archaeological risk assessment services

ABORIGINAL CULTURAL HERITAGE

DUE DILIGENCE ASSESSMENT

For

Planning Proposal for Land identified as Lot 1 DP 1007355, Lot 2 DP 1185025, Lot 3 DP 1185025 and Lot 4 DP 1185025.

16-21 Cusack Place Yass

FINAL DRAFT

A Report to Karoo Rezoning

By

Dr. Giles Hamm
Cultural Heritage Consultant

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ARCHAEOLOGICAL RISK ASSESSMENT SERVICES PTY LIMITED
| M 0438 757 606 | ✉ arasgileshamm@gmail.com
ABN: 71 106 520 290 | PO Box 67, Katoomba NSW 2780

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Document Manager	Dr. Giles Hamm		
Authors	Dr. Giles Hamm		
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EXECUTIVE SUMMARY

Karoo Rezoning intend to submit a planning proposal for land identified as Lot 1 DP 1007355, Lot 2 DP 1185025, Lot 3 DP 1185025 and Lot 4 DP 1185025 at 16-21 Cusack Place Yass. An Aboriginal Cultural Heritage Due Diligence assessment was required to determine likely Aboriginal heritage constraints and opportunities for the development of land for residential purposes.

The land is located within the Yass Valley Shire Council local government area and is currently zoned: R5 – 'large lot residential' under the Yass Valley Local Environmental Plan (YVLEP 2013 (see Figure 1 Appendix 1). The land is approximately 42.96 hectares in area.

An Aboriginal Cultural Heritage Due Diligence and Archaeological Survey assessment was undertaken by Archaeological Risk Assessment Services Pty Ltd (ARAS) in April 2021 for the assessment area (Lot 1 DP 1007355, Lot 2 DP 1185025, Lot 3 DP 1185025 and Lot 4 DP 1185025). The assessment identified one previously unrecorded Aboriginal site (Site: AS /Quarry and PAD in Lot 2 DP 1185025) across the planning proposal area.

The Archaeological Due Diligence Survey assessment found that provided the proposed planning proposal area could avoid the new Aboriginal site, the proposal had no potential to harm any Aboriginal objects and the risk of disturbing unknown Aboriginal deposits or objects was considered low. As a result of the due diligence assessment, it is recommended that no further archaeological investigation is required to support this planning proposal submission to Yass Valley Shire Council.

Overview of survey assessment results

- A total of one new Aboriginal site was identified during the Due Diligence investigation. This site is made up of one artefact scatter (containing 90 stone artefacts) quarry material and a Potential Archaeological Deposit. The newly recorded site located within the assessment area has been assessed as having medium archaeological/scientific significance.
- The proposed development area contains disturbed agricultural land with broad area landscaping impact zones with some previous ploughing activities which are likely to have destroyed any previously known Aboriginal sites or objects.

- The highest impact zone is a result of ploughing, housing development and significant tree clearing.
- The assessment area contains no substantial natural drainage or wetland features which are likely to have been a focus of Aboriginal land-use in the past.
- Parts of the assessment area contain significant areas of sloping ground which have been subject to surface erosion.
- The survey area contained poor ground surface visibility however pockets of bare soil provided some good surface visibility for the detection of Aboriginal cultural heritage.
- As a result of the above natural landscape factors and man-made landscape impacts, the majority of the proposed rezoning area will not impact any existing or unknown Aboriginal sites or objects.
- If the previously unknown Aboriginal site (AS/Quarry/PAD 1) can be avoided by any future development proposal, then no further archaeological assessment is required.

Recommendations

The following recommendations are made:

- As a result of the due diligence assessment it is recommended that no further archaeological investigation is required.
- A majority of the planning proposal area contains low archaeological potential.
- The assessment was undertaken using information provided to the consultant by Catalyze Property Consulting Pty Ltd in March 2021.
- If as a result of any new development proposal, the newly recorded Aboriginal site (AS/Quarry/PAD) cannot be avoided, it is recommended that under section 90 of the *National Parks & Wildlife Act 1974*, an application for an area based Aboriginal Heritage Impact Permit (AHIP) to impact the site should be lodged with the Heritage NSW.

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1. INTRODUCTION & BACKGROUND

The consultant was engaged by Karoo Rezoning via– Catalyze Property Consulting Pty Ltd to carry out an Aboriginal Cultural Heritage Due Diligence assessment study. The assessment was required in order to determine likely Aboriginal heritage constraints and opportunities for a planning proposal. The planning proposal project is being carried out on behalf of Karoo Rezoning Pty Ltd.

The planning proposal land principally uses semi-rural landscapes. The land is located within the Yass Valley Shire Council local government area and is currently zoned: R5 – 'large lot residential' under the Yass Valley Local Environmental Plan (YVLEP 2013 (see Figure 1 Appendix 1). The land is approximately 42.96 hectares in area of which at least 80 % is considered disturbed.

The aims of the assessment were to:

- review any relevant existing Aboriginal heritage information and relevant Heritage NSW data-bases;
- carry out an archaeological due diligence survey field assessment to identify likely Aboriginal heritage issues on the ground and make an assessment of likely Aboriginal heritage potential;
- advise on what level of Aboriginal consultation may be required;
- provide advice as to the likely land use restrictions posed by known Aboriginal heritage objects or potential Aboriginal heritage objects;
- provide appropriate risk management advice in order to reduce any likely impacts on identified Aboriginal heritage places or sites as a result of any future development proposal ;
- determine whether or not further archaeological investigation is required; and
- provide supporting evidence behind the decision making process conducted under the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* and the *National Parks and Wildlife Regulation 2009.*

1.1 Project Description

The planning proposal area is made up of a series of north-south trending ridge crests, ridge slopes and gullies which form part of the broader Yass River sub catchment area. The assessment area is located 2.61 kilometres south east of the centre of the Yass township, and approximately 50 kilometres north-west of Canberra within the Yass Valley Council local government area(Figure 2: Appendix 1).

The extent of the land for the rezoning includes the amalgamation of a total of 4 existing land titles:

- **Lot 1 DP1007355;**
- **Lot 2 DP1185025**
- **Lot 4 DP1185025; and**
- **Lot 3 DP1185025.**

Figure 3: Appendix 1).

The preparation of a planning proposal is required in preparing an amendment – via a gateway determination, to the Yass Valley Local Environmental Plan (YVLEP 2013) . Whilst the studies required to accompany the planning proposal will be informed by the YVLEP – and may be subject to change due to complex assessments (to be determined), the overarching purpose of the planning proposal is to seek a variation to planning controls encumbering the subject site – specifically varying the current zoning provisions of R5 – 'large lot residential' to R1 'general residential' allowing for a 'finer grain', smaller lot size than the current permitted minimum lot size of 2 hectares.

1.2. Local Government Planning Provisions and Heritage Study

There are no specific items of Aboriginal Heritage listed in Yass Valley Local Environmental Plan (YVLEP 2013) which might affect the proposed rezoning assessment. Schedule 5: Part 2 Archaeological Sites has 14 places listed within the Yass Valley Council area. No Aboriginal archaeological sites are located within the assessment area. The LEP Schedule 5: Part 3 Aboriginal Places of Heritage Significance has four places listed:

- Narangullen Stone Arrangement, Wee Jasper (Item No A286);
- Oak Hill (former Aboriginal Rerserve),Yass (Item No A287);
- Town Camp (former) Yass (Item No A288);and
- Edgerton Aboriginal Reserve, Yass River (Item No A289).

Yass Valley Council has commissioned an Aboriginal Heritage Study for the Yass Valley Council area (Cultural Heritage Management 2013) which is currently on public exhibition and a final draft has yet to be adopted by Yass Valley Council. There are no areas identified within this Heritage Study which would affect the outcome of this planning proposal submission.

2. LEGISLATIVE FRAMEWORK

2.1 The National Parks and Wildlife Act 1974 (NSW)

The *National Parks and Wildlife Act 1974* (NSW) (the 'NPW Act') is the primary piece of legislation for the protection of Aboriginal cultural heritage in New South Wales. The New South Wales Department of Planning, Industry and Environment (DPIE) administer the NPW Act. The NPW Act provides statutory protection for Aboriginal objects by making it illegal to harm Aboriginal objects and Aboriginal places, and by providing two tiers of offence against which individuals or corporations who harm Aboriginal objects or Aboriginal places can be prosecuted. The NPW Act defines Aboriginal objects and Aboriginal places:

- *Aboriginal object means any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.*
- *Aboriginal place means any place declared to be an Aboriginal place under section 84.*

The highest tier offences are reserved for knowledgeable harm of Aboriginal objects or knowledgeable desecration of Aboriginal places. Second tier offences are strict liability offences—that is, offences regardless of whether or not the offender knows they are harming an Aboriginal object or desecrating and Aboriginal place—against which defences may be established under the *National Parks and Wildlife Regulation 2009* (NSW) (the 'NPW Regulation').

Section 87 of the NPW Act establishes defences against prosecution under s.86 (1), (2) or (4). The defences are as follows:

- ❒ An Aboriginal Heritage Impact Permit (AHIP) authorising the harm (s.87(1))

- ❒ Exercising due diligence to establish Aboriginal objects will not be harmed (s.87(2)) Due diligence may be achieved by compliance with requirements set out in the *National Parks and Wildlife Regulation 2009* (the NPW Regulation) or a code of practice adopted or prescribed by the NPW Regulation (s.87(3))
- ❒ Undertaking "low impact" activities (s.87 (4)).

This report follows the Due Diligence Code aims to establish whether Aboriginal objects would be harmed by the planning proposal project in accordance with S.87(2) of the NWP Regulation.

2.2 The National Parks and Wildlife Regulation 2009 (NSW)

The NPW Regulation 2009 (cl.80A) assigns the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (NSW Department of Environment, Climate Change and Water 2010)(the Code) as one of the codes of practice that can be complied with pursuant to s.87 of the NPW Act.

In addition the NPW Regulation describes "certain low impact activities" in s.80B. Disturbed land is defined by cl.80B (4) as "disturbed if it has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable". Examples given in the notes to cl.80B (4) include "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)".

2.3 The Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales 2010

The Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (the Code) describes the process that must be followed and the actions that must be taken by a proponent, and the site conditions that must be satisfied, to show due diligence in the consideration of potential harm to Aboriginal objects.

The Due Diligence Code sets out a basic framework with the following steps followed in order to make an assessment of whether or not proposed activities may impact Aboriginal objects:

Step 1. *Will the activity disturb the ground surface?*

Step 2a. *Search the AHIMS database and use any other sources of information of which you are already aware*

Step 2b. *Activities in areas where landscape features indicate the presence of Aboriginal objects*

Step 4: *Desktop assessment and visual inspection*

Step 5. *Further investigations and impact assessment*

The process set out in the Code involves consideration of harm to Aboriginal objects at increasing levels of detail, with additional information incorporated at each step and used to support the decisions being made. If the proposed activities are not "low impact activities" (a defence for which is provided under the Regulation) the considerations result in a determination of whether or not:

- ❒ further approval (an AHIP) under the NPW Act is required, or;
- ❒ Due Diligence obligations for the protection of Aboriginal objects are discharged by the process under the Code.

3. BACKGROUND ABORIGINAL CULTURAL HERITAGE RESEARCH

Through the Heritage NSW an extensive Aboriginal Heritage Information Management System (AHIMS) search was conducted by ARAS Pty Ltd on 16th of April 2021 (AHIMS search ID 582647). The search covered an area of approximately 3 km^2 that encompassed the project area. There are a number of registered Aboriginal archaeological sites are located near the search area; approximately 16. The AHIMS search results are presented in Table 1 below and Figure 3: Appendix 1. A majority of these registered Aboriginal sites are associated with existing natural drainage lines and situated on elevated landforms of the (i.e. Yass River, Kitty's Creek, Booroo Ponds, Rainbow Creek, Mantons Creek and Hattons Gully) Yass River floodplain swamps, wetlands and old gully features.

Table 1. AHIMS search results (ID 582647) for sites located within 3kms of the project area.

OEH Site ID No.	Site name	Eastings	Northings	Site Type
51-4-0011	Y13, Yass	677800	6140850	Artefact : -
51-4-0052	YSS1	673750	6140600	Artefact : 4
51-4-0015	Cooma Cottage	678100	6140200	Aboriginal Ceremony and Dreaming : -
51-4-0067	EY - A1	676045	6140780	Artefact : 2
51-4-0252	TP-IF5	672753	6140046	Artefact : 1
51-4-0254	TP-IF7	672357	6141045	Artefact : 1
51-4-0255	TP-IF8	672568	6141190	Artefact : 1
51-4-0256	TP-IF9	672622	6141404	Artefact : 1
51-4-0257	TP-IF10	672658	6141461	Artefact : 1
51-4-0258	TP-IF11	672901	6141286	Artefact : 1
51-4-0240	TP-AS1	672713	6140529	Artefact : 1, Potential Archaeological Deposit (PAD) : -
51-4-0273	TP-PAD1	672707	6141385	Potential Archaeological Deposit (PAD) : -
51-4-0278	TP-ST1	672248	6138520	Modified Tree (Carved or Scarred) : 1

OEH Site ID No.	Site name	Eastings	Northings	Site Type
51-4-0279	TP-ST2	672463	6138924	Modified Tree (Carved or Scarred) : 1
51-4-0305	Cooma Cottage Artefact 1	677806	6140716	Artefact : -
51-4-0306	Cooma Cottage Scar Tree 3	678284	6140501	Modified Tree (Carved or Scarred) : -

The above Aboriginal site distribution list is only a small portion of what is known for the entire Yass local area in the Yass River Valley. Aboriginal occupation sites have been recorded along the following major riverine landforms, ridges, hills, areas of local cultural significance, creek catchments and associated forest/wetlands but are not necessarily registered:

- Yass River;
- Mantons Creek ;
- Booroo Ponds;
- Kitty's Creek ;
- Black Creek;
- Riverbank Park;
- Eastern Yass River between Yass Junction and Hardwicke property, " Blacks Camps" area.
- Old Hollywood Mission;
- Oak Hill Reserve;
- Weir Camp Reserve;
- Hattons Gully;

- Rainbow Creek;
- Mt Bowning;and
- Narangullen Hills.

The land is located within the tribal boundary areas of the Ngunnawal and Wiradjuri Aboriginal language groups (Horton 1994, Jackson-Nakano 2002, Tindale 1974, White 1986.) Within these groups there were other smaller bands, including the Wallabaloola and Pajong (Jackson-Nakano 2002) Historically, the exact boundary of these local groups is uncertain. According to DPIE database records, there are no existing or proposed Aboriginal place declarations for the assessment areas in question.

3.1 Previous Archaeological Research and Predictive Modelling

3.1.1 Archaeological Background of the Southern Tablelands

Most of the archaeological investigation in the region has been done for Environmental Impact Assessment (EIA), although some academic research has also taken place to a lesser degree.

3.1.2 Regional archaeology

Archaeological research in the region was first conducted by Josephine Flood as part of her PhD research at Birrigai rockshelter in the Southern Highlands in the early 1970s. Flood established a model of Aboriginal occupation that provides a solid basis for regional occupation comparisons. Flood's excavation of Birrigai provided the first substantive evidence for Pleistocene occupation of the Southern Tablelands region. Birrigai rock shelter remains the oldest dated site in the Southern Highlands (Flood et al 1987). There are three relatively distinct phases of occupation recorded at Birrigai:

1. Occupation commenced at around 21 000 BP with low intensity of occupation continuing through to 3 000 BP;
2. At around 3 000 BP occupation intensity increased dramatically, and continued to increase through till approximately 100 BP
3. In the period from 100 BP through to present, there is evidence of a continuation in the Aboriginal occupation of the rock shelter, coinciding with the onset of non-Aboriginal activity in the area (Flood et al 1987)

She proposed a functional occupation model linked to the seasonal exploitation of the protein-rich Bogong moth, which aestivates at high-elevation peaks during the summer months(Flood 1973, 1980). Flood (1980:281) speculated that the region had been inhabited either as soon as amelioration of glacial conditions allowed after the last glacial maximum, or following economic shifts around 7,000–5,000 years ago.

Flood's model of Aboriginal occupation for the region defined five site types that were :

- Large lowland base camps – open artefact scatters containing over 1 500 artefacts that may extend over several kilometres;
- Medium sized lowland camps;
- Valley camps at altitudes between 745 – 1160m;
- High summer camps at elevations of 1160 – 1525m; and
- Camp sites above 1525m (the snow line)

Further studies have contributed to and reconsidered Flood's occupation and site distribution models (e.g. Anderson 1984; Argue 1991; Bowdler 1981; Chalmers 2012; Chapman 1977; Comber 1988; Cooke 1988; Feary 1984a, 1984b; Grinbergs 1992; Kuskie 1989; Packard 1984).

Only two high-altitude sites, Yarrangobilly Y258 (Aplin et al. 2010) and Nursery Swamp 2 (Rosenfeld et al. 1983), have revealed definite occupation older than 3,000 years. Recent archaeological research work of Fenja Theden-Ringl for her PhD **(**Fenja Theden-Ringl et al 2018) in five rock shelter sites in the Namadgi Ranges and the Wee Jasper Valley (with the main archaeological site being Wee Jasper 99) , shows that cultural deposits date to the early to mid-Holocene and provide the first substantial evidence that people were active in the high country during the Holocene Optimum (ca 9,000–6,000 years BP).

In combination with previously dated Namadgi sites, the new data also confirms an increase in activity at around 2,000 years BP. Fenja Theden-Ringl argues that an apparent decrease in archaeological evidence dating to between 4,500 and 2,000 years BP is in contrast to major cultural and population shifts seen in the southeast Australian archaeological record during this time, but she argues whether this reflects an actual behavioural trend or results from external processes affecting cultural deposits is still unclear.

In her analysis of lithic assemblages from five Aboriginal rock shelters in the Namadgi Ranges Fenja Theden-Ringl provides new perspectives on our understanding of Holocene lithic technology for this region of the south-east Australian high country. The evidence reveals a steady continuation of quartz predominance and bipolar knapping technique through time(Fenja Theden-Ringl 2017). Formal tools are rare, as is other evidence of retouch, but

quantitative analyses reveal that raw material variation diversifies and artefact size decreases from the mid-Holocene towards the past millennium, with some associated evidence of a shift in reduction intensity. There is a lack of evidence for Flood's proposed regional model of late Holocene technological transition from chert-dominated backed artefact to bipolar quartz industry.

She also argues that there is also no evidence for a cultural change associated with a backed artefact proliferation beginning around 4500 to 3500 years BP, as proposed by Hiscock and others for south-east Australia more generally. In fact, the technological shifts observed in the Namadgi high country – morphometric decline, raw material diversity and the appearance of backed artefacts – culminate in the past millennium.

Pleistocene occupation sites are rare, however, and the majority of recorded sites date from the mid to late Holocene. It is nevertheless reasonable to assume that the Yass area was occupied and utilised by Aboriginal people from the late Pleistocene onwards.

Other relevant assessment studies for the region have been reported by Boot & Heffernan (1989), Bulbeck & Boot (1990), Dearling & Grinsberg (2002), Hughes (2001, 2002, 2003, 2004) Kuskie (1989), Navin Officer (2003, 2004a, 2004b, 2004c) Saunders (1999, 2001, 2003a, 2003b, 2004a, 2004b, 2004c, 2007) Williams and Barber (1999), Williams (2006).

Regional Predictive Models

Based on their survey results and previous survey results, Dearling and Grinsberg developed a local model of Aboriginal land-use for the adjacent Goulburn region which included parts of the Yass River Valley. Additional models have also been proposed by Flood (1980), Boot & Heffernan (1989), Bulbeck & Boot (1990), Hughes (2001, 2002, 2003, 2004) Kuskie (1989), Navin Officer (2003, 2004a, 2004b, 2004c) Saunders (1999, 2001, 2003a, 2003b, 2004a, 2004b, 2004c, 2007) Williams and Barber (1999).

A range of archaeological sites are likely to be found in the region and they are described as:

- Open campsites will be located near streams, especially level elevated ground and low gradient basal slopes;
- Large open campsites will occur most frequently within 100-150m of major drainage lines, with a possible preference for areas at the confluence of major streams;
- Open Artefact Scatters that occur away from major creek lines will tend to be small and sparse; and

- Scarred trees may occur wherever old growth trees of sufficient age are present and will be located anywhere in the landscape.

As has already been discussed, previous archaeological surveys in the ACT, such as Bulbeck & Boot (1990), English (1983,) Flood (1980) argue the following:

- Sites will be found on dry elevated ground above river or creek systems.
- Sites will be found on ridge-crest or spurs above cold air drainage and where access to water is likely to be important.
- Some sites are considered rarer than others but the most commonly recorded archaeological evidence in the Southern Highlands and Southern Tablelands are: Isolated Finds, Open Artefact Scatters, Archaeological Deposits, Potential Archaeological Deposits, Scarred trees, stone tool quarries, axe grinding grooves which are trees whose bark was cut away to make containers, canoes or shelters.
- Rarer sites may include; rock art sites, stone arrangements, burials, ceremonial sites and carved trees.

These predictive models along with the work of Williams (2006) provides an argument that Aboriginal open site occupation patterning is controlled principally by water, topography, and cold air drainage. Large open sites which were repeatedly visited over time will occur where these three factors are all present and the margins of flood zones are well known. Softer sandy soils which dry out quickly are also likely to be preferred to rocky or clay rich soils that stay waterlogged for a longer period of time.

Witter (1980) conducted a survey from Canberra running north east to Dalton in NSW. From the results of his survey he argued a model of two alternative subsistence strategies. His model defines subsistence according to environmental zones, with Riverine Oriented and Plateau Oriented systems each having a different economic basis. Riverine Oriented subsistence strategies were based on exploitation of river animals and plants with seasonal forays into upland plains. The Riverine system he argues is reflected in sites located on the semi- arid plains along the major river systems. In contrast, Witter's Plateau Oriented economic system is based on a staple food; in this case Witter argues that the acacia seed formed that staple. Acacia is found on ridges, slopes and flats with camp sites close to permanent water sources (Witter 1980).

This economic base was adopted in highland areas with sites tending to be located both on ridges and highland plains *close to permanent water courses.*

White (1986) research explored the Riverine and Plateau models in the Wiradjuri Region argued by Witter (1980), to the west of the assessment area. White's study emphasised regional variation within the models, arguing that groups in the east of the region tended to have a greater reliance on terrestrial hunting, which is less seasonally affected. White's (1986) study can be applied to the western portion of the Yass Valley LGA (CHMA 2013).

3.5 Local Archaeology of the Yass River Valley

Over the last 20 years, the majority of Aboriginal sites have been identified in the Yass area are due to environmental impact assessment as a result of residential and infrastructure development. There have been a number of archaeological assessments undertaken in and around the assessment area but more specifically for the Yass township itself. These assessments have usually been undertaken for land rezoning or redevelopment (e.g. Witter 1980, Koettig & Silcox 1983, Koettig 1986, White and Cane 1986, Navin Officer 2001, Dearling 2003, Thompson 2003, OzArk 2007,Dibden 2009, Kyandel 2010,

A number of these assessments also posed local predictive models. Witter (1980) predicted that in the Yass region, the landscape is generally comprised of the plateau, and the major stream valleys. Up on the plateau, archaeological evidence is likely to be sparse, but where sites did occur they would be located in areas close to major valleys. Witter's model suggested that Aboriginal groups moved seasonally and the preferred locations for camp sites were at tributary and major stream valleys.

Larger base campsites were usually sited in river valleys and gently sloping land, whilst medium sized camps were more often sited on escarpments and saddles. During winter, the major camps were positioned in tributary valleys and lower slopes to be sited above cold air drainage but below the cooler elevated areas, whereas in summer higher elevated zones which caught the breeze, and the larger valley bottoms in the cooler air drainage channels were selected. Major stream valleys were likely to be more archaeologically sensitive, especially on ridges or rock benches overlooking the water sources (Koettig and Silcox 1983).

Navin Officer (2001) predicted that the intersection of ridgelines would yield larger sites, along with saddles and spurs (major ridge depressions). Dearling (2003) also predicted that where sites occur in mountainous terrain, they will usually be on relatively flat ground, such as saddles, spurs , tops of knolls, or broad areas at ridge junctions. Anderson (1984 in Officer 2001) considered that the aspect of a campsite location was the primary determinant in its selection as an occupation site. North facing positions on small hillocks and spurs were noted as the preferred sites.

Common stone tool raw materials found in the Yas region include rhyolite, quartz, silcrete, volcanics, chert and tuff (Reeves and Thomson 2004; Austral Archaeology 2009 in ERM 2014). Stone quarries, grinding grooves, scarred trees, bora grounds have been recorded to a lesser extent (Lance and Koettig 1986 in ERM 2014) whilst burial and ceremonial sites are reasonably rare, and are generally sited on river banks or hill tops, away from occupation sites (McDonald 2003 in ERM 2014).

CHMA (2012) argue that a number of researchers have predicted the common landscape characteristics of campsites in the Southern Tablelands and around Yass. Campsites tend to be within 100m of a permanent water source. Sites are usually on elevated, level terraces and low slopes. Aboriginal people in the Yass district were selecting occupation areas based on good drainage and elevation away from water sources with insect infestation in summer and cool channels along creek lines in winter. Previous sites excavated within the Yass region demonstrate that sites tend to be located on low ridges or slopes, close to water. The majority of stone artefacts recorded in the area are of quartz or silcrete and other site types previously recorded include scarred trees and burials (Dibden 2008).

Ceremonial sites and stone arrangements tended to be located away from occupation sites, in areas that are separated by distance to reflect the separation in life between the everyday and the spiritual worlds(CHMA 2012). Sites of manufacture and quarry sites will be located where suitable and accessible sources of material are present. These 'industrial' sites also tend to be located away from occupation sites (Pearson 1981).

3.6 Local Archaeological Investigations of Lot 1 DP 1007355, Lots 2, 3, 4 DP 1185025, 16-21 Cusack Place Yass

No previous archaeological investigations have been carried out Lot 1 DP 1007355, Lots 2, 3, 4 DP 1185025, 16-21 Cusack Place Yass. Two previous archaeological studies are located within 3-5km of the proposed rezoning area; these are Koetigg & Silcox 1983 for the Yass Bypass and Yellow Creek Rd Yass by Thompson(2003). An archaeological assessment and survey was undertaken for the proposed Yass bypass route. An Aboriginal burial site was known to be in the local area, including five known graves. The survey recorded eight sites including 50 stone artefacts. Quartz presented as the primary raw material, with silcrete and fine grain siliceous rock also represented. The assessment argued that quartz was not commonly the primary raw material identified through other studies in the area. Koettig and Silcox (1983) also argued that the pattern of site distribution supported their predictive model that sites would be located within 200m of watercourses, generally on creek flats on slopes or the tops of spurs or low ridges.

An archaeological assessment was undertaken for proposed subdivision of land in Yass, which is sited approximately 5km north from the assessment area. Three scarred trees and three stone artefacts (crystal quartz flakes, isolated finds) were recorded Thompson(2003). The artefact sites were all located on middle slopes. The trees were identified as Eucalypt species, one of the trees demonstrated steel axe markings near the scar, suggesting removal of bark post-European settlement.

3.7 Site Predictive Model

The following sites are likely to be found within the proposed assessment area.The majority of artefact scatters will occur in association with creek-lines. **Artefact Scatters** are also likely to occur on hillslopes and ridge crests, often at a vantage point over the surrounding landscape. Open surface scatters along creeklines, slopes and ridgetops will exhibit varying degrees of archaeological integrity, depending on the effects of erosion. These sites are likely to contain silcrete and quartz artefacts but may also contain chert and other siliceous materials.

The majority of **Isolated finds** will occur within and in association with creeklines. The majority of isolated finds will comprise flaked stone artefacts. Isolated finds will exhibit varying degrees of integrity. Archaeological deposits are likely to occur along higher order creeklines. Archaeological deposit will likely comprise of chipped stone artefacts. Hearths may also be present. Archaeological deposits will have varying degrees of integrity, particularly along creeklines, which experience significant erosion. These sites These sites

are likely to contain silcrete and quartz artefacts but may also contain chert and other siliceous materials.

Scarred trees may occur where original remnant vegetation remains. Scarred trees will likely be eucalypts i.e. box. Scarred trees are likely to be extremely old, dying or dead.

Axe grinding grooves on sandstone bedrock will occur in direct association with creeklines. Most sites will exhibit more than one groove.The majority of axe grinding groove sites will exhibit moderate to high archaeological integrity as such sites are more resistant to impacts.

- The presence of water with extensive artefact scatters close to relatively permanent water (springs, soaks, rivers and permanent creeks) and sparse artefact scatters adjacent to the intermittent streams is important. Another important issue for understanding site location factors in the Yass River Valley is the importance of water and access to biological and physical resources.
- The main site predicitve model supported by this study argues that within the assessment area:
- Aboriginal sites will be found on dry elevated ground above river or creek systems;
- Sites will be found on ridge-crest or spurs above cold air drainage and where access to water is likely to be important;
- Large open campsites will occur most frequently within 100-150m of major drainage lines, with a possible preference for areas at the confluence of major streams;
- Open Artefact Scatters that occur away from major creek lines will tend to be small and sparse;
- Some sites are considered rarer than others but the most commonly recorded archaeological evidence in the Southern Highlands and Southern Tablelands are: Isolated Finds, Open Artefact Scatters, Archaeological Deposits, Potential Archaeological Deposits, Scarred trees(which are trees whose bark was cut away to make containers, canoes or shelters), stone tool quarries, axe grinding grooves;and
- Rarer sites may include; rock art sites, stone arrangements, burials, ceremonial sites and carved trees.

Occupation in more favourable locations (e.g. abundant resources and water) may have been the subject of stays of longer duration and more frequent episodes of occupation than in other areas (e.g. secondary resource zones). Substantially higher counts and densities of artefacts and numbers of activity areas, along with a greater range of stone material and artefact types, may occur in the primary resource zones compared to other areas. Larger home base camps in more favourable locations are used for longer periods of time. These camps often exhibit greater superimpositioning of activity areas, greater quantity and density of evidence and evidence of different episodes in the form of in situ deposits with stratified or vertically separated evidence of activity events and datable material.

Smaller hunting campsites associated with the short term movement of smaller groups of people across a range of resource zones are likely to produce low density artefact scatters or isolated finds located near a resource area such as a wetland,creek terrace or spring. Typically, these sites will be exposed due to sheet or gully erosion where soil disturbance leads to exposure of sub surface cultural material. Quartz, chert or silcrete artefacts are likely to be found in these types of sites. The occasional scarred tree may also be found in these areas.

Given this predictive data, the potential for Aboriginal sites and objects to be found within or surrounding the proposed assessment area has **a medium to low probability**. The most likely sites to be found in the assessment area are short term hunting camps where some evidence of stone artefacts can be found. Given the nature of the local topography however (undulating terrain and topography) it is unlikely that larger open campsites are predicted to be found in the assessment area. These sites are more likely to be found on elevated river/creek terraces, ridge crests or low hills above permanent wetlands/swamps and protected valleys of second or third order streams running into the Yass River.

3.7 Site detection factors

One of the most important factors in locating sites or artefacts on the ground is whether they can be detected or discovered easily. A number of discovery factors will affect how well sites or artefacts are located within a survey area. Schiffer, Sullivan and Klinger (1978) provide a useful summary of what the most important factors are likely to be in detecting sites or artefacts on the ground (see Table 3 below, taken from Dancey, 1981).

Table 2: Site detection factors that may affect an archaeological survey (after Dancey 1981).

General Factors	Definition	Specific Examples
Abundance	The frequency or prevalence of site or artefact type in the study area	Sites and artefacts occur in highly variable quantities, from rare to abundant
Clustering	The degree to which archaeological materials are spatially aggregated	Various degrees of clustering may be found between dispersed and clustered
Obtrusiveness	The probability that particular archaeological material can be discovered by a specific technique	Artefact size, composition, surface morphology, heat retention, and other physical, chemical and Biological properties
Visibility	The extent to which an observer can detect the presence of archaeological materials at or below a given place	Site area, artefact density, artefact size, surface area of exposure, frequency of exposure
Accessibility	The effort required to reach a particular place	Climate, biotic environment, terrain, roads, land holding patterns

3.8 Definition of a 'site'

The Department of Planning, Industry and Environment (DPIE) advises developers and consultants that the term 'site' is used to group Aboriginal Objects or define a location where an Aboriginal Object or cultural item occurs. They propose general criteria to assist in the classification of a site. *Sites* can be defined as:

- exposures where archaeological evidence is revealed;
- a topographic or land form unit where occupation evidence has been recorded. This may be an entire landform unit (ridge, creek, valley) or part of a landform unit (saddle on ridge, creek bank);
- sites which have physical boundaries defined by rocks (stone arrangement), earthworks (mounds) or cleared land (ceremonial ground);
- sites defined by Aboriginal community groups as culturally significant;

- arbitrary or the assignation of a boundary for the convenience of recording (in cases where the site would probably be much larger if based on the criteria above). Arbitrary criteria include the use of a fence-line, dirt track or gully as a boundary. In some cases the area may simply be designated as 50m x 50m, or as a smaller sample plot, on the basis of convenience;

- artefact density. (In some cases a site boundary may be defined by the average number of flakes per square metre.) This is a specialised type of arbitrary criterion and justification of the rules used must be made explicit; and

- the chosen definition of a site or isolated find needs to be specified for the study. It is the consultant's responsibility to decide on an appropriate definition, suited to the particular project, the research goals and comparability with other regional studies. OEH requires site forms to be completed for isolated finds.

3.9 Aboriginal Site Types likely to be found in the Yass River Valley region.

Aboriginal site types that have been typically recorded in the general region include:

- Open campsites made up of stone artefacts dominated by tuff, chert, silcrete and quartz assemblages and sometimes containing hearth material in the form of burnt or cracked sandstone heat retainers. These sites vary in complexity and density depending on their physical condition in the modern landscape and their proximity to major resource zones;

- Isolated Find representing a single isolated artefact located on its own in the landscape;

- Artefact Scatter representing a collection or scatter of stone artefacts exposed by erosion that appear to be defined by their spatial relationship to one another and the land unit they are located on;

- Archaeological Deposit representing a buried surface which has some soil depth and structure likely to contain archaeological remains;

- Scarred Trees representing Aboriginal removal of bark material to make shelters, dishes, canoes, string, shields, boomerangs and carved trees. Within the study area most Aboriginal scars are found on River Red Gum (*Eucalyptus camaldensis*) or Blakely's Red Gum (*Eucalyptus blakelyi*), White Box (*Eucalyptus albens)* and Grey Box

(*Eucalyptus largiflorens*). There is a strong correlation between large canoe type scars and more permanent river;

- Burial sites are sites that show evidence of Aboriginal burial in discrete locations. Burials in the study region are usually associated with major areas of occupation found next to rivers, lagoons, lakes, waterholes and some creeks. Skeletal material is normally discovered eroding out of sandy deposits, where interment is easiest. Burials may occur in an isolated context or they may be part of a larger cemetery;

- Bora rings are sites containing an arrangement of natural stone to represent ceremonial or ritual practice. They are often found near traditional ceremonial grounds in areas of abundant surface rock. Rocks may be arranged in a circular fashion or oval shapes signifying important ritual meaning for a ceremony. Often bora rings are found isolated on ridge tops or flat hilltops overlooking a significant stretch of country;

- Art sites. These types of sites reflect Aboriginal use of sandstone outcrops for the purpose of painting, engraving or drawing traditional designs. Art sites are often found in areas where people are using country that has good sources of sandstone in the form of rock-shelters, which offer cover from the elements or may be located next to a stream or river;

- Common symbols found in art sites are hand stencils, figurative art representing animal or human forms, tracks of animals and patterns of lines or circles that may represent landscape elements to a traditional story;

- Axe grinding grooves. These types of sites are associated with Aboriginal people using sandstone outcrops to sharpen stone implements and in particular stone axes. Grinding grooves are usually 5–20cm in length and 2–3cm in depth depending on how often the person is using the groove section. Grooves may be found in clusters and are usually concentrated around a surface rock pool where people use water to assist them in sharpening an edge;

- Contact sites. A contact site is site where there is evidence of Aboriginal people living traditionally in close proximity to European settlement. Aboriginal people may be using European items in traditional hunting and gathering practices, for instance bottle glass as a substitute for stone, or metal as a substitute for bone or stone;

- Sites may be associated with Aboriginal people working for European settlers, such as gathering bark sheeting for bark slab huts. Often historic items associated with that contact would be found in certain traditional campsites; and
- Waterhole/well. These types of sites, as well as being important places for obtaining water, may also be sacred places and of religious significance to living Aboriginal people.

4. ENVIRONMENT & LAND USE HISTORY

4.1 Existing Environment and Land Use History

The assessment area is part of the Southern Tablelands geogrpahic region. The Interim Biogeographic Regionalisation for Australia (IBRA; Department of the Environment (DoE) 2014) provides a regional and national planning framework for the systematic development of a comprehensive, adequate and representative National Reserve System. Bioregions provide geographic and environmental data useful in characterising potential Aboriginal site patterning.

The assessment area is located within the centre of the South Eastern Highlands bioregion, which is located inland from the coastal regions and bordered by the Australian Alps bioregion to the south, and the South Western Slopes bioregion to the west. **Table 4** below summarises the main charisitics of this bioregion.

Table 4: Main environmental characteristics of the South Eastern Highlands bioregion.

Environmental Character	Description
Geology	The bioregion overlies part of the Lachlan fold belt comprising a series of metamorphosed Ordovician to Devonian sandstones, shales and volcanic rocks with granite inclusions and episodes of folding, faulting and uplift.
Landforms	The region overlies dissected ranges and plateau of the Great Dividing Range, extending to the Great Escarpment in the east and the western slopes of inland

Environmental Character	Description
	drainage basins. The region covers a variety of landforms such as steep to gentle slopes, ridges and valley floors
Soils	Mottled red and yellow texture contrast soils with red earths are found on Palaeozoic slates, sandstones and volcanics. Shallow red earths occur on ridges while yellow texture contrast soils can be found on all slopes with deep coarse sands in alluvium contexts. Shallow red-brown to black stony foams are present on Tertiary basalts and within swampy valley floors soils generally consist of alluvial foams and black clays. Shallow organic foams may be present in high altitude contexts.
Vegetation	The region contains a diverse range of vegetation communities such as yellow box, red box, Blakely's red gum, white box and white gum to the west of the region, brown barrel to the east, river oak along streams, grey gum and Blaxland's Stringybark in lower areas and brown barrel, mountain gum, narrow-leaved peppermint and ribbon gum on elevated areas.

The assessment area is dominated by a series of broad north-south trending ridge crests dissected by a series of gullies and small depressions(Figure 4: Appenidx 1). There is no existing drainage or wetlands within the assessment area with the nearest semi permanent creek (unnamed tributary east of the assessment area originating from the Yass River) located approximately 500 m away flowing in a north-south direction.

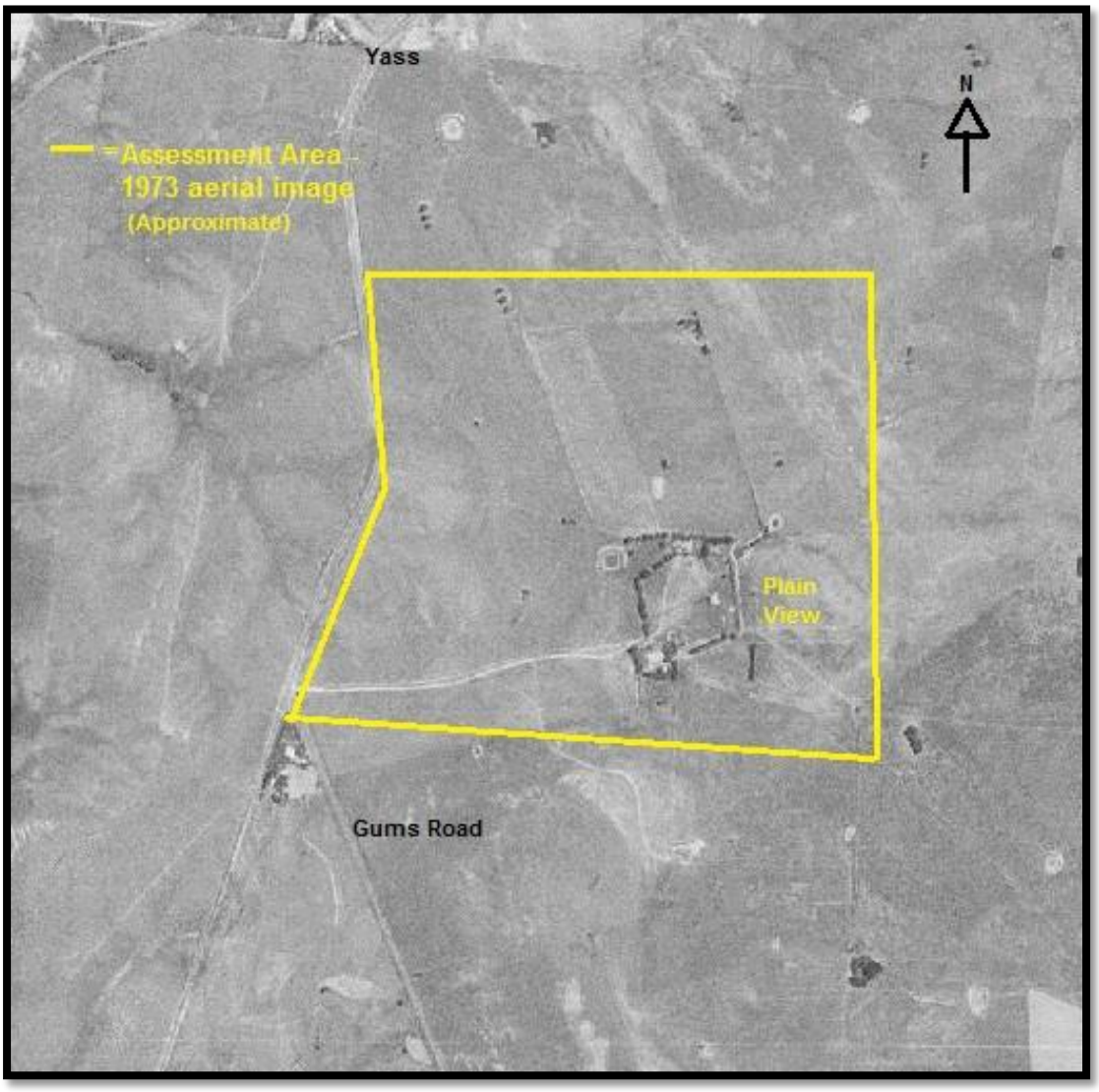
Prior to European settlement, the assessment area was likely to be part of open woodlands. Extensive clearing has occurred in semi-urban and rural grazing areas. Eucalypt Woodlands with Yellow Box Dry Grass Woodland ecosystem is the main vegetation community with Yellow Box (Eucalyptus melliodora) and Blakely's Red Gum (Eucalyptus blakelyi) the most common, whereas the granite-derived soils also support Apple Box (Eucalyptus bridgesiana), White Box (Eucalyptus albens) and Red Stringybark (Eucalyptus macrorhyncha). Natural grasslands in the Bioregion are generally scattered remnants, and include Snow Grass (Poa sieberiana), Kangaroo Grass (Themeda australis), Wallaby Grass and Spear Grasses (Austrostipa scabra and A. variabilis) (NSW NPWS 2003). The assessment area has been extensively cleared for rural housing, sheep grazing and contains introduced pine trees and pasture grasses. Introduced pine trees provide wind breaks are common within the assessment area. There are no native trees surviving (See Figure 5: Appendix 1).

European settlement of the Yass Valley began in the 1820's, following expeditions by Hume and Hovell, and Throsby and Wild. Land throughout the Yass Valley was settled relatively early due to its location on the road to Port Phillip (Melbourne), as well as the quality of rural land. Yass was first established in 1837, producing high quality merino wool, wheat, oats, orchard fruits, and wine. In the period 1840 to 1870 white settlement expanded rapidly and there was a dramatic increase in land clearance and farming (DEC 2005).

Historic Airphoto Imagery.

Airphoto imagery below shows the assessment area was almost totally cleared by the mid 1970s (Figure 6 below), with one main house *Plain View* homestead , several dams and farm buildings being built on Lot 2 DP 1185025. By 1997, additional clearling for some minor sheds had been completed but no other major vegetation clearing had been undertaken across both lots. Power-lines had also been built across the northern end of Lot 2 1185025. No further substantial development had occurred on the lots by the 1990s but sheet erosion was clearly visible on sloping ground(Figure 7). A new house was built in the 2000s on Lot 1 1007355.

Figure 6 : Historic Airphoto imagery 1973 showing the assessment area in yellow and the extent of land clearing.



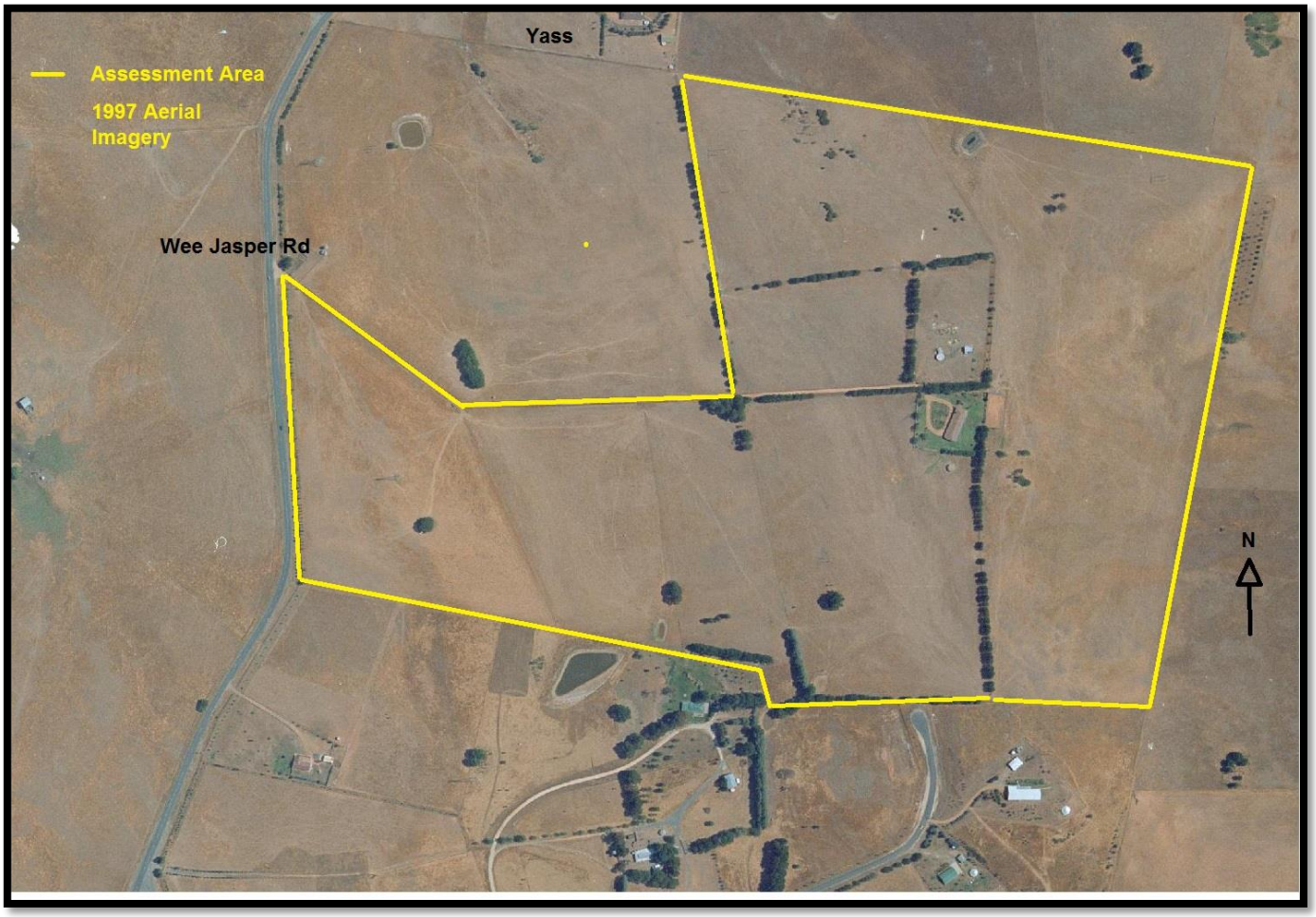


Figure 7. Historic Airphoto imagery from 1997 showing the extent of cleared and disturbed land for the assessment area.

The current land-use for Lot 1 DP1007355,Lot 2 DP1185025,Lot 4 DP1185025 and Lot 3 DP1185025 16-21 Cusack Place Yass is cleared semi rural open woodland with impacts from house, garden and shed construction, dam building, tree clearing, sheep grazing , fencing and vehilce tracks. Approximately 95 % of the land has been disturbed and the lack of native vegetation cover bares this out, with no areas of native re-growth found across the four lots.

4.2 Current Land use impacts within the proposed residential allotments.

The four lots contain the following modern land-uses: (Figure 5: Appendix 1 & Plates 1-8: Appendix 2):

- Dams;

- Large sheds;
- Access roads;
- Residential dwellings and
- Fencing.

The majority of land use disturbance within the assessment area is associated with tree clearing for grazing sheep, house construction and semi- rural land-use activities (Figure 5: Appendix 1). There is some previous ploughing activity observed on the land from aerial imagery.

5. ABORIGINAL CONSULTATION

As this project aims to avoid any culturally sensitive areas it did not require formal consultation with Aboriginal community stakeholders.

6. ARCHAEOLOGICAL SURVEY ASSESSMENT METHODS

A sample archaeological survey of the assessment area was conducted on foot in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (OEH Code of Practice)* on 14th of April 2021. The survey was undertaken by Dr. Giles Hamm (ARAS).

The assessment area was surveyed as a single survey transect unit, based on Lot 1 DP1007355, Lot 2 DP1185025,Lot 4 DP1185025 and Lot 3 DP1185025. Grass and vegetation coverage, made inspection of the ground surface in places difficult. In accordance with the *OEH Code of Practice* requirements, the sample survey targeted every landform which would potentially be impacted by the future residential subdivision development, with an emphasis on landforms that were likely to have archaeological potential.

The assessment area was walked on foot where the terrain allowed. A dam, dense vegetation and structures inhibited the survey assessment in places. Any areas of surface exposure or old growth trees were inspected in detail. Overall surface visibility was generally low in most places, meaning that the opportunity for identification of exposed stone artefacts on the ground surface was limited.

A handheld Global Positioning System (GPS) device was used to track the path of the survey team and record the coordinates of the survey transect, including the locations of any areas of archaeological potential identified in the field. The coordinate system projection used for all site recording was GDA94 MGA 56. A photographic record was kept of the survey transect unit. Photographs were taken to record aspects including surface exposures, vegetation, disturbance and areas of archaeological potential. Scales were used for photographs where appropriate.

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

7. ASSESSMENT COVERAGE & SURVEY RESULTS

A total of one foot transect was completed and is listed below in Table 4 (Figure 8: Appendix 1, Plates 1-13: Appendix 2).

Table 4. Summary of Survey Coverage undertaken for proposed residential subdivision area Lot 1 DP1007355,Lot 2 DP1185025,Lot 4 DP1185025 and Lot 3 DP1185025 .

Assessment Area	Landforms	Area (m2)	Visibility	Exposure	Effective Coverage
Lot 1 DP1007355, Lot 2 DP1185025,Lot 4 DP1185025 and Lot 3 DP1185025	Ridge Crest, Ridge Slope and minor flats	429000	25%	50%	12.5%

Average visibility across the assessment area would have been approximately 25%. Foot coverage across the study area was 100 %. Orange flags were used to mark potential cultural features for detailed recording (i.e. Aboriginal objects).

Field conditions were fine and all areas were accessible by four-wheel drive. The main method of survey assessment was foot transects. The survey team consisted of one person walking slowly across the assessment area. Areas that contained evidence of ground surface exposure were investigated thoroughly. The original vegetation community can be described as open

woodland with Yellow Box, White Box and Red gum dominant. There are outcrops of siltstone and sandstone present within the assessment area. There are no ephemeral streams or permanent springs located within the assessment area.

8. RESULTS & DISCUSSION

A total of 90 Aboriginal objects making up one (1) open site was identified as a result of this archaeological survey/due diligence assessment. The Aboriginal objects are located along a spur landform unit in the north-west section of the assessment area on Lot 2 DP 1185025(See Figures 8 -9B: Appendix 1). All the Aboriginal objects were eroding from A1 horizon soils. The one Artefact Scatter/Quarry and PAD are described below (See Table 5).

Table 5: Site Description for Lot 2 DP 1185025**.**

Site Name	Site Features	Aboriginal Object Descriptions
AS/Quarry and PAD Lot 2 DP 1185025	Open artefact scatter/quarry of ninety stone artefacts lying on rockey outcrop near 132kv powerpoles on spur landform. Artefact Scatter Site is: N/S: 43m x E/W: 83m. Potential Archaeological Deposit area is: 90 m x 50m. Site location can be defined as Simple Slope, on spur landform eroding from A1 horizon soils. The site is a quarry/artefact scatter but has been previously damaged by the installation of 132 kv power-lines. There are no other cultural features at the site apart from evidence of previous quarrying. The site is in poor condition.	90 surface stone artefacts recorded see Appendix 4 made up of predominately of Tuff raw materials. There are no rare or unique artefact items within this assemblage

The above site is not commonly occurring in the current Yass topographical setting. As a cultural feature, it represents low level Aboriginal quarrying activity on a spur landform environment within the broader Yass River catchment landscape (See Plates 1-10: Appendix 2).

The potential for subsurface deposits and artefacts being present within this local spur feature (i.e. within 50 metres of the site) is still considered to be moderate in risk and therefore any proposed development on would have to be subject to the appropriate mitigation measures under Section 90 of the *National Parks and Wildlife Act 1974*.

From the survey results, the greatest concentration of prehistoric Aboriginal land-use evidence is located within Lot 2 associated with an existing outcrop of Tuff stone raw material. The Artefact Scatter Site and PAD is a good example of this with scatter of artefacts eroding from an shallow lithosols around the margins of two exisitng power-poles on a spur land unit(See Figure 7 : Appendix 1).

A lack of native eucalypt trees (River Red gum or box trees) may also reflect a lack of scarred trees found in the assessment area. Extensive clearing from the last century for sheep grazing has meant that no evidence of Aboriginal use of native trees has survived.

In terms of predictive modelling, the surface evidence shows that collectively Lots 1, 3 & 4 are regarded as being of **low potential, whilst a majority of Lot 2** is also considered of **low potential** and are likely to have low risk landform elements such as ridge-crests, ridge slopes with some minor alluvial flat land units located above existing gully features. There are very few retouched stone artefacts associated with the AS/PAD/Quarry on Lot 2 with most of the evidence associated with initial quarrying behaviour to extract simple cores for later stone tool production. This site represents a local stone extraction site which may have been only used once or twice over a millennium.

Although part of the spur landform on Lot 2 is disturbed, there is a medium risk that unidentified Aboriginal objects could be impacted as a result of any future proposed subdivision development near this site. There is exposed evidence of intact archaeological deposits on this spur landform feature.

9. SIGNIFICANCE ASSESSMENT

The consultant has based his Significance Assessment of the Lot 1 DP1007355, Lot 2 DP1185025, and Lot 4 DP1185025 and Lot 3 DP1185025 Cusack Place cultural resource on the following criteria:

- The Burra Charter;

- *NSW Office of Environment & Heritage guide-lines, (i.e.* guide to investigating, assessing and reporting on aboriginal cultural heritage in NSW);

- Australian Heritage Commission national estate criteria;

- Archaeological significance assessment;

- Aboriginal social significance;

- Educational; and

- Cultural landscape values.

It is important to state that not all cultural heritage sites or places are equally significant or important and consequently worthy of long-term preservation. A detailed discussion of significance criterion and how it has changed over time has been undertaken by Byrne et al (2001). The most important criteria for the assessment of the Lot 1 DP1007355, Lot 2 DP1185025, Lot 4 DP1185025 and Lot 3 DP1185025 Cusack Place Aboriginal cultural resources are: Aboriginal social significance, scientific archaeological significance and educational significance. Excluding Aboriginal social significance, these specific criteria will be defined.

9.1 Aboriginal social significance

As this is a due diligence assessment, consultation with potential Aboriginal stakeholder groups is not required.

Scientific significance is defined as: "The scientific or research value of a place. This will depend upon the importance of the data involved, on its rarity, quality or representativeness and on the degree to which the place may contribute further substantive information" (Byrne et al 146:2002).

In the Yass Valley context, the consultant has used the following archaeological assessment criteria concerning Aboriginal history and past land-use, which are represented by the following headings:

- Information and Research Potential;
- Regional Research Priorities;
- Representativeness;
- Rarity;
- Educational Potential; and
- Cultural Landscape Value.

9.1.1 Information and Research Potential

This criterion is relevant to assessing an area's research potential in understanding Australia's cultural history or human occupation of Australia. An area's cultural resource may have the potential to provide information that will contribute to understanding past human behaviour. Three factors are considered important in assessing a site, suite of sites or Aboriginal cultural object as having research potential:

- A place or site's intactness or integrity (this may include the state of preservation of a site or cultural remains). An intact site or place may reveal a greater amount of cultural evidence for past human behavior. Sites in poor condition may be limited in what they can contribute to further research;
- Whether a site or Aboriginal cultural object may demonstrate connectedness to other sites within a landscape or within a regional context; and
- The chronological potential of a site or suite of sites to provide dates of human history for that particular evidence of occupation. This includes whether the site or place has potential for dateable deposits or strata.

9.1.2 Regional Research Priorities

This research criterion is important for assessing the significance of when information will contribute on a regional level and assist other researchers in the understanding of past human behavior. It is usually understood in the context of regional research priorities. Some priorities may be focused on chronology, others on technological variability, while others may be looking at site function.

9.1.3 Representativeness

This archaeological assessment criterion is based on a conservation objective. It is relevant when assessing what a site or place may contribute if it were to be preserved for future generations. The concept has to be assessed in a regional and local context. If very little of this type of site or suite of sites has been conserved, then it becomes a conservation priority. The aim for cultural resource managers is to conserve a representative sample of sites or places for future generations and research.

The main problem of this criterion is that much of the comparative data for site conservation, especially on a regional scale, has not been systematically gathered by many conservation agencies. Defining *variability* may be an aim for cultural resource managers, but if nothing is known about what has been destroyed or lost due to natural or human development processes then comparisons concerning representativeness are meaningless.

Without the above information, archaeologists are encouraged to assess representativeness based on their field experience and on their reading of the representative literature.

9.1.4 Rarity

This concept of significance criteria concerns the issue of how distinct a site or cultural object may be compared to other similar sites or objects. Rare implies that sites or objects of this nature have not been readily reported or assessed in a local or regional context before. The criterion of rarity may be assessed at a range of levels including: local, regional, national, state or international.

9.1.5 Educational Potential

Sites or places that help educate the broader public about Ngunnawal Aboriginal history are a valuable resource. It is usually the level of information retrieved from sites or objects that can really assist in enlightening the public about what happened at a particular place in the past. This educational potential comes from the work of the archaeologist in translating their findings or research results into everyday language that people can understand.

The educational outcomes may be presented in newspaper articles, books, video presentations, lectures, radio broadcasts and information brochures. The information may be displayed as part of a local or regional museum. A mining company may use the research results to inform their employees about Aboriginal cultural history and occupation of a local

area. The Aboriginal community may take the information and use it in local schools to teach and educate children about Ngunnawal Aboriginal history and culture.

9.1.6 Cultural Landscape Value

This value combines the concept of aesthetic and social significance in the broader context of how living Ngunnawal Aboriginal people perceive the local landscape and their sites or cultural objects within it. This Aboriginal concept may be connected to the understanding of religious and scenic values where places and natural features may contain inherent Ngunnawal cultural landscape values.

Sites or cultural objects found within a landscape which is "untouched" or has natural scenic beauty may be important when assessing cumulative impact or broader landscape disturbance. Aboriginal people will place a value on an entire landscape (with all its natural features) and how that may be affected by development impact.

9.2 Site Age and Subsurface potential

Without evidence of buried hearths (i.e. ancient fireplaces) rock-shelter deposits containing dateable carbon material are the only evidence that could be dated directly, none of the open sites recorded in the assessment area can be directly dated. This obviously means that true age cannot be known. Another technique of indirect dating is seriation. Hiscock (1986) has set out the main stone tool reduction sequence for the East regional sequence and is further refining this through research looking (Eastern Sequence Project) to identify the nature and directionality of technological changes in stone artefact assemblages in Aboriginal sites within the Sydney Basin. It is also looking to compare temporal trends between and within sub-regions of the Yass Valley, Hunter Region and the Sydney Basin.

In terms of direct dating the surface evidence is likely to be only a few hundred or thousand years old. One can only speculate, given the extent of erosion and likely disturbance along the spur land unit and surrounding landforms that most sites are probably not more than 1000 – 2000 years old.

9.3 Landscape Setting

The one site recorded was not expected in its current topographical setting. Archaeological material is concentrated along a spur landform associated with an outcrop of tuff material. The highest concentration of occupation evidence is located within a spur landform unit in

the northern part of the assessment area. As a cultural feature, it represent low level Aboriginal stone raw material extraction within of the local catchment of the Yass River Valley.

The quarrying activity represents a series of low intensity stone reduction events which have probably been overlapped through time. Due to the level of soil disturbance by power-line construction and sheep grazing across the assessment area, the possibility of dating individual artefacts has been lost.

10. SIGNIFICANCE RESULTS

10.1 Information and Research Potential

The Aboriginal site recorded is considered to have some research potential based on their contents and condition.

10.2 Regional Research Values and Representativeness

The Aboriginal site recorded is considered to have some regional research value based on its contents and condition.

10.3 Rarity

The Aboriginal site recorded is considered to be rare at a local level.

10.4 Educational Potential

The Aboriginal site recorded is considered to have some educational potential.

10.5 Cultural Landscape Values

The Aboriginal site recorded is considered to have cultural landscape values, however this assessment may change depending on what the project's Registered Aboriginal Parties have to say.

11. SCIENTIFIC SIGNIFICANCE RATING

Based on the above significance criteria, **Table 6** below summarizes the main scientific significance rating for the recorded site. It shows level of scientific significance assessed for

Aboriginal sites/objects located within the subject area. It does not include Aboriginal cultural significance assessment which needs to be incorporated into the project's Aboriginal Cultural Heritage Assessment Report (ACHAR) for the preparation of an AHIP.

The assessment of significance rating for sites can be define using the following general criteria as follows:

High Scientific Significance: A site that demonstrates the potential to provide new information not normally obtained from any other resource to answer current and/or future research questions (may contain unique or rare contents and display high level of representatives and integrity at a regional level. The site may display high cultural significance for local Aboriginal people).

Medium Scientific Significance: A site that demonstrates the potential to contribute significant additional information to answer current and/or future research questions (the site may have good site integrity and show some intactness for archaeological deposits and objects at a local level).

Low Scientific Significance: A site that demonstrates no potential to contribute significant information to answer current or future research questions (usually physically disturbed and contains no rare or unique contents. Regarded as commonly represented on a local and regional level).

Table 6: Level of scientific significance assessed for Aboriginal site located within Lot 2 DP 1185025, 16-21 Cusack Place Yass.

Low	Medium	High
None	Lot 2 AS/Quarry/PAD	None

12. RECOMMENDATIONS

The following recommendations are made in light of the above due diligence and archaeological survey assessment results based on the existing and proposed legal requirements of the *NSW National Parks and Wildlife Act (1974*), and the type of archaeological evidence found within Lot 1 DP 1007355, Lot 2 DP 1185025, Lot 4 DP 1185025 and Lot 3 DP 1185025 16-21 Cusack Place Yass. It is recommended that:

- Overall, the assessment area is considered to have **low** Aboriginal heritage potential.
- If the newly recorded Aboriginal site (AS/Quarry/PAD) **can** be avoided as a result of any future development proposal for Lot 2 DP 1185025, then no further archaeological investigation is warranted.
- If the existing Aboriginal site AS/Quarry/PAD and objects **cannot** be avoided as a result of any future development proposal, then under section 90 of the *National Parks & Wildlife Act 1974*, an application for an area based Aboriginal Heritage Impact Permit (AHIP) to impact the sites should be lodged with Heritage NSW. An Aboriginal Cultural Heritage Assessment Report (ACHAR) and Archaeological Survey Report will accompany the AHIP application.
- The proposed development should not commence until the AHIP is issued, and should then be undertaken in accordance with the AHIP conditions.
- The identified Aboriginal objects comprising open site AS/Quarry/PAD Lot 2 DP 1185025 should be collected after the AHIP is issued and prior to commencement of any proposed development.

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APPENDIX 1

Figures

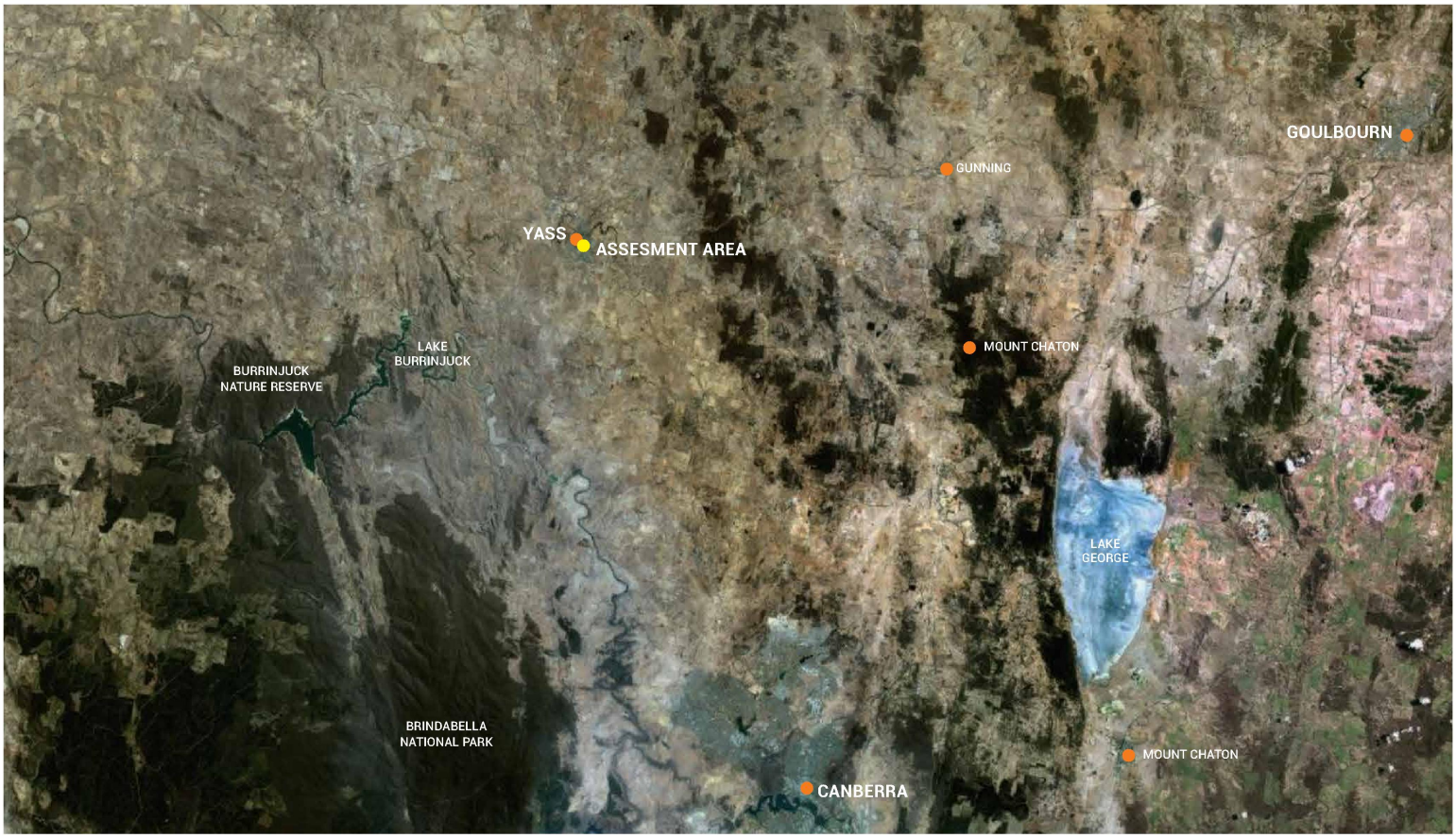


FIGURE 1
GENERAL LOCATION MAP

10KM

archaeological risk assessment services

N

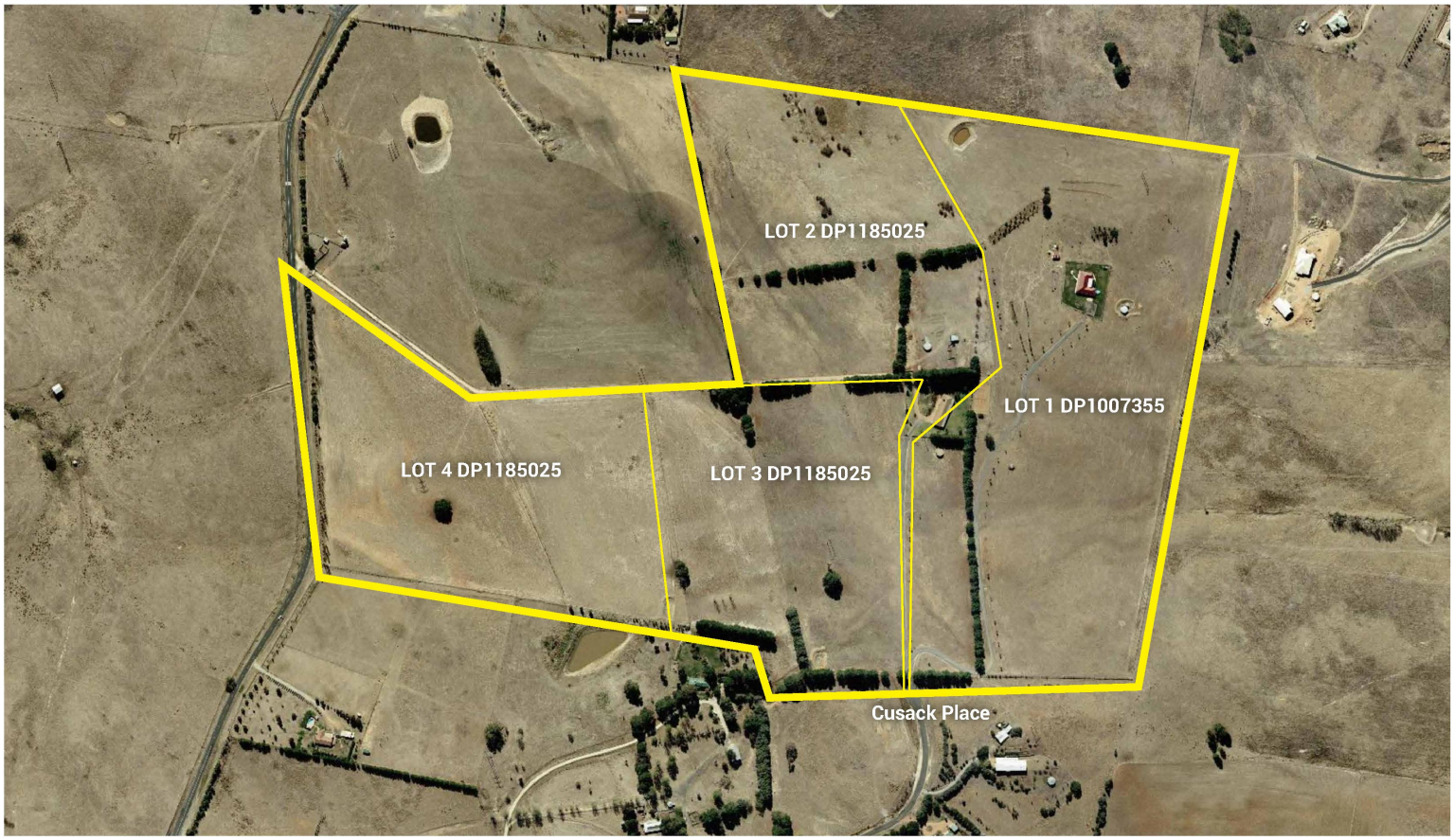


FIGURE 2
LOCATION OF ASSESSMENT
16-21 CUSACK PLACE YASS

100M

= Assessment Area

archaeological risk assessment services

N

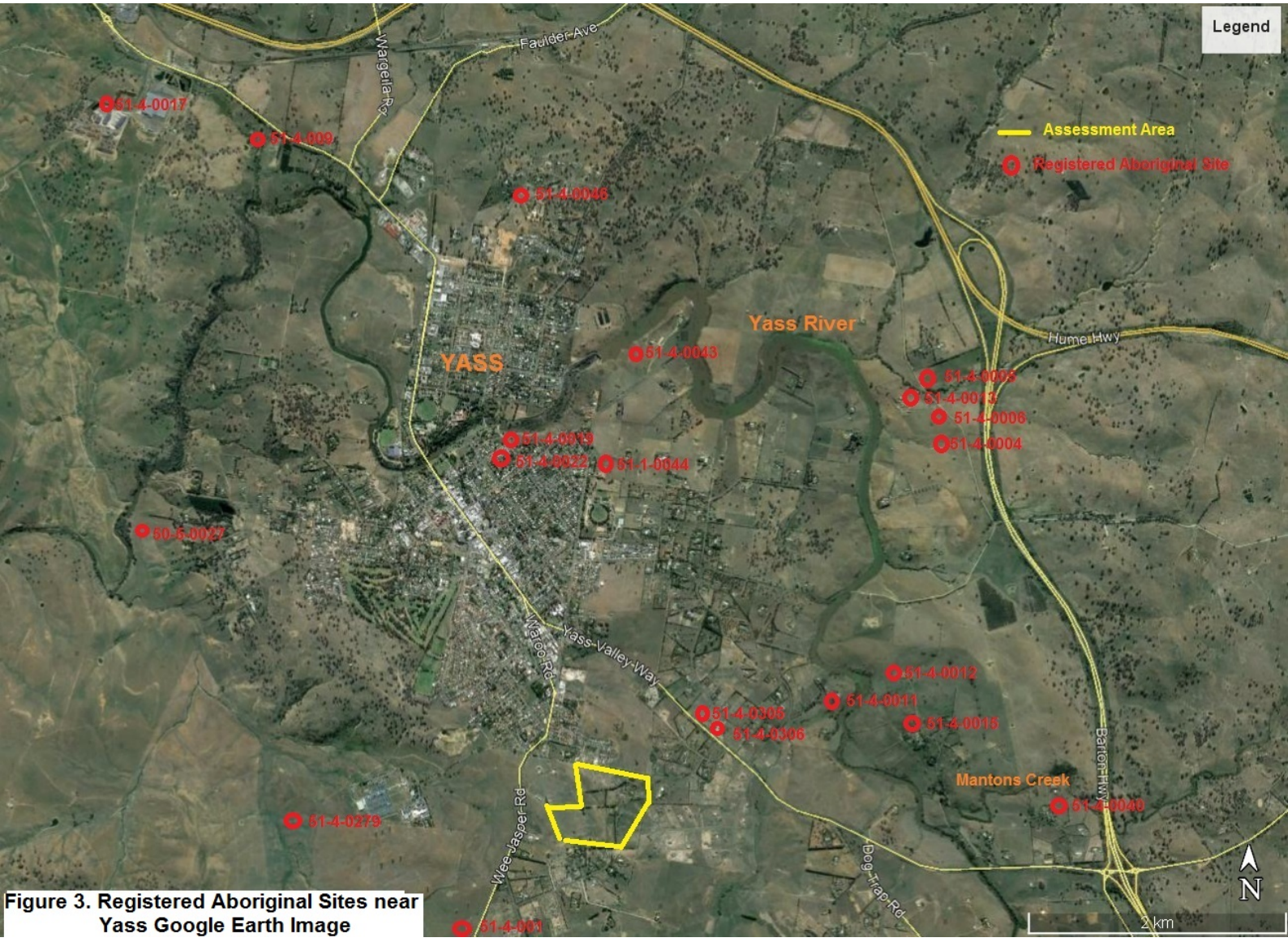


Figure 3. Registered Aboriginal Sites near Yass Google Earth Image

FIGURE 3
LANDFORM MAP

100M

= Assessment Area

archaeological risk assessment services

N

FIGURE 5
DISTURBANCE MAP

100M

= Assessment Area

archaeological risk assessment services

N

FIGURE 8
RESULTS OF THE DUE DILIGENCE ASSESSMENT

100M

= Assessment Area = Newly recorded Aboriginal site

archaeological risk assessment services

N

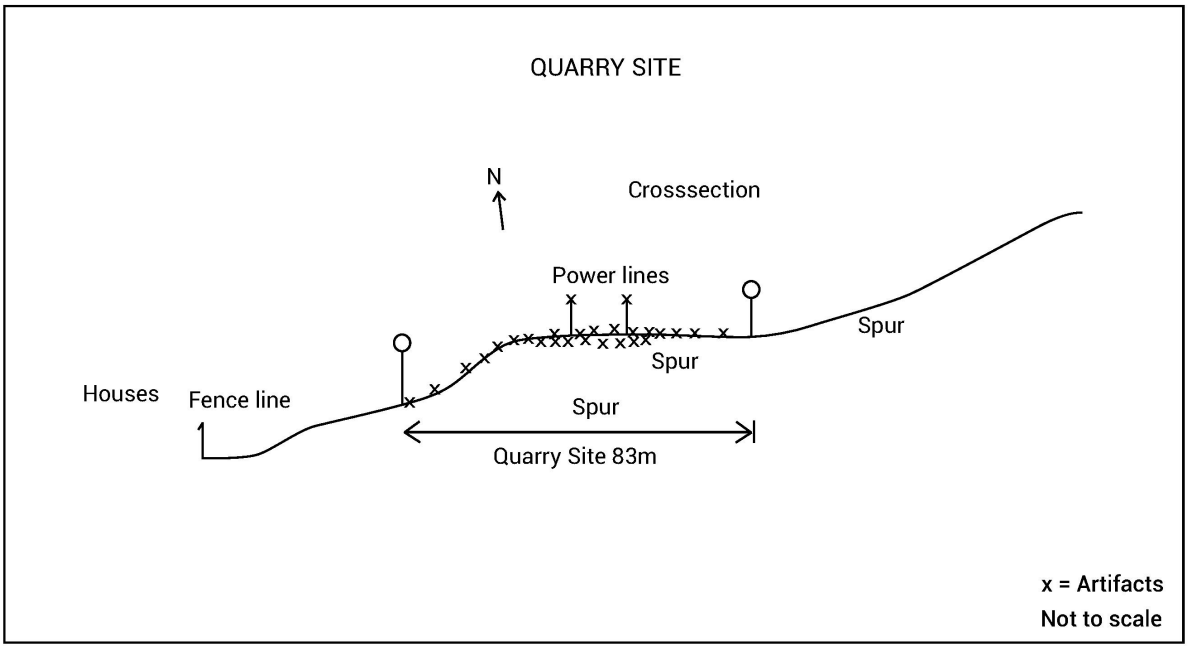


FIGURE 9A
SITE SKETCH MAP

archaeological risk assessment services

QUARRY SITE

30.4.2021

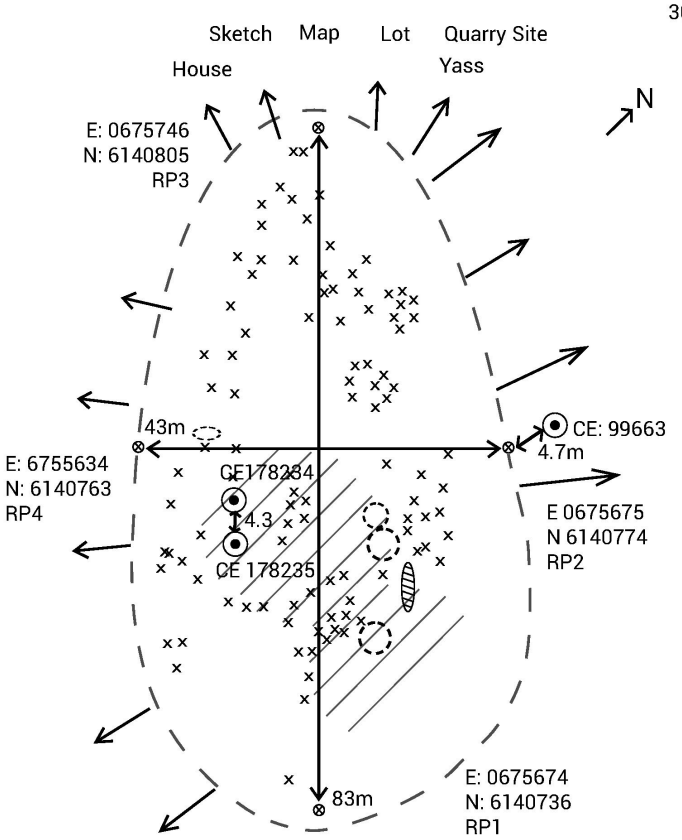


FIGURE 9B
SITE SKETCH MAP

⊗ - Ranging Pole
⊙ - Power Pole
◌ - Depression
× - Artifacts
⬭ - Disturbed Pile
//// - Disturbed - Graded Surface

archaeological risk assessment services

APPENDIX 2

Plates

Plate 1: Transect 1 looking north-west upslope across Lot 3 to ridge-crest landform with power-lines in the background.

Plate 2: Local dam in Lot 3 showing disturbance.

Plate 2: Ground surface visibility showing local gravels

Plate 3: Introduce pine tree adjacent to major power-lines ridge slope landform.

Plate 4: Looking north-east across ridge-crest landform with poor visibility Lot 4.

Plate 5: Looking north across Lot 4 on ridge-crest landform .

Plate 6: Lot 4 gravel deposit partially disturbed.

Plate 7: Lot 2 ridge-crest landform showing power-line easement and exposure.

Plate 8: Lot 3 looking north across ploughed paddock surface with exposed gravels.

Plate 9. Lot 2 on spur showing location of newly recorded Aboriginal site. Orange flags mark artefact locations.

Plate 10. Aboriginal site in profile showing location of power-lines. Orange flags mark artefact locations.

Plate 11. Large tuff flake. Scale = 10cm

Plate 12. Large complete flake made from Tuff raw material. Scale=10cm

Plate 13. Multi-platform core made from Tuff raw material. Scale=10cm

APPENDIX 3

AHIMS Site Searches

Office of Environment & Heritage
NSW GOVERNMENT

AHIMS Web Services (AWS)
Search Result

Purchase Order/Reference : Cusack Place Yass

Client Service ID : 582647

Archaeological Risk Assessment Services (ARAS)

Date: 12 April 2021

Po Box 67
Katoomba New South Wales 2780

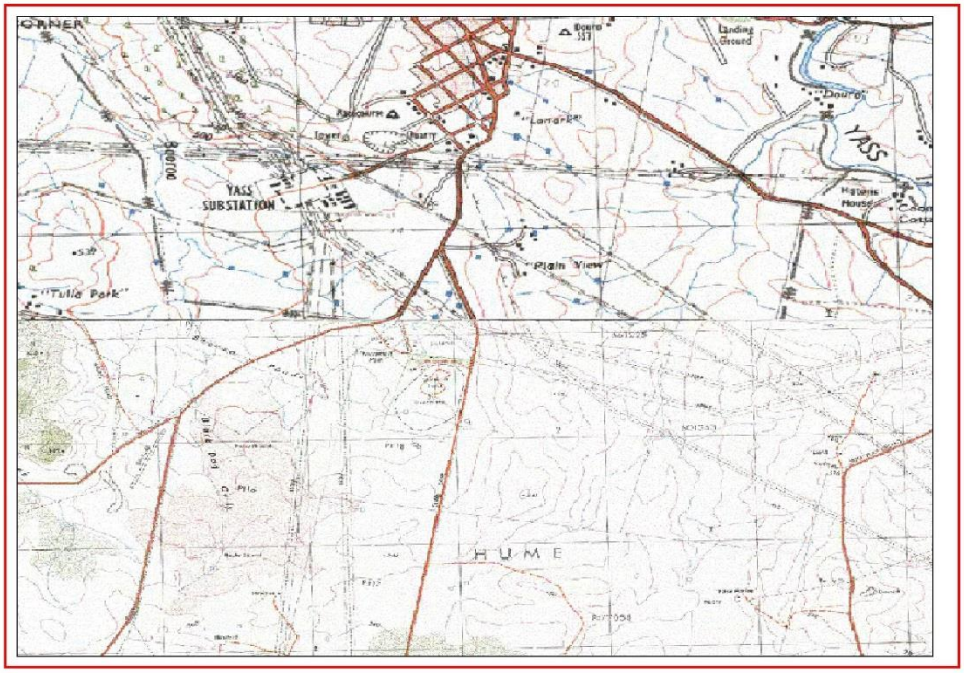
Attention: Giles (Dup Id#12832) Hamm

Email: arasgileshamm@gmail.com

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -34.8958, 148.8845 - Lat, Long To : -34.8541, 148.9506 with a Buffer of 50 meters. Additional Info : Due Diligence Assessment, conducted by Giles (Dup Id#12832) Hamm on 12 April 2021.

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



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

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

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

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

Important information about your AHIMS search

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

3 Marist Place, Parramatta NSW 2150
Locked Bag 5020 Parramatta NSW 2220
Tel: (02) 9585 6380 Fax: (02) 9873 8599

ABN 30 841 387 271
Email: ahims@environment.nsw.gov.au
Web: www.environment.nsw.gov.au

Office of Environment & Heritage
NSW GOVERNMENT

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Cusack Place Yass
Client Service ID : 582647

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
51-4-0011	Y13, Yass	AGD	55	677800	6140850	Open site	Valid	Artefact : -	Open Camp Site	842
	Contact	Recorders	Rex Silcox					Permits		
51-4-0052	YSS1	AGD	55	673750	6140600	Open site	Valid	Artefact : 4		97582,98836
	Contact	Recorders	Mr.Kelvin Officer					Permits		
51-4-0015	Cooma Cottage	AGD	55	678100	6140200	Open site	Valid	Aboriginal Ceremony and Dreaming : -		
	Contact	Recorders	R Mackay					Permits		
51-4-0067	EY - A1	AGD	55	676045	6140780	Open site	Valid	Artefact : 2		102431
	Contact	Recorders	Archaeological Heritage Surveys					Permits	2931,2932,2975,3473	
51-4-0252	TP-IF5	GDA	55	672753	6140046	Open site	Valid	Artefact : 1		
	Contact	Recorders	Kayandel Archaeological Services,Mr.Balazs Hansel					Permits		
51-4-0254	TP-IF7	GDA	55	672357	6141045	Open site	Valid	Artefact : 1		
	Contact	Recorders	Kayandel Archaeological Services,Mr.Balazs Hansel					Permits		
51-4-0255	TP-IF8	GDA	55	672568	6141190	Open site	Valid	Artefact : 1		
	Contact	Recorders	Kayandel Archaeological Services,Mr.Balazs Hansel					Permits		
51-4-0256	TP-IF9	GDA	55	672622	6141404	Open site	Valid	Artefact : 1		
	Contact	Recorders	Kayandel Archaeological Services,Mr.Balazs Hansel					Permits		
51-4-0257	TP-IF10	GDA	55	672658	6141461	Open site	Valid	Artefact : 1		
	Contact	Recorders	Kayandel Archaeological Services,Mr.Balazs Hansel					Permits		
51-4-0258	TP-IF11	GDA	55	672901	6141286	Open site	Valid	Artefact : 1		
	Contact	Recorders	Kayandel Archaeological Services,Mr.Balazs Hansel					Permits		
51-4-0240	TP-AS1	GDA	55	672713	6140529	Open site	Valid	Artefact : 1, Potential Archaeological Deposit (PAD) : -		102370
	Contact	Recorders	Kayandel Archaeological Services,Mr.Balazs Hansel					Permits		
51-4-0273	TP-PAD1	GDA	55	672707	6141385	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	Contact	Recorders	Kayandel Archaeological Services,Mr.Balazs Hansel					Permits		
51-4-0278	TP-ST1	GDA	55	672248	6138520	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	Recorders	Kayandel Archaeological Services,Mr.Balazs Hansel					Permits		
51-4-0279	TP-ST2	GDA	55	672463	6138924	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	Recorders	Kayandel Archaeological Services,Mr.Balazs Hansel					Permits		

Report generated by AHIMS Web Service on 12/04/2021 for Giles (Dup Id#12832) Hamm for the following area at Lat, Long From : -34.8958, 148.8845 - Lat, Long To : -34.8541, 148.9506 with a Buffer of 50 meters. Additional Info : Due Diligence Assessment. Number of Aboriginal sites and Aboriginal objects found is 16

Office of Environment & Heritage

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Cusack Place Yass

Client Service ID : 582647

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
51-4-0305	Cooma Cottage Artefact 1	GDA	55	677806	6140716	Open site	Valid	Artefact : -		
	Contact	Recorders	Mrs.Rebecca Widdows					Permits		
51-4-0306	Cooma Cottage Scar Tree 3	GDA	55	678284	6140501	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mrs.Rebecca Widdows					Permits		

Report generated by AHIMS Web Service on 12/04/2021 for Giles (Dup Id#12832) Hamm for the following area at Lat, Long From : -34.8958, 148.8845 - Lat, Long To : -34.8541, 148.9506 with a Buffer of 50 meters. Additional Info : Due Diligence Assessment. Number of Aboriginal sites and Aboriginal objects found is 16

APPENDIX 4

Stone Artefact Assemblage descriptions for Artefact Scatter Site/Quarry/Potential Archaeological Deposit.

LOT 2 DP 1185025

Site Number	Artefact Type	Raw Material	Cortex (%)	L(mm)	W(mm)	T(mm)	Platform	Termination	Comments
AS1	BF-Distal	Tuff	0	55	30	15	NA	Hinge	
AS1	BFSplit Cone	Tuff	0	65	48	15	NA	Hinge	
AS1	Flaked Piece	Tuff	20	105	60	40	NA	NA	
AS1	Flaked Piece	Tuff	50	45	140	40	NA	NA	
AS1	SPC	Tuff	30	85	57	37	NA	NA	LFS: 60mm x 40mm
AS1	CF	Tuff	20	65	87	15	BP	Step	
AS1	BF-Distal	Tuff	0	150	45	20	NA	Feather	
AS1	CF	Tuff	40	105	48	12	BP	Step	
AS1	BF-Distal	Tuff	50	80	77	40	NA	Hinge	
AS1	CF	Tuff	50	35	50	12	BP	Step	
AS1	CF	Tuff	50	50	70	30	BP	Step	

Site Number	Artefact Type	Raw Material	Cortex (%)	L(mm)	W(mm)	T(mm)	Platform	Termination	Comments
AS 1	MPC	Tuff	40	85	60	50	NA	NA	LFS: 45x 20mm
AS 1	CF	Tuff	40	35	50	22	BP	Step	
AS 1	CF	Tuff	20	12	15	6	BP	Hinge	
AS 1	CF	Tuff	0	40	32	6	FP	Step	
AS 1	BF-Distal	Tuff	20	30	25	5	NA	Feather	
AS 1	BF-Proximal	Tuff	10	67	80	80	BP	NA	
AS 1	CF	Tuff	0	55	47	15	BP	Feather	
AS 1	BF-Medial	Tuff	0	27	20	5	NA	NA	
AS 1	BF-Distal	Tuff	0	55	20	7	NA	Hinge	
AS 1	Flaked Piece	Tuff	20	110	87	37	NA	NA	
AS 1	CF	Tuff	0	45	25	8	BP	Step	
AS 1	BF-Distal	Tuff	0	65	50	20	NA	Step	
AS 1	CF	Tuff	30	50	55	20	BP	Feather	
AS 1	BF-Distal	Tuff	70	100	50	25	NA	Step	
AS 1	BF-Distal	Tuff	0	55	55	10	NA	Hinge	
AS 1	CF	Tuff	70	120	60	28	BP	Step	
AS 1	BF-Distal	Tuff	80	95	80	55	NA	Step	
AS 1	BF-Distal	Tuff	70	55	35	15	NA	Hinge	
AS 1	CF	Tuff	80	95	60	30	BP	Step	

Site Number	Artefact Type	Raw Material	Cortex (%)	L(mm)	W(mm)	T(mm)	Platform	Termination	Comments
AS 1	CF	Tuff	30	30	20	7	BP	Step	
AS 1	BF-Medial	Tuff	0	45	30	8	NA	NA	
AS 1	BF-Distal	Tuff	30	40	45	9	NA	Feather	
AS 1	BF-Medial	Tuff	0	45	25	8	NA	NA	
AS 1	CF	Tuff	50	47	70	45	BP	Step	
AS 1	Flaked Piece	Tuff	50	70	60	12	NA	NA	
AS 1	BF-Distal	Tuff	50	60	30	18	NA	Feather	
AS 1	BF-Distal	Tuff	0	45	78	28	NA	Hinge	
AS 1	CF	Tuff	60	70	90	35	BP	Step	
AS 1	SPC	Tuff	60	120	50	48	NA	NA	LFS: 50 x 45mm
AS 1	CF	Tuff	0	35	30	10	BP	Step	
AS 1	BF-Distal	Tuff	40	70	60	22	NA	Step	
AS 1	BF-Proximal	Tuff	0	35	33	6	BP	NA	
AS 1	BF-Distal	Tuff	0	50	25	12	NA	Step	
AS 1	BF-Medial	Tuff	0	37	27	8	NA	NA	
AS 1	CF	Tuff	30	80	45	12	BP	Hinge	
AS 1	CF	Tuff	40	47	67	15	BP	Step	
AS 1	BF-Distal	Tuff	30	55	28	20	NA	Feather	
AS 1	BF-Medial	Tuff	20	50	58	9	NA	NA	

Site Number	Artefact Type	Raw Material	Cortex (%)	L(mm)	W(mm)	T(mm)	Platform	Termination	Comments
AS 1	BF-Proximal	Tuff	20	70	80	16	BP	NA	
AS 1	CF	Tuff	50	50	80	25	BP	Step	
AS 1	BF-Medial	Tuff	0	60	35	11	NA	NA	
AS 1	Flaked Piece	Tuff	30	120	52	28	NA	NA	
AS 1	BF-Medial	Tuff	0	90	65	12	NA	NA	
AS 1	CF	Tuff	30	52	65	20	BP	Step	
AS 1	CF	Tuff	20	60	58	15	FP	Step	
AS 1	BF-Distal	Tuff	30	65	47	15	NA	Feather	
AS 1	BF-Distal	Tuff	40	107	40	20	NA	Step	
AS 1	BF-Distal	Tuff	20	70	42	16	NA	Feather	
AS 1	BF-Distal	Tuff	20	70	50	12	NA	Step	
AS 1	CF	Tuff	60	40	60	25	BP	Step	
AS 1	Flaked Piece	Tuff	40	107	90	35	NA	NA	
AS 1	CF	Tuff	0	60	60	20	BP	Feather	
AS 1	Flaked Piece	Tuff	30	70	62	35	NA	NA	
AS 1	BF-Distal	Tuff	0	80	60	20	NA	Step	
AS 1	MPC	Tuff	50	110	90	70	NA	NA	LFS: 60 x 30mm
AS 1	CF	Tuff	0	135	35	20	FP	Feather	

Appendix 5

General Glossary of Terms

Aboriginal heritage impact permit	A permit issued by the Director-General of DECC allowing a person to harm Aboriginal objects (i.e. to destroy, deface, damage or desecrate objects or to move objects)
Aboriginal object	A statutory term defined under the National Parks and Wildlife Act 1974 meaning, 'any deposit, object or material evidence (not being handicraft made for sale) relating to Aboriginal habitation of the area comprising NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes human remains
Aboriginal place **(as defined in the *NPW Act*)**	A place declared under s.84 of the NPW Act that, in the opinion of the Minister, is or was of special significance to Aboriginal culture.
Activity	A project, development, activity or work (this term is used in its ordinary meaning, and does not just refer to an activity as defined by Part 5 EP&A Act).
Additional surface disturbance	Clear, observable disturbance of existing ground surface or obvious changes to existing ground surface – e.g. removal of vegetation; construction of new fire trail, construction of new dam or contour

	banks, ploughing a previously grazed paddock.
Analysis	Evaluation of archaeological data to determine the archaeological significance of sites recorded within an impact area.
Analytical recording	A process of site recording which obtains detailed archaeological data useful in archaeological analysis.
Archaeological comparability	The evaluation of whether archaeological sites are uniformly different or similar across an impact area.
Archaeological data	Archaeological information that is recorded as a result of an archaeological investigation.
Archaeological deposit	A layer of soil material containing archaeological remains.
Archaeological investigation	The process of assessing the archaeological potential of an impact area by a qualified archaeologist.
Archaeological survey	A method of data collection for Aboriginal heritage assessment. It involves a survey team walking over the land in a systematic way, recording information about how and where the survey is conducted, recording information about the landscape and recording any archaeological sites or materials that are visible on the land surface. The activities undertaken by a survey team do not involve invasive or

	destructive procedures, and are limited to note taking, photography and making other records of the landscape and archaeological sites (e.g. sketching maps or archaeological features).
Artefact scatter	A collection of artefacts usually lying as a lag deposit on an eroding surface.
Artefact	❒ Any object made by human agency (e.g. stone artefacts). ❒ For the purposes of this Code, 'artefact' has the same meaning as object, (excluding the extension of the term to 'deposits') as defined in the NPW Act.
Assemblage	❒ A group of stone artefacts found in close association with one another; and ❒ Any group of items designated for analysis - without any assumptions of chronological or spatial relatedness (Witter 1995).
Avoidance	A management strategy which protects Aboriginal Sites within an impact area by avoiding them totally in development.
Broken flake	A flake which is either a distal fragment, medial fragment or proximal fragment.
Campsite	A site which contains a variety of artefactual data not specific to one

	type of stone tool reduction sequence.
Code of practice	A set of guidelines to be followed by members of a particular occupation or organisation; does not normally have the force of law.
Complete flake	A flake which is whole and not broken.
Conflict site	A site where confrontation occurred between Aboriginal and non-Aboriginal people or between different Aboriginal groups.
Contact site	A site relating to the period of first contact between Aboriginal and non-Aboriginal people.
Core	A lump or nodule of stone from which flakes have been removed
Culturally modified tree	A tree that has been scarred, carved or modified by an Aboriginal person by: ❒ the deliberate removal, by traditional methods, of bark or wood from the tree; or ❒ the deliberate modification, by traditional methods, of the wood of the tree.
Debitage	Unmodified flakes or fragments of stone material removed as a result of stone tool manufacture or modification

Declared Aboriginal place

A statutory concept, meaning any place declared to be an Aboriginal place (under s.84 of the NPW Act) by the Minister administering the NPW Act, by order published in the Gazette, because the Minister is of the opinion that the place is or was of special significance with respect to Aboriginal culture. It may or may not contain Aboriginal objects.

Disturbed land

For the purposes of this clause, land is disturbed if it has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable.

Note 1. Examples of activities that may have disturbed land include the following:

- ❒ soil 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 of 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, storm water

drainage and other similar infrastructure);

- ❒ substantial grazing involving the construction of rural infrastructure; and
- ❒ construction of earthworks associated with anything referred to in paragraphs (a)–(g).

The Low Impact Activities prescribed by the NPW Regulation do not apply in relation to any harm to an Aboriginal culturally modified (scarred) tree.

Due diligence

The degree of care and caution required before making a decision.

Exposed in section

The vertical exposure of a soil that reveals the stratigraphy or the profile of the soil and any objects it may contain. Sections may:

- ❒ be revealed during archaeological excavations (formed by the walls of the excavation);
- ❒ occur naturally in creek and river banks, land slips, wind-eroded dune faces or other such naturally formed vertical profiles; or
- ❒ be formed artificially, for example in road and railway cuttings.

Exposure

Is different to visibility because it estimates the area with a likelihood of revealing buried artefacts or deposits rather than just being an observation of the amount of bare

	ground. It is the percentage of land for which erosion and exposure was sufficient to reveal archaeological evidence on the surface of the ground. Put another way, exposure refers to 'what reveals' (see also Burke and Smith 2004: 78–80, NPWS 1999).
Exposure type	Refers to the results of erosional processes: sheet wash, gullying, blowouts, salt scalds, tracks or animal pads. As well as erosional processes, ground exposure may be caused by earth-moving machinery (e.g. bulldozers and graders, vehicle traffic etc.).
Flake	A piece of stone detached from a core, displaying a bulb of percussion and striking platform
Flaked piece	A fragment of stone where negative flake scarring is visible but no obvious striking platforms are present
Full coverage survey	A survey conducted on foot in which all surfaces within the subject area are systematically observed and recorded.
Hand tools	Include spades, trowels, shovels, pans and brushes.
Harm an Aboriginal object *as defined in the NPW Act 1974 and Wildlife Act 1974*)	❒ Destroy, deface, damage or desecrate an object;

	❒ Move an object from the land on which it is situated; or ❒ Cause or permit an object to be harmed.
Hearth	The site of a campfire represented by charcoal, burnt earth, ash and sometimes stones used as heat retainers.
Impact area	An area that requires archaeological investigation and management assessment.
In situ	Latin words meaning 'on the spot, undisturbed'.
Isolated find	A single artefact found in an isolated context.
Knapping floor	A location on a site which normally represents a stone artefact reduction episode.
Landforms	Are the units (or similar) of land description explained and defined as 'landform elements' in The National Committee on Soil and Terrain (eds) *Australian Soil and Land Survey Field Handbook.* Landforms have a characteristic dimension of about 40 m. There are 70 landform elements defined in the *Australian Soil and Land Survey Field Handbook* (Speight 1990: 16; 17–44). Landforms are the primary subdivisions for the survey stratification.

Land system	An area, or group of areas, commonly delineated on a map, throughout which there is a recurring pattern of topography, soils, and vegetation.
Land unit	An area of common landform, and frequently with common geology, soils, and vegetation types, occurring repeatedly at similar points in the landscape over a defined region. It is a constituent part of a land system.
Landform	Any one of the various features that make up the surface of the earth.
Landscape	That part of the land's surface, more or less extensive being viewed or under study, that relates to all aspects of its physical appearance, including various vegetation associations and landforms.
Management plans	Conservation plans which identify short and long term management strategies for all known sites recorded within an impact area.
Material traces	Of past Aboriginal land use has the same meaning as 'Aboriginal object' in the NPW Act. See 'Aboriginal object'.
Methodology	The procedures used to undertake an archaeological investigation.
Minimum requirements	The minimum standard for which OEH will accept the reporting of an archaeological investigation.

Mitigation	To address the problem of conflict between land use and site conservation.
Objects	Has the same meaning as 'Aboriginal object' in the NPW Act. See 'Aboriginal object'.
Open area excavation	A method of excavation where large areas of an archaeological site are open at any one time. A horizontal representation of Aboriginal occupation of different archaeological features is considered to be more important than vertical stratigraphic relationships.
Open site	An archaeological site situated within an open space (e.g. archaeological material located on a creek bank, in a forest, on a hill etc.).
Potential archaeological deposit (PAD)	Is an area where sub-surface stone artefacts and/or other cultural materials are likely to occur (DEC 2005: 67)?
Research design	A research strategy for carrying out an intensive archaeological investigation and analysis.
Rock shelters	Are vertical or overhanging rock formations, including any flat or not steeply inclined ground surface below the overhang or at the base of the vertical face, which contain, or may be reasonably expected to

	contain, material traces of past Aboriginal land use (objects).
Salvage	A method by which an archaeological site or group of sites may be fully investigated before they are totally destroyed by a development.
Sample unit	An area of investigation which is uniform size or density and which can be quantified for analytical reasons.
Sampling	The process of selecting part of an area under archaeological investigation as a basis for generalising about the whole.
Site recording	The systematic process of collecting archaeological data for an archaeological investigation.
Site	A place where past human activity is identifiable
Sites	Is sometimes used as another name for Aboriginal objects and material traces of past Aboriginal land use. The term is commonly used in archaeological assessments and discourse.
Spatial significance	A site which may contain potential sub-surface deposits or in situ material useful in the analysis of human use of land and site formation process.
Subject area	Refers to the area that is the subject of archaeological investigation.

	Ordinarily this would include the area that is being considered for development approval, inclusive of the proposed development footprint and all associated land parcels. To avoid doubt, the subject area should be determined and presented on a project-by-project basis.
Summary recording	A process of site recording where archaeological data is collected on a summary level only.
Survey coverage	A graphic and statistical representation of how much of an impact area was actually surveyed and therefore assessed.
Survey units	Are strictly defined by OEH to include only units of land that have been surveyed on foot. A survey unit may include more than one landform unit, correspond to a landform unit or be smaller than a landform unit depending on how the sampling strategy is structured. The survey unit is the minimum analytical or descriptive unit for the survey, and may be the same as the landform. A single survey unit should not cross the boundaries of different landforms, but there may be more than one survey unit within a landform. Sometimes survey units are also referred to as 'sampling units'.

Technological significance	Artefactual material which may contain types or items, although not unique, may be included in a sample to demonstrate an aspect of stone artefact variability.
Test excavation	A process of exploratory excavation carried out on a small scale and used to determine site extent, site condition and excavation potential.
Trivial or negligible acts	❒ Actions which have minimal impact on the environment; ❒ Examples of what may be "trivial or negligible acts" given in the OEH Code are "picking up and replacing a small stone artefact, breaking a small Aboriginal object when you are gardening or crushing a small Aboriginal object when you walk on a track, picnicking, camping or other similar recreational activities".
Types of sites or types of features	Refers to the particular characteristics of material traces of past Aboriginal land use. For example, a rock shelter site is a type of site distinct from a scared tree. In addition, a rock shelter site (and indeed many sites) may contain multiple archaeological or cultural features: rock art, stone artefacts, and archaeological deposits.
Vehicle traverses	Activities involving the archaeological observation of a subject area from a vehicle.

Visibility	The amount of bare ground (or visibility) on the exposures which might reveal artefacts or other archaeological materials. It is important to note that visibility, on its own, is not a reliable indicator of the detectability of buried archaeological material. Things like vegetation, plant or leaf litter, loose sand, stony ground or introduced materials will affect the visibility. Put another way, visibility refers to 'what conceals' (see also Burke and Smith 2004: 78–80, NPWS 1999).