
Land Form Unit: <input style="width: 200px;" type="text"/>	Vegetation: <input style="width: 200px;" type="text"/>
Distance to Water (m): <input style="width: 50px;" type="text"/>	Primary Report: <input style="width: 350px;" type="text"/>
How to get to the site: <div style="border: 1px solid black; height: 80px; width: 100%;"></div>	
Other site information: <div style="border: 1px solid black; height: 80px; width: 100%;"> Artefact identified within the dry creek bed of an old drainage line. </div>	

Site location map

NW

N

NE

W


E

SW

S

SE

Denbigh #1



Denbigh #1

ECO logical AUSTRALIA

Site contents information

open/closed site:

Open

Site condition:

Erosion

Features:

Number of features

Length of feature(s) extent (m)

Width of feature (s) extent (m)

Scar Depth (cm)

Regrowth (cm)

Scar shape

Tree Species

1.

Artefact

1

1

1

Description:

Mudstone flake (50 x 30 mm) with hinge termination. At least 9 dorsal scars.

Features:

Number of features

Length of feature(s) extent (m)

Width of feature (s) extent (m)

Scar Depth (cm)

Regrowth (cm)

Scar shape

Tree Species

2.

Description:

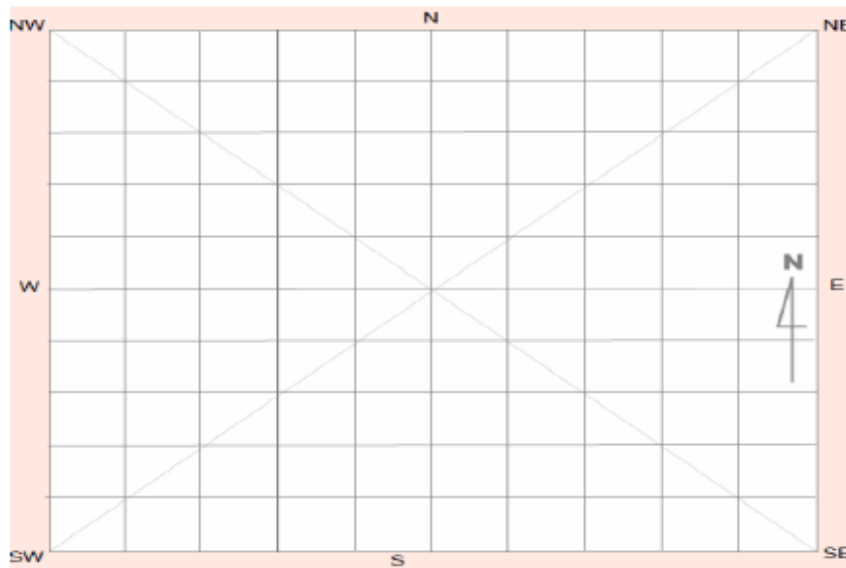
2

© ECO LOGICAL AUSTRALIA PTY LTD

62

Features:		Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)	<div style="text-align: right; margin-bottom: 5px;">Scarred Trees</div> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; text-align: center;">Scar Depth (cm)</td> <td style="width: 15%; text-align: center;">Regrowth (cm)</td> <td style="width: 15%; text-align: center;">Scar shape</td> <td style="width: 55%; text-align: center;">Tree Species</td> </tr> <tr> <td style="height: 30px;"></td> <td></td> <td></td> <td></td> </tr> </table>	Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species				
Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species										
3.													
Description:													
Features:		Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)	<div style="text-align: right; margin-bottom: 5px;">Scarred Trees</div> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; text-align: center;">Scar Depth (cm)</td> <td style="width: 15%; text-align: center;">Regrowth (cm)</td> <td style="width: 15%; text-align: center;">Scar shape</td> <td style="width: 55%; text-align: center;">Tree Species</td> </tr> <tr> <td style="height: 30px;"></td> <td></td> <td></td> <td></td> </tr> </table>	Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species				
Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species										
4.													
Description:													
Features:		Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)	<div style="text-align: right; margin-bottom: 5px;">Scarred Trees</div> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; text-align: center;">Scar Depth (cm)</td> <td style="width: 15%; text-align: center;">Regrowth (cm)</td> <td style="width: 15%; text-align: center;">Scar shape</td> <td style="width: 55%; text-align: center;">Tree Species</td> </tr> <tr> <td style="height: 30px;"></td> <td></td> <td></td> <td></td> </tr> </table>	Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species				
Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species										
5.													
Description:													
Other Site Info:		Artifact identified within the dry creek bed of an old drainage line.											

Site plan



3

Site photographs



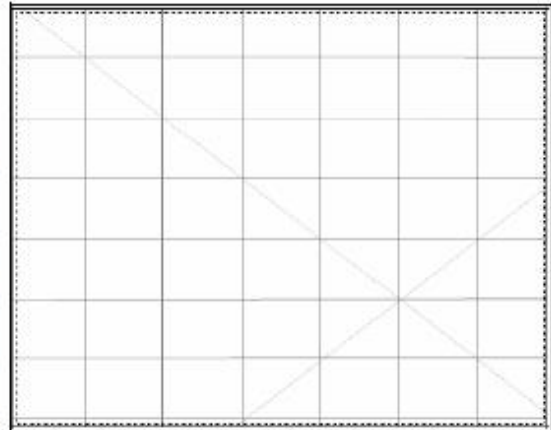
Description: Fading NE within the drainage line where Denbigh IF1 was identified



Description: Denbigh IF1 - ventral



Description: Denbigh IF1 - dorsal



Description:

Site restrictions

Do you want to Restrict this site?: ☐

Restriction type: Gender ☐ General ☐ Location ☐

Why is this site restricted?:

Further information contact

Title Surname First name
 Organisation:
 Address:
 Phone: E-mail:



Office of
Environment
& Heritage

Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville 2220 NSW

AHIMS site ID: 45-5-5518

Date recorded: 23-09-2021

Site Location Information

Site name: Denbigh IF2

Easting: 289504 Northing: 6236806 Coordinates must be in GDA (MGA)

Horizontal Accuracy (m): 5

Zone: 56 Location method: Non-Differential GPS

Recorder Information

(The person responsible for the completion and submission of this form)

Title Surname First name

Ms. Norfolk Jennifer

Organisation:

Address: 101 Sussex Street, Sydney NSW 2000

Phone: 0466312832 E-mail: jennifer.norfolk@ecoaus.com.au

Site Context Information

Land Form Pattern: Rolling Hills Land Use: Pastoral/Grazing

Land Form Unit: Stream Bank Vegetation: Isolated clumps of trees

Distance to Water (m): 15 Primary Report:

How to get to the site: Lot 500 DP 1231858. Access through 421 The Northern Road, Cobbitty.

Other site information: The artefact was identified within an eroded area patch within the bank of a constructed dam.

Site location map

NW

N

NE

W


E

SW

S

SE

Derby #2



Derby #2

1 5 10 20

ECO LOGICAL

Site contents information

open/closed site:

Open

Site condition:

Erosion

Features:

Number of features

Length of feature(s) extent (m)

Width of feature (s) extent (m)

Scarred Trees

Scar Depth (cm)

Regrowth (cm)

Scar shape

Tree Species

1.

Artefact

1

1

1

Description:

Red siltstone flake. Measures 16 mm (L) x 27 mm (W).

Features:

Number of features

Length of feature(s) extent (m)

Width of feature (s) extent (m)

Scarred Trees

Scar Depth (cm)

Regrowth (cm)

Scar shape

Tree Species

2.

Description:

2

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66

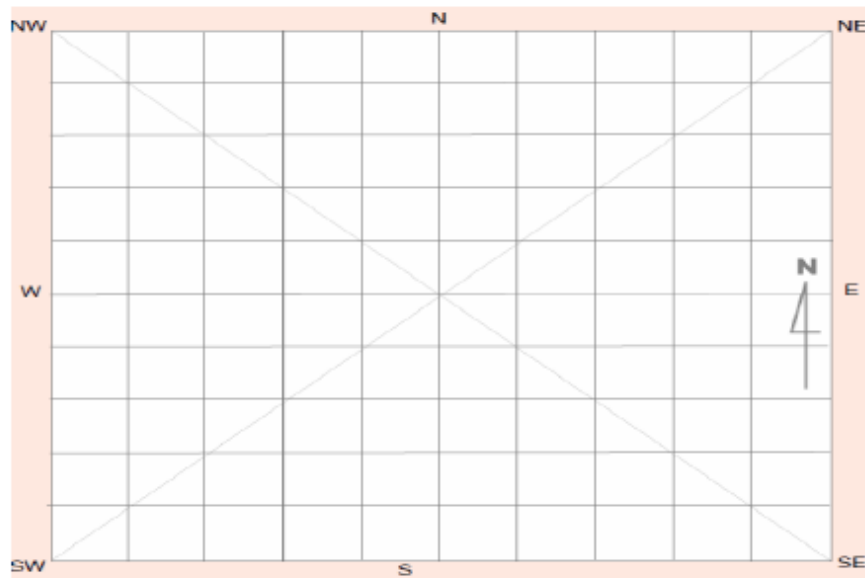
Features: 3. <div style="border: 1px solid black; height: 20px; width: 250px; margin-top: 5px;"></div>	Number of features <div style="border: 1px solid black; height: 20px; width: 20px; margin-top: 5px;"></div>	Length of feature(s) extent (m) <div style="border: 1px solid black; height: 20px; width: 20px; margin-top: 5px;"></div>	Width of feature (s) extent (m) <div style="border: 1px solid black; height: 20px; width: 20px; margin-top: 5px;"></div>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4">Scarred Trees</th> </tr> <tr> <th>Scar Depth (cm)</th> <th>Regrowth (cm)</th> <th>Scar shape</th> <th>Tree Species</th> </tr> </thead> <tbody> <tr> <td><div style="border: 1px solid black; height: 20px; width: 20px;"></div></td> <td><div style="border: 1px solid black; height: 20px; width: 20px;"></div></td> <td><div style="border: 1px solid black; height: 20px; width: 40px;"></div></td> <td><div style="border: 1px solid black; height: 20px; width: 40px;"></div></td> </tr> </tbody> </table>	Scarred Trees				Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species	<div style="border: 1px solid black; height: 20px; width: 20px;"></div>	<div style="border: 1px solid black; height: 20px; width: 20px;"></div>	<div style="border: 1px solid black; height: 20px; width: 40px;"></div>	<div style="border: 1px solid black; height: 20px; width: 40px;"></div>
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Features: 5. <div style="border: 1px solid black; height: 20px; width: 250px; margin-top: 5px;"></div>	Number of features <div style="border: 1px solid black; height: 20px; width: 20px; margin-top: 5px;"></div>	Length of feature(s) extent (m) <div style="border: 1px solid black; height: 20px; width: 20px; margin-top: 5px;"></div>	Width of feature (s) extent (m) <div style="border: 1px solid black; height: 20px; width: 20px; margin-top: 5px;"></div>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4">Scarred Trees</th> </tr> <tr> <th>Scar Depth (cm)</th> <th>Regrowth (cm)</th> <th>Scar shape</th> <th>Tree Species</th> </tr> </thead> <tbody> <tr> <td><div style="border: 1px solid black; height: 20px; width: 20px;"></div></td> <td><div style="border: 1px solid black; height: 20px; width: 20px;"></div></td> <td><div style="border: 1px solid black; height: 20px; width: 40px;"></div></td> <td><div style="border: 1px solid black; height: 20px; width: 40px;"></div></td> </tr> </tbody> </table>	Scarred Trees				Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species	<div style="border: 1px solid black; height: 20px; width: 20px;"></div>	<div style="border: 1px solid black; height: 20px; width: 20px;"></div>	<div style="border: 1px solid black; height: 20px; width: 40px;"></div>	<div style="border: 1px solid black; height: 20px; width: 40px;"></div>
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Description: <div style="border: 1px solid black; height: 40px; width: 100%; margin-top: 5px;"></div>																

Other Site Info:	The artefact was identified within an eroded area patch within the bank of a constructed dam.
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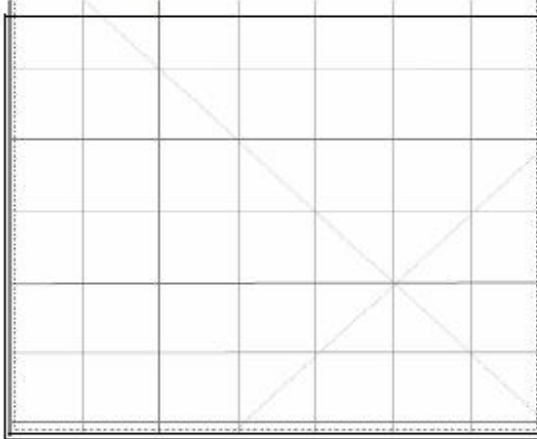
Site plan



Site photographs



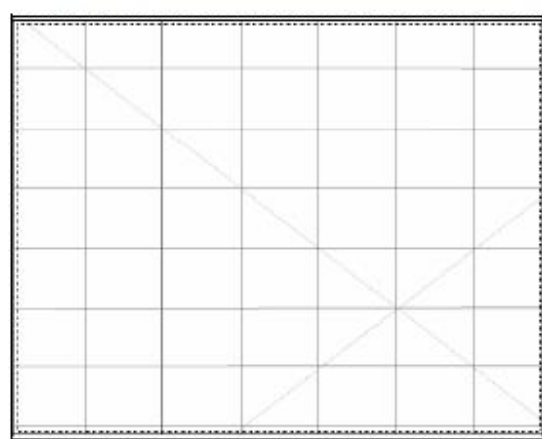
Description: Context of Denbigh IF2 within the landscape



Description:



Description: Denbigh IF2 - ventral surface



Description:

Site restrictions

Do you want to Restrict this site?: ☐

Restriction type: Gender ☐ General ☐ Location ☐

Why is this site restricted?:

Further information contact

Title Surname First name
 Organisation:
 Address:
 Phone: E-mail:



Office of
Environment
& Heritage

Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville 2220 NSW

AHIMS site ID:	45-5-5519	Date recorded:	23-09-2021
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Site Location Information

Site name:	Denbigh AS1		
Easting:	289229	Northing:	6237223
Coordinates must be in GDA (MGA)			
Horizontal Accuracy (m):	5		
Zone:	56	Location method:	Non-Differential GPS

Recorder Information

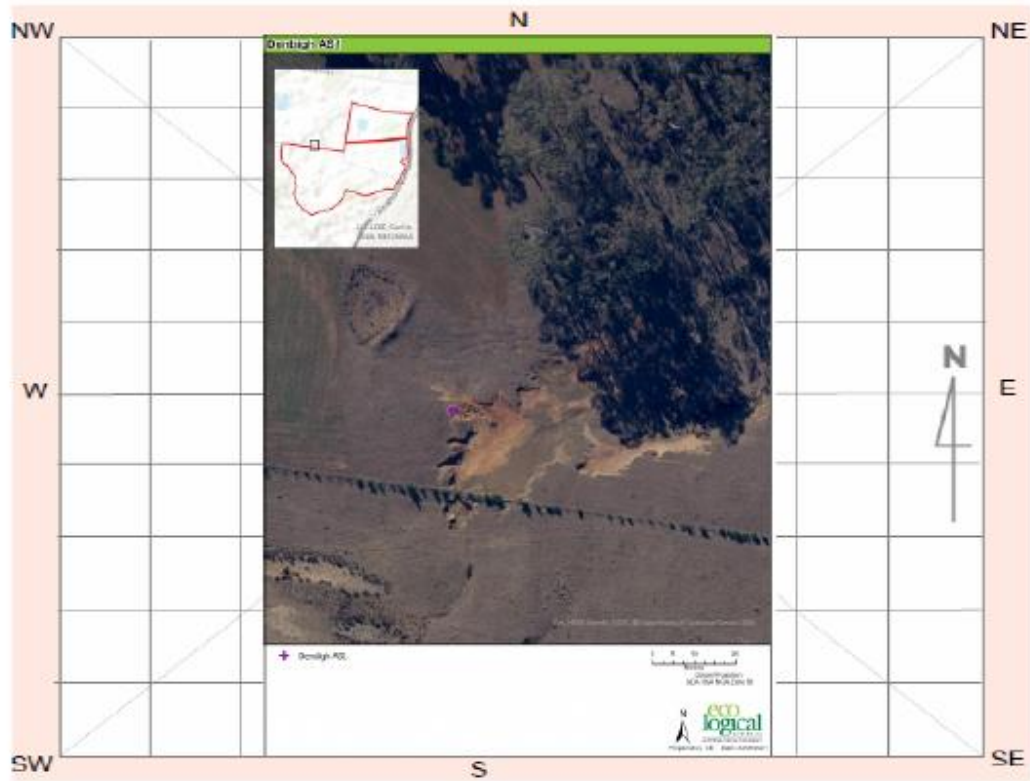
(The person responsible for the completion and submission of this form)

Title	Surname	First name
Ms.	Norfolk	Jennifer
Organisation:		
Address:	101 Sussex Street, Sydney NSW 2000	
Phone:	0466312832	E-mail: jennifer.norfolk@ecoaus.com.au

Site Context Information

Land Form Pattern:	Rolling Hills	Land Use:	Farming Low Intensity
Land Form Unit:	Stream Bank	Vegetation:	Isolated clumps of trees
Distance to Water (m):	20	Primary Report:	
How to get to the site:	Lot 45 DP 1104369. Access through 657-705 The Northern Road, Bringelly.		
Other site information:	Within erosion scour associated with old drainage channel. Artefacts have likely washed down from upper bank of channel. More artefacts are likely present.		

Site location map



Site contents information

open/closed site:

Site condition:

Features:

1.

Artefact

Number of
features

6

Length of
feature(s)
extent (m)

20

Width of
feature (s)
extent (m)

20

Scarred Trees

Scar Depth
(cm)

Regrowth
(cm)

Scar shape

Tree Species

Description:

Volcanic FGS (7 x 15 mm) Red silcrete flake (24 x 13 mm) Beige chert flake (11 x 9 mm) Tuff flake (8 x 13 mm) Red silcrete flake (20 x 23 mm) Yellow silcrete flake (26 x 41 mm)

Features:

2.

Number of
features

Length of
feature(s)
extent (m)

Width of
feature (s)
extent (m)

Scarred Trees

Scar Depth
(cm)

Regrowth
(cm)

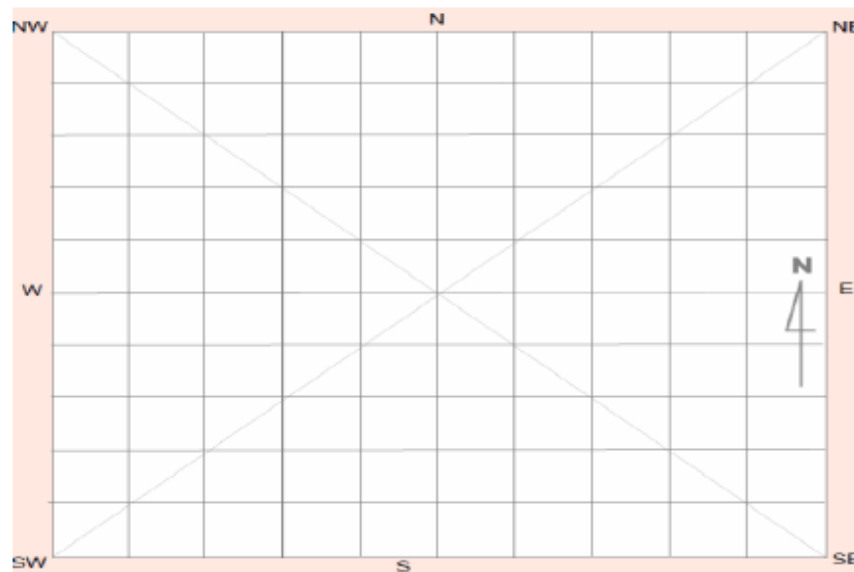
Scar shape

Tree Species

Description:

Features:		Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)	<div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Scarred Trees</div> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; text-align: center;">Scar Depth (cm)</td> <td style="width: 15%; text-align: center;">Regrowth (cm)</td> <td style="width: 15%; text-align: center;">Scar shape</td> <td style="width: 15%; text-align: center;">Tree Species</td> </tr> <tr> <td style="height: 20px;"></td> <td style="height: 20px;"></td> <td style="height: 20px;"></td> <td style="height: 20px;"></td> </tr> </table>	Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species				
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Description:													
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4.													
Description:													
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Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species										
5.													
Description:													
Other Site Info:		Within erosion scour associated with old drainage channel. Artefacts have likely washed down from upper bank of channel. More artefacts are likely present.											

Site plan



3

Site photographs



Description: Within erosion scour.



Description: Red siltstone and volcanic FGS artefact.



Description: Chert and tuff artefacts



Description: Yellow siltstone artefact

Site restrictions

Do you want to Restrict this site?: ☐

Restriction type: ☐ Gender ☐ General ☐ Location

Why is this site restricted?:

Further information contact

Title Surname First name
 Organisation:
 Address:
 Phone: E-mail:



Office of
Environment
& Heritage

Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville 2220 NSW

AHIMS site ID: 45-5-5520

Date recorded: 23-09-2021

Site Location Information

Site name: Denbigh IF3

Easting: 289124

Northing: 6237191

Coordinates must be in GDA (MGA)

Horizontal Accuracy (m):

5

Zone: 56

Location method:

Non-Differential GPS

Recorder Information

(The person responsible for the completion and submission of this form)

Title

Surname

First name

Ms.

Norfolk

Jennifer

Organisation:

Address:

101 Sussex Street, Sydney NSW 2000

Phone:

0466312832

E-mail:

jennifer.norfolk@ecoaus.com.au

Site Context Information

Land Form
Pattern:

Rolling Hills

Land Use:

Pastoral/Grazing

Land Form
Unit:

Stream Channel

Vegetation:

Isolated clumps of trees

Distance to
Water (m):

0

Primary
Report:

How to get
to the site:

Lot 500 DP 1231858. Access through 421 The Northern Road, Cobbitty.

Other site
information:

The artefact was identified within an erosion scour within an old drainage channel. The channel no longer holds water as the waterways have been dammed.

Site location map

NW

N

NE

W


E

SW

S

SE

Dentagh #3



Dentagh 172

1 5 10 20

metres

ECO LOGICAL

A PRELIMINARY ASSESSMENT

PROPOSAL FOR A NEW RESIDENTIAL DEVELOPMENT

Site contents information

open/closed site:

Open

Site condition:

Erosion

Features:

Number of features

Length of feature(s) extent (m)

Width of feature (s) extent (m)

Scarred Trees

Scar Depth (cm)

Regrowth (cm)

Scar shape

Tree Species

1.

Artefact

1

1

1

Description:

Red siltstone flake. Feather termination. Measures 20 mm (L) x 11 mm (W).

Features:

Number of features

Length of feature(s) extent (m)

Width of feature (s) extent (m)

Scarred Trees

Scar Depth (cm)

Regrowth (cm)

Scar shape

Tree Species

2.

Description:

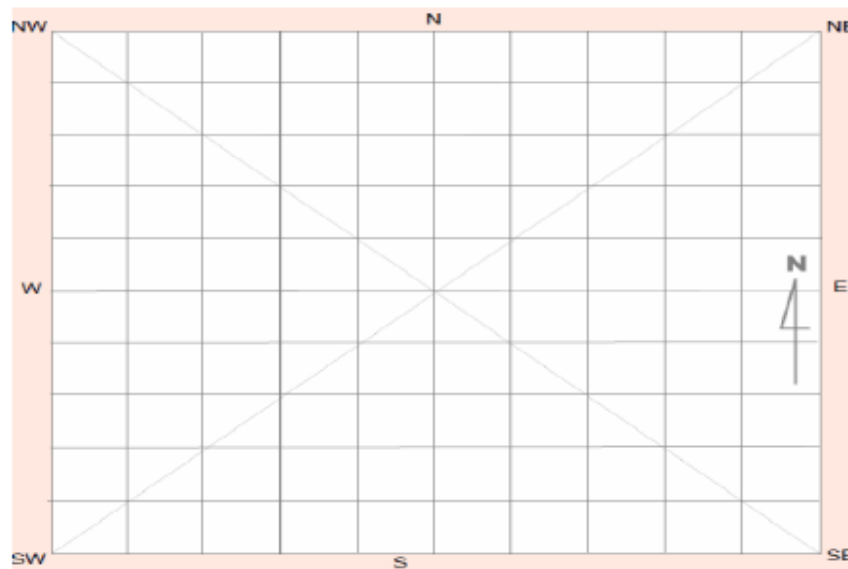
2

© ECO LOGICAL AUSTRALIA PTY LTD

74

Features: 3. <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="4">Scarred Trees</th> </tr> <tr> <th>Scar Depth (cm)</th> <th>Regrowth (cm)</th> <th>Scar shape</th> <th>Tree Species</th> </tr> <tr> <td><div style="border: 1px solid black; height: 20px; width: 100%;"></div></td> <td><div style="border: 1px solid black; height: 20px; width: 100%;"></div></td> <td><div style="border: 1px solid black; height: 20px; width: 100%;"></div></td> <td><div style="border: 1px solid black; height: 20px; width: 100%;"></div></td> </tr> </table>	Scarred Trees				Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>
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Description: <div style="border: 1px solid black; height: 40px; width: 100%;"></div>																
Other Site Info: <div style="border: 1px solid black; padding: 5px; min-height: 20px;"> The artefact was identified within an erosion scour within an old drainage channel. The channel no longer holds water as the waterways have been dammed. </div>																

Site plan

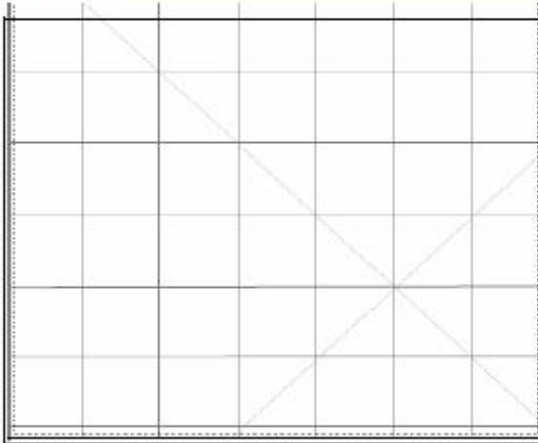


3

Site photographs



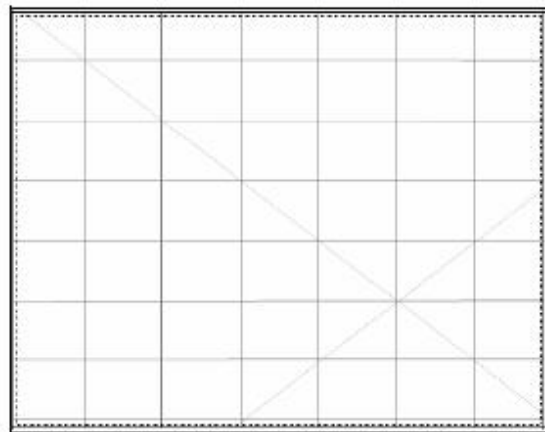
Description: Erosion scour within old drainage channel.



Description:



Description: Denbigh IF3 - ventral surface



Description:

Site restrictions

Do you want to
Restrict this site?: ☐

Restriction type: Gender ☐ General ☐ Location ☐

Why is this site restricted?:

Further information contact

Title Surname First name
 Organisation:
 Address:
 Phone: E-mail:

