



**AREA 20 PRECINCT
NORTH WEST GROWTH CENTRE
Aboriginal Heritage Assessment**

Prepared for the NSW Department of Planning

Final Report
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1 Introduction

The NSW Department of Planning (formerly Growth Centres Commission) is coordinating the sustainable supply of land and delivery of infrastructure within the North West and South West Growth Centres, to accommodate the future growth of Sydney.

The Department of Planning (DoP) has started the Precinct Planning process for the Area 20 Precinct in the North West Growth Centre. Area 20 is within the Blacktown Local Government Area. The general location of the precinct is shown in Figure 1. The precinct boundary is generally located to the west of Windsor Road and north of Schofields Road. Second Ponds Creek flows through the middle of the precinct. Following a precinct boundary review process, the Area 20 precinct incorporates part of the Riverstone East precinct. The total study area comprises around 245 hectares of land. The Area 20 precinct boundary (study area) is shown in Figure 2.

Precinct planning involves detailed investigations into appropriate land use options, physical environmental constraints and infrastructure requirements. Environmental and urban form assessments are being undertaken to inform the rezoning of the land as well as the development layout of the precinct. DoP has engaged Kelleher Nightingale Consulting Pty Ltd (KNC) and registered Aboriginal stakeholders to carry out an Aboriginal heritage study as part of the Area 20 precinct planning process.

1.1 Assessment Process

The assessment followed the principles of the Precinct assessment method and Protocol for Aboriginal Stakeholder involvement developed by the then Growth Centres Commission. Step 1 of the process was to gather and analyse existing documentation and identify gaps in the information which is then investigated in Step 2 of the process.

Sources of known information regarding the precinct and immediate surrounds were identified during Step 1 of the assessment process. This included an understanding of the geology, soils and landform of the area, ethno-historical and historical information and the known archaeological context. The results of the background information gathering, as well as some thoughts for further discussion and consideration were presented in a Step 1 report which was provided for review and input by Aboriginal stakeholders, before progressing onto Step 2 of the project.

Step 2 involved detailed site investigations, including field survey with registered Aboriginal stakeholders and identification of Aboriginal sites and areas of potential archaeological deposit across the precinct. The results of the survey were documented in a Step 2 report. The results formed the basis for discussion on the Aboriginal heritage significance of Aboriginal heritage sites and areas of archaeological potential, as well as the precinct on the whole, as part of the significance ranking process.

The significance rankings then formed the basis of preliminary recommendations in relation to Aboriginal cultural heritage values for the precinct planning for Area 20 which were developed in Step 3 of the process. The results of the significance ranking process and preliminary recommendations were presented in a Step 3 report. The preliminary recommendations also took into consideration a review of the preliminary draft Indicative Layout Plan (ILP) developed by DoP, a map of which was included for consideration and input by registered Aboriginal stakeholders.

Following Aboriginal stakeholder review and comment on the Step 3 report, a final draft report has been prepared to allow DoP to take into consideration the significance rankings and recommendations with regard to Aboriginal cultural heritage to inform the ongoing development of the ILP which sets out the future land use for the precinct. The final draft report, incorporating the final draft ILP, was provided to Aboriginal stakeholders for further review and comment.

In this way, Aboriginal heritage has been considered during all stages of the precinct planning process, helping to inform the development of the ILP for the precinct.

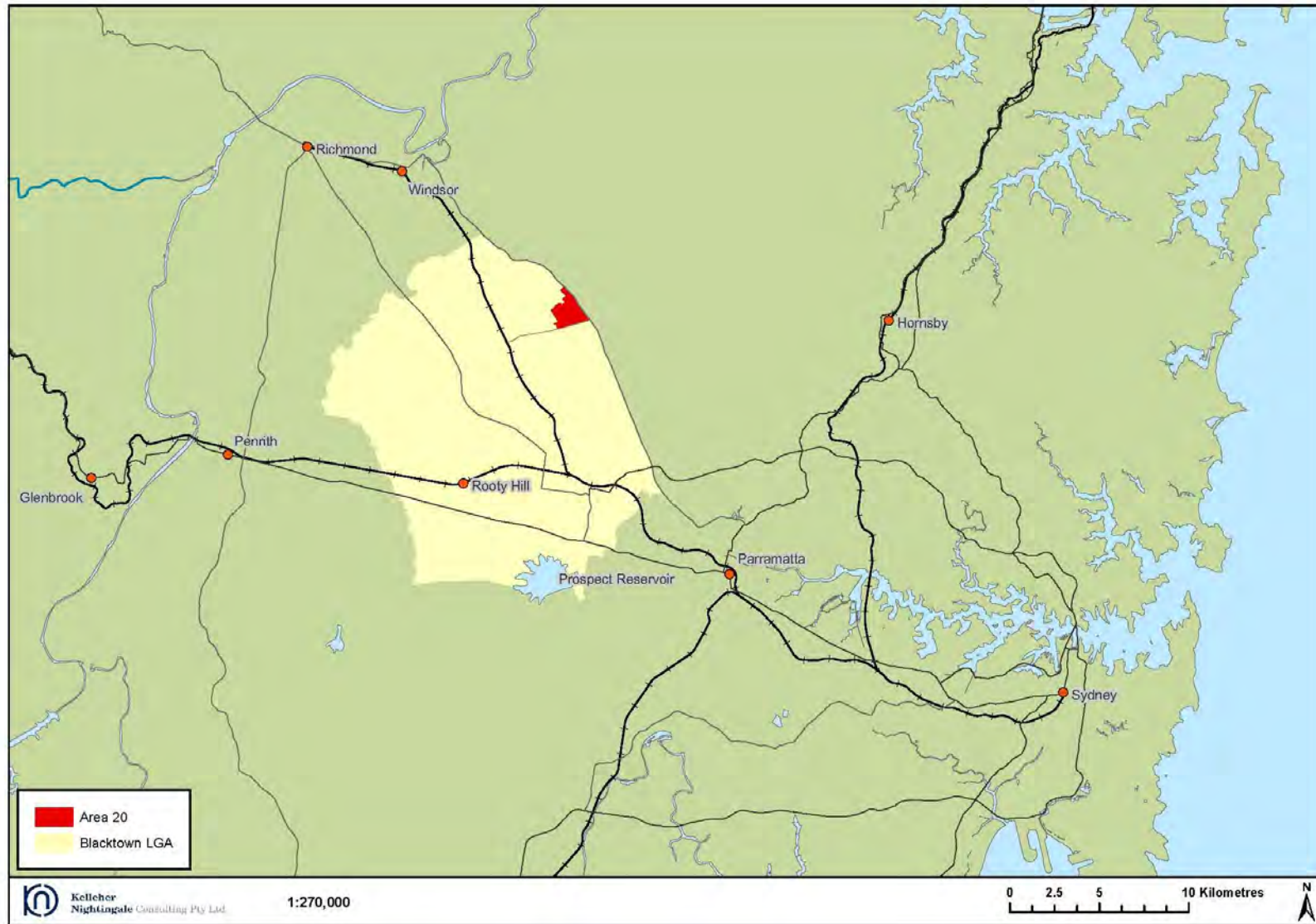


Figure 1. Study area location

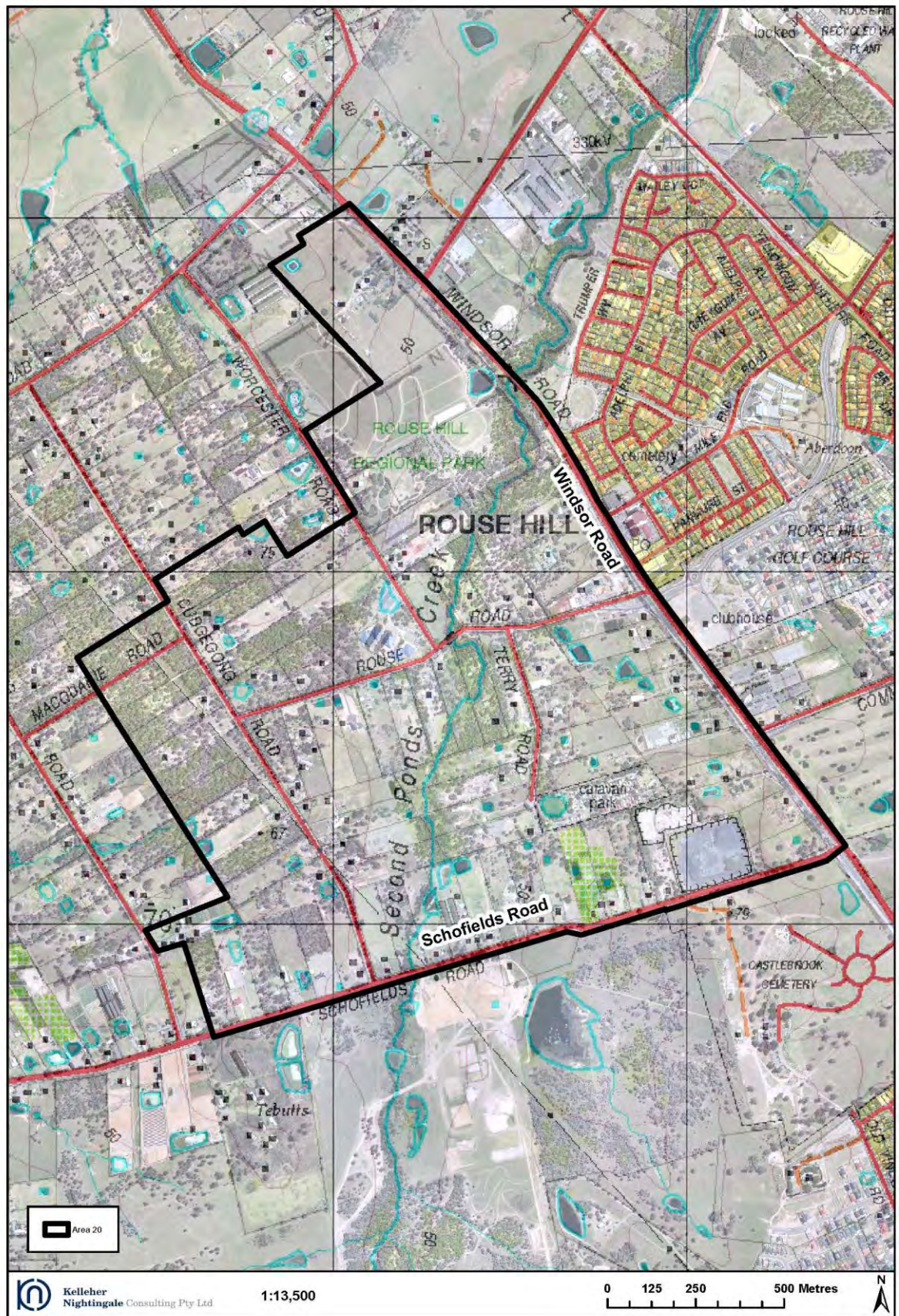


Figure 2. Precinct boundary

2 Aboriginal Stakeholder Consultation and Participation

2.1 Stakeholder Identification and Consultation

All steps of the assessment process have been undertaken in consultation and with participation of the registered Aboriginal stakeholders for the precinct:

- Deerubbin Local Aboriginal Land Council (DLALC);
- Darug Tribal Aboriginal Corporation (DTAC);
- Darug Custodian Aboriginal Corporation (DCAC);
- Darug Aboriginal Cultural Heritage Assessments (DACHA);
- Darug Land Observations (DLO);
- Yarrowalk Aboriginal Corporation; and
- Anthony John Williams.

Stakeholders were identified by the Department of Planning, both in the Protocol and through an advertisement process. A copy of the advertisement and the locations in which it appeared are attached as Appendix A.

Consultation with Aboriginal stakeholders is essential for identifying the Aboriginal cultural heritage sites, values, constraints and opportunities of the precinct.

The aim of consultation is to ensure all registered stakeholders have an opportunity to find out about the proposed future development of Area 20 and provide input into the rezoning, precinct planning and management of Aboriginal heritage.

Stakeholders were contacted at the outset of the project to discuss the proposed future development of the precinct, the assessment process and their participation in the assessment including providing information, undertaking site walkovers and reviewing and commenting on the various step reports. In addition to discussions throughout the assessment, each step report has been provided to stakeholders for review and input prior to proceeding onto the next step of the process.

Stakeholder comments received on the various steps in the assessment process are outlined below and incorporated into the significance rankings and recommendations (see sections 10 and 12). Written comments are attached in full in Appendix B.

2.2 Aboriginal Stakeholder Comments

Throughout the assessment process, formal comments have been provided by four of the registered Aboriginal stakeholders during various steps in the assessment process:

- Deerubbin Local Aboriginal Land Council (letter dated 18 August 2009);
- Darug Custodian Aboriginal Corporation (letters dated 6 October 2009 and 14 July 2010);
- Darug Aboriginal Cultural Heritage Assessments (telephone discussion 15 October 2009 and letter dated 13 July 2010); and
- Darug Land Observations (telephone discussion, 15 October 2009).

Deerubbin Local Aboriginal Land Council affirmed that a representative inspected various properties within the Area 20 precinct during Step 2 of the process. DLALC undertook an Aboriginal cultural heritage assessment to evaluate the impact of development on the Aboriginal cultural heritage of the land. As a result, DLALC made recommendations for the precinct:

Due to the high number of Aboriginal cultural heritage sites, namely 20, (being Isolated Finds, Open Camp Sites & Potential Archaeological Deposits) located within Area 20 Precinct of the North West Growth Centre, Second Ponds Creek, Rouse Hill Deerubbin LALC requires further investigations before development impact occurs (letter dated 18th August 2009).

Following their review of the Step 3 report, Darug Custodian Aboriginal Corporation commented that the consultation process had been very thorough and inclusive. DCAC supports the findings and recommendations as presented in Step 3 report.

DCAC assessed that much of the precinct has had disturbance to the natural soil profiles and landforms and agrees with the mapping of areas of disturbance as shown in the report.

DCAC also confirmed the areas of significance as shown in the report were accurately represented. The value of the area on the whole was expressed by DCAC:

This area is of great importance to the Darug, it is within close proximity to many Darug sites and close to Plumpton Ridge, these areas need to be researched before all our important Darug sites are destroyed by development, Area 20 is in between first ponds creek and Second Ponds Creek, evidence already shows from these two areas that this was an area used and revisited by (sic) many Darug for thousands of years (letter dated 6th October 2009).

DCAC supports the area as shown in the draft Step 3 report as being for conservation and further recommended that all areas with high significance rankings should have conservation outcomes.

DACHA (telephone discussion 15th October 2009) formally stated that it was happy with the way the project had been conducted and DACHA considered it had been more than adequate.

DLO (telephone discussion 15th October 2009) formally stated that it agreed with everything that was in the Step 3 report. DLO indicated a preference to wait to provide a formal written statement at the final stages of the planning process.

All comments provided throughout the assessment process were included in the heritage assessment and taken into consideration by the Department of Planning in the formulation of the final draft Indicative Layout Plan for the future development of the Precinct (Draft ILP 8, dated 16 June 2010). The final draft report including Draft ILP 8, was provided to all registered stakeholders on 5 July 2010 for their final review and comment, with a 28 day review period allowed for.

Following their review of the Final Draft report and final draft ILP, DCAC provided additional comments and recommendations (letter dated 14 July 2010). These have been included below and integrated into the recommendations.

Our group supports the recommendations and findings set out within this report we would ask for additional recommendations for this project. Signage erected at appropriate places to promote Darug land and people, Darug names used where appropriate within this development. One of our groups main aims is promotion and education on Darug culture our people have lived in this area for thousands of years and this is still not a well known fact.

We are pleased with the consultation and the work carried out on this project and support this final draft report.

Following review of the final draft report, DACHA provided formal written comment (letter dated 13 July 2010):

DACHA have reviewed your report and we support your recommendations. We also wish for all sites of high significance to be conserved where possible and where applicable test/salvage excavation will give more knowledge about these very important Darug sites and more recognition of the area's Darug heritage. DACHA wish to be involved in all stages of this project and wish to be consulted at all times.

All written stakeholder comments provided throughout the assessment process are attached in full in Appendix B.

3 Environmental Background

3.1 Geology, Soils and Landform

3.1.1 Geology and Raw Material Sources

The study area is located on the Cumberland Plain, a large low-lying and gently undulating landform in the Sydney Basin. The Sydney Basin is a large geological feature that stretches from Batemans Bay in the south, Newcastle in the north and Lithgow in the west. The formation of the basin began between 250 to 300 million years ago when river deltas gradually replaced the ocean that had extended as far west as Lithgow (Pickett and Alder 1997). The oldest, Permian layers of the Sydney Basin consist of marine, alluvial and deltaic deposits that include shales and mudstone overlain by Coal Measures. By the Triassic period the basin consisted of a large coastal plain, with deposits from this period divided into three main groups: the Narrabeen Group, Hawkesbury Sandstone and the Wianamatta Group (Clark and Jones 1991, Pickett and Alder 1997).

The underlying geology of the study area consisted of Ashfield Shale and Bringelly Shale, with an intermediary layer of Minchinbury Sandstone (see Figure 3). These three late Triassic deposits form the Wianamatta Group – a sequence of deposits overlying the older Triassic Hawkesbury Sandstone and Narrabeen Group deposits.

Bringelly Shale, the youngest deposit within the Wianamatta Group, occurs across the higher portions of the study area. Bringelly Shale consisted of shale, carbonaceous claystone, claystone, laminite, fine to medium-grained lithic sandstone, rare coal and tuff. The thin layer of Minchinbury Sandstone between the Bringelly Shale and Ashfield Shale consisted of fine to medium-grained quartz-lithic sandstone. Ashfield Shale, the oldest layer of the Wianamatta Group, underlies the lower portions of the study area associated with Second Ponds Creek. Ashfield Shale consisted of dark-grey to black claystone-siltstone and fine sandstone-siltstone laminite.

Several geological units across the Cumberland Plain have been identified as potential sources of stone raw material suitable for flaking. This includes silcrete sourced from the St Marys Formation, and tuff/indurated mudstone and silcrete from the Cranebrook Formation and Rickabys Creek Formation (Baker 2000; JMcD CHM 2002; Jones and Clark 1991).

A large and well documented silcrete quarry was located within the St Marys Formation at Plumpton Ridge, approximately 6 km southwest of the study area (JMcD CHM 2006). Naturally occurring silcrete gravel was identified within Area 20 during salvage excavation at site OWR2, in the northeast corner of the study area (JMcD CHM 2005). Analysis of the artefacts from OWR2 concluded that there was only limited evidence to support the use of the naturally occurring silcrete source as a quarry (JMcD CHM 2005: 38).

Suitable silcrete has also been documented as occurring in other remaining sections of the St Marys Formation across the Cumberland Plain (Baker 2000; JMcD CHM 2006). In addition to the St Marys Formation, the Rickabys Creek Formation and Cranebrook Formation were potential sources of tuff/indurated mudstone and silcrete (Baker 2000; JMcD CHM 2006). The closest deposit of the Rickabys Creek Formation was at South Creek, approximately 8.5 km west of the study area.

3.1.2 Soils and Landform

The drainage system within the study area centres around Second Ponds Creek, a second order drainage line that flows north towards Cattai Creek. Second Ponds Creek flows through the centre of the study area, bordered on either side by a narrow floodplain. Gently sloping hillslope bordered either side of the floodplain, rising to higher terrain in the western and southeastern portions of the study area.

The higher terrain within the study area consisted of low-lying ridgelines that ran approximately parallel with Second Ponds Creek. These ridgelines divided the drainage system of Second Ponds Creek from neighbouring drainage lines, including First Ponds Creek to the west and Caddies Creek to the east. A large portion of the ridgeline to the west of Second Ponds Creek ran along the western boundary of the study area from Schofields Road through to Windsor Road. Only a small portion of the ridgeline to the east of Second Ponds Creek was within the study area boundaries, of which a large portion has been removed by quarrying.

Soils across the study area were largely residual soils developed *in situ* from the underlying shale geology (Bannerman and Hazelton 1990). Soils within the study area formed part of the Blacktown soil landscape, a shallow to moderately deep soil characteristic of the gently undulating terrain across the Wianamatta Group on the Cumberland Plain (see Figure 4). Erosion across this soil landscape is uncommon and limited to minor sheet wash and gully erosion where vegetation has been removed. The *in situ* development of this soil landscape and general lack of erosion means that bedrock exposures were rare.

3.2 Archaeological Implications

The geology, soils and hydrology of the study area have important implications for the area's Aboriginal archaeology. The study area consisted of relatively stable landforms, including residual soil landscapes, gentle slopes, and a relatively narrow floodplain, suggesting that any archaeological deposits were more likely to have remained *in situ*.

Although stone material suitable for flaking was not likely to have been sourced from within the study area, based on the general lack of suitable raw material for flaking from the Wianamatta Formation geology combined with limited or non-existent bedrock exposures within the study area, it was evident that there were a number of sources for suitable raw material in the surrounding area. Previous studies have indicated that silcrete raw material was present within the St Marys Formation, with a significant silcrete quarry identified at Plumpton ridge approximately 6 km southwest of the study area. Tuff/mudstone was likely to occur and have been sourced from the Rickabys Creek Formation, the closest deposit approximately 8.5 km west of the study area.

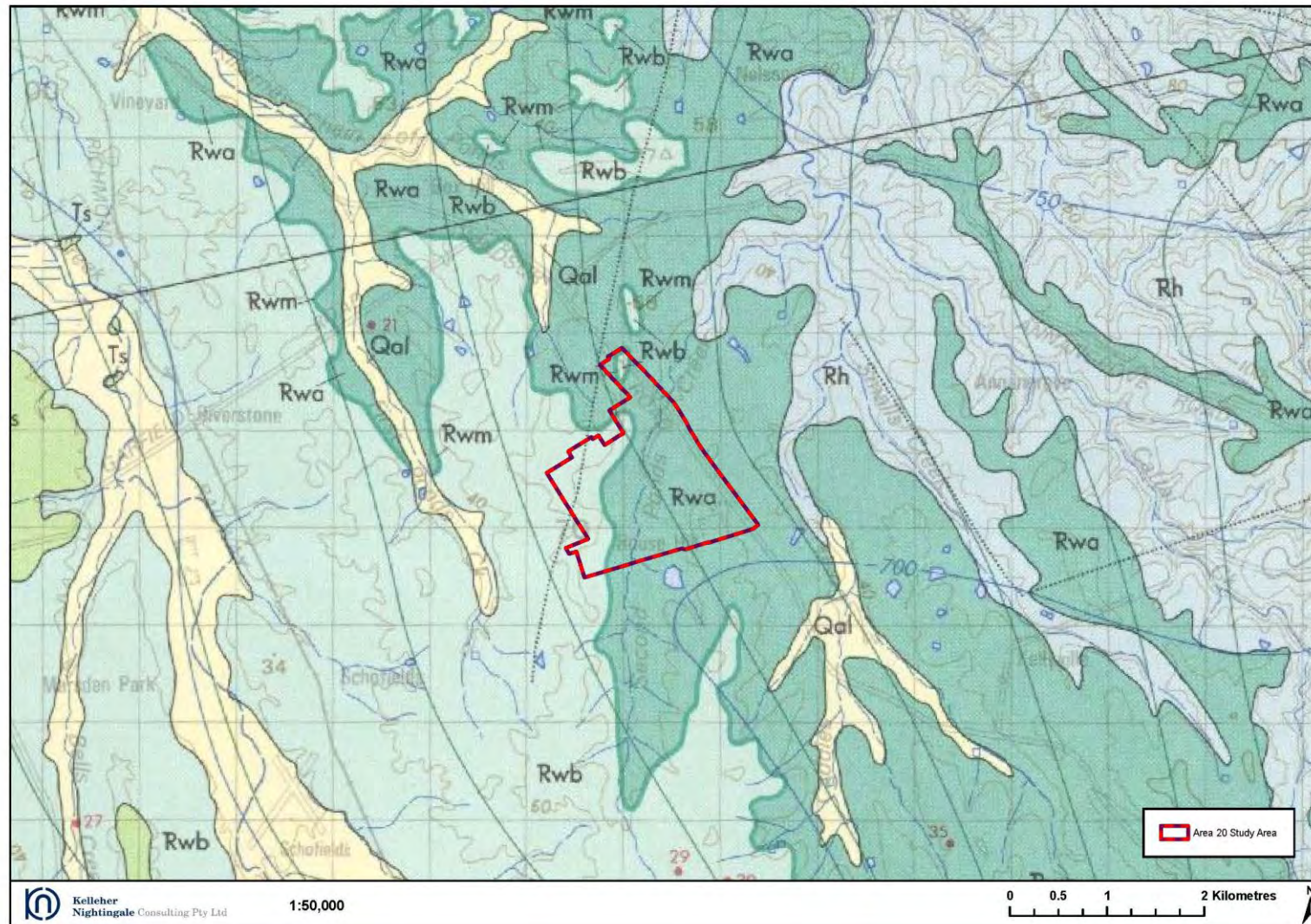


Figure 3. Geology within the precinct (Clark and Jones 1991)

Rh = Hawkesbury Sandstone, Rwa = Ashfield Shale, Rwb = Bringelly Shale, Rwm = Minchinbury Sandstone, Ts = St Marys Formation, Qal = Quaternary alluvium

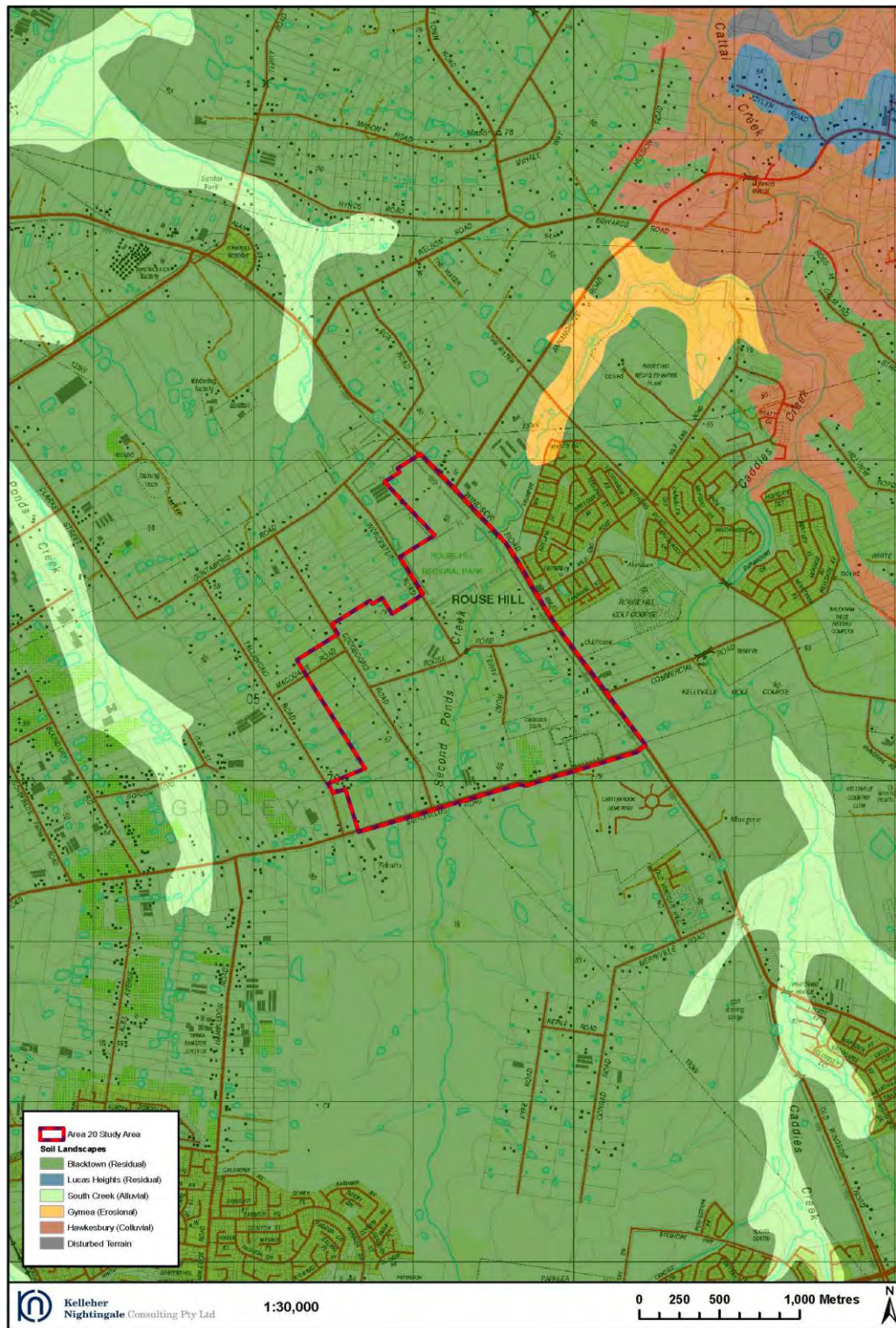


Figure 4. Soil landscapes within the precinct (Hazelton et al 1990)

4 Ethno-historical and Historical Background

The interaction between early British settlers and the local Aboriginal people varied between friendly and inquisitive to outright hostility. The official British policy was to gather information about the local inhabitants of the Sydney region, including scientific information, and what role they could play in the colony (Attenbrow 2002:13). The reality of the situation was the colony's expansion and establishment of farmland subsumed the traditional areas used to gather and hunt subsistence needs (Attenbrow 2002, Brook and Kohen 1991).

After their arrival in Sydney Cove in 1788, the British set about exploring the surrounding area. In the first three years of settlement this included visits to Broken Bay, Botany Bay, Rose Hill (Parramatta), Prospect Hill, and overland to the Nepean, Hawkesbury and Georges Rivers – essentially across most of the Cumberland Plain. During these explorations some of the British Officers, including Governor Phillip and Captain Watkin Tench, made a number of written observations regarding the local Aboriginal people that they met and travelled with (Attenbrow 2002:13).

These observations describe a number of named groups of Aboriginal people associated with particular areas of land around Port Jackson (Attenbrow 2002:22). These groups were described as „tribes“ in many of these observations, when in fact they were more likely small territorial clans or local clans consisting of extended family groups, forming larger land-using bands linked through marriage and communal participation in subsistence gathering activities (Attenbrow 2002:22, Brook and Kohen 1991:2). The British also noted a difference between the subsistence activities and dialect of the Aboriginal people along the coast compared with those further inland on the Cumberland Plain. Captain Tench observed when two Aboriginal men from the coast conversed with an Aboriginal man further inland „they conversed on a par and understood each other perfectly, yet they spoke different dialects of the same language; many of the most common and necessary words used in life bearing no similitude, and others being slightly different“ (Tench 1793:122).

None of the British observations from the late 18th and early 19th Century make reference to any name for the different dialects or wider language groups that they noted (Attenbrow 2002:33). It was only in the late 19th Century that the name Darug (also referred to as Daruk, Dharuk, Dharook, and Dharug) was used to refer to the language of the traditional inhabitants of the Cumberland Plain (Attenbrow 2002:33, Brook and Kohen 1991:2). In the early 20th Century, anthropologist/linguist R H Matthews noted that „The Dharuk speaking people adjoined the Thurralwal on the north, extending along the coast to the Hawkesbury River, and inland to what are now Windsor, Penrith, Campbelltown, and intervening towns“ (Matthews 1901:155 [Attenbrow 2002: 32]).

As well as differences in the dialect spoken between the coastal inhabitants and those further inland, the British also observed differences in subsistence activities. Brook and Kohen (1991:3) noted that „the Dharug people were apparently divided into two distinct sub-tribes: those along the coast, who lived on fish; those inland, who were frequently referred to as the „woods tribes“. Captain Tench recorded differences in the food eaten and methods used to acquire these resources between the inhabitants of the coast and those to the west of Rose Hill (Parramatta). On one occasion Tench observed a method of climbing trees for animals that involved cutting notches in the trunk and using these as toe-holds to climb the tree (Tench 1793:82). The ease with which the individual carried out this activity impressed the British and, Tench noted, also the two Aboriginal men from the coast who „allowed that he was a capital performer, against whom they dared not to enter the lists; for as they subsist chiefly by fishing they are less expert at climbing on the coast than those who daily practice it“ (Tench 1793:82).

Kohen (1986:77) explains that the Aboriginals who lived between Parramatta and the Blue Mountains were not as dependant on fish and shellfish as groups closer to the coast, but relied on small animals and plant foods in addition to seasonally available freshwater mullet and eels. Tench (1793:230) observed that „they depend but little on fish, as the river yields only millets, and that their principal support is derived from small animals which they kill, and some roots (a species of wild yam chiefly) which they dig out of the earth“. These wild yams were found in considerable quantities along the banks of the Nepean and Hawkesbury Rivers. Berries, Banksia flowers and wild honey were also recorded as foods of the local inhabitants (Collins 1798 [Kohen 1985:9]). A particularly important plant food was the Burrawong (*Macrozamia communis*), which provided a nutritious nut that was pounded and soaked in running water to leach out toxins before the flour-like extract was made into small cakes and baked over a fire (Kohen 1993:8).

Small animals provided the protein component of the Aboriginal diet on the Cumberland Plain, with hunting comprising a major economic role of the men. Along the river, traps and snares were set for bandicoots and wallabies, while decoys for snaring birds were also a commonly employed technique, „these are formed of underwood and reeds, long and narrow, shaped like a mound raised over a grave, with a small aperture at one end for the admission of the prey“ (Tench 1793 [Kohen 1985:9]). Possums and gliders were particularly common in the open woodland across the Cumberland Plain, and probably formed the main sources of animal food. These were hunted in a number of ways, including smoking out the animal by lighting a fire in the base of a hollow tree, burning large tracts of land and gathering the stranded animals, as well as cutting toe-holds in trees mentioned above (Kohen 1993:10; Tench 1793:82).

5 Archaeological Context

5.1 Aboriginal Heritage Information Management System (AHIMS)

A search of the Department of Environment, Climate Change and Water (DECCW) Aboriginal Heritage Information Management System (AHIMS) was conducted on 10th February 2009 to identify any registered (known) Aboriginal sites within or adjacent to the study area, as well as to determine the type and distribution of recorded sites in the area. The AHIMS database search was conducted within the following coordinates (AMG):

303000E to 309000E
6267000N to 6275000N
Number of sites within the AHIMS database: 118

The type and distribution of recorded Aboriginal sites within these coordinates are shown in Figure 5. The frequencies of site types within the AHIMS database search area are shown in Table 1 below.

Table 1. Frequency of site types from DECCW AHIMS database search

Site Type	Frequency	(%)
AFT (artefact)	85	72
PAD (potential archaeological deposit)	17	14
ART (shelter with art, rock engraving)	3	3
ART, AFT (shelter with art, shelter with deposit)	3	3
AFT, GDG (artefact, grinding groove)	2	2
GDG (grinding groove)	2	2
TRE (scarred tree)	2	2
ACD (historic place, not an Aboriginal site)	1	1
AFT, PAD (artefact, potential archaeological deposit)	1	1
ARG (Aboriginal resource and gathering)	1	1
GDG, WTR (grinding groove, water hole/well)	1	1

5.2 Previous Investigations in the Precinct

There were 16 sites listed on the AHIMS register within the study area, listed in Table 2 below, and shown in Figure 6:

Table 2. Registered sites within Area 20

Site Name	AHIMS ID	Site Type
OWR1	45-5-0956	Open Camp Site
OWR2	45-5-0957	Open Camp Site
OWR3	45-5-0958	Open Camp Site
RH/RP1	45-5-2439	Open Camp Site
RH/RP2	45-5-2415	Open Camp Site
RH/SP2	45-5-0808	Open Camp Site + PAD
RHAC1	45-5-2575	Open Camp Site
RHAC2	45-5-2573	Open Camp Site
RHAC3	45-5-2574	Open Camp Site
RH/SP15	45-5-2805	Open Camp Site + PAD
RH/SP16	45-5-2807	Open Camp Site + PAD
RH/SP17	45-5-3108	Open Camp Site + PAD
RH46	45-5-2348	Open Camp Site
Pole 45 and Compound	45-5-3517	Open Camp Site
Pole 45 and Compound	45-5-3392	Open Camp Site
SCR/UGP1	45-5-3355	Open Camp Site

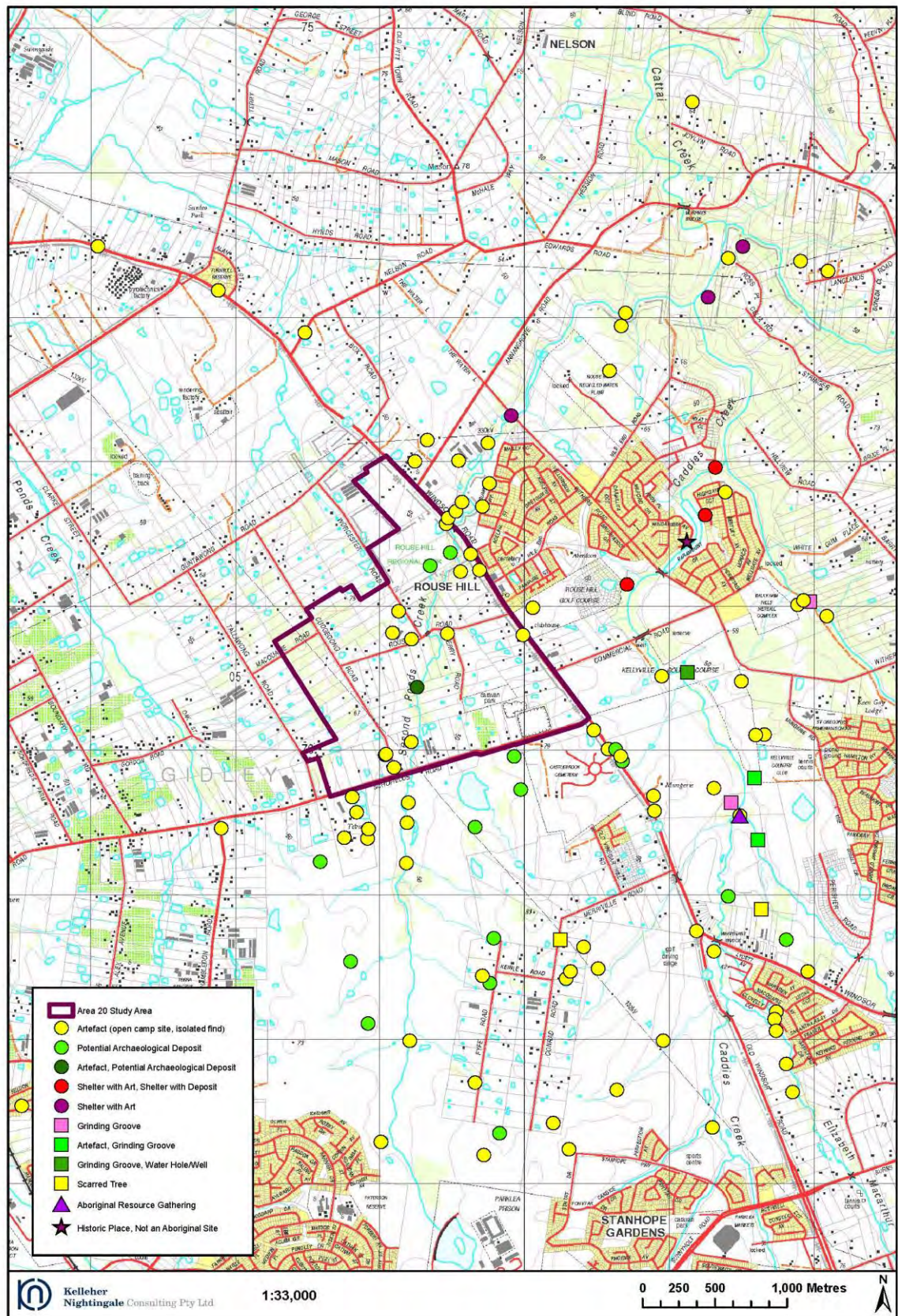


Figure 5. Registered Aboriginal sites within the vicinity of Area 20

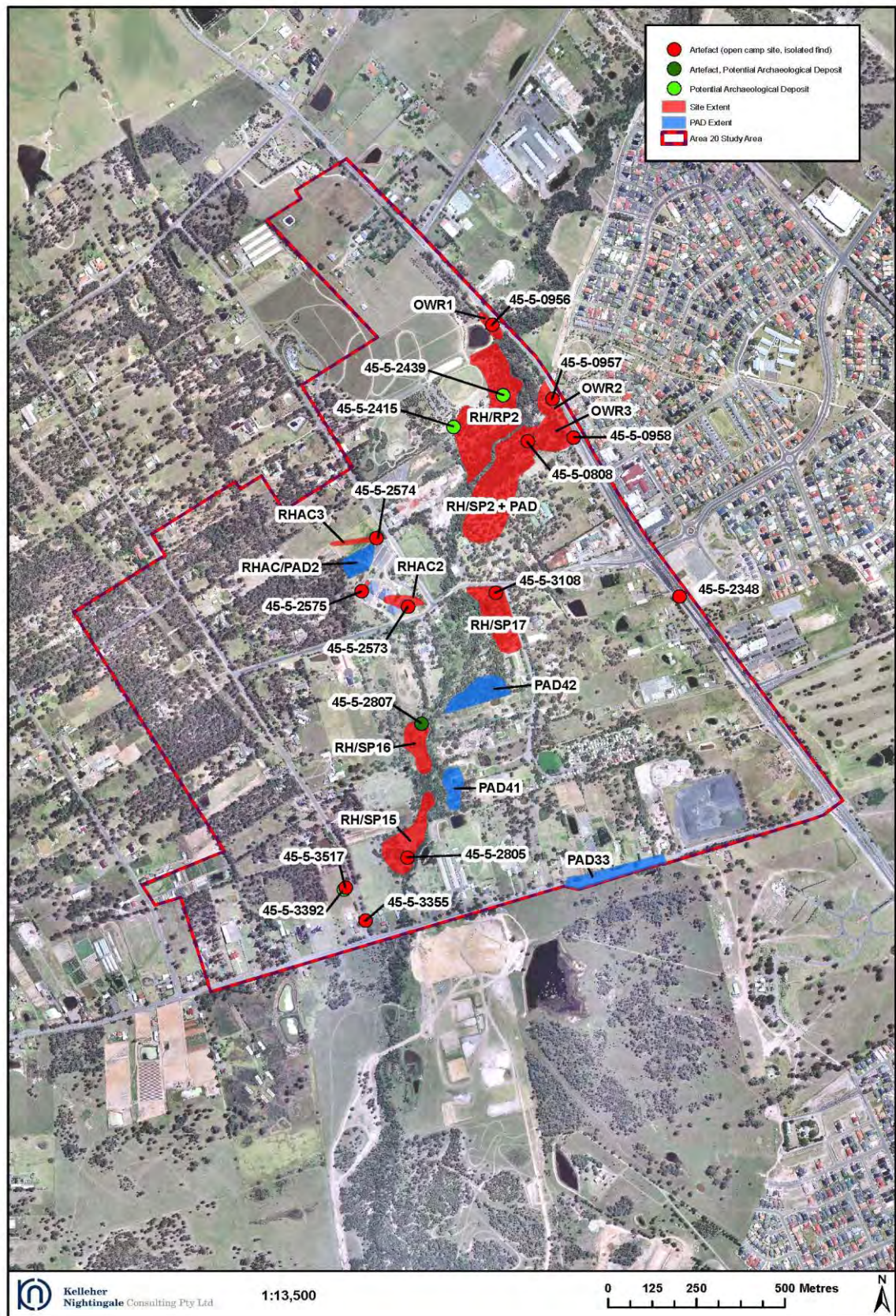


Figure 6. Recorded extent of registered Aboriginal sites and PADs within Area 20

A number of archaeological investigations have been conducted within the study area. A majority of the sites and PADs listed in Table 2 were either recorded or revisited during an archaeological survey by JMcD CHM (2002). The study was conducted for the Rouse Hill Infrastructure Project (Stage 3), which proposed the installation of a number of water, sewerage and drainage related facilities for the Rouse Hill Development Area (RHDA) along the Second Ponds Creek Corridor. The study involved an assessment and field survey of the entire Second Ponds Creek corridor, from Parklea north to the confluence of Second Ponds Creek and Caddies Creek. In addition to re-visiting and updating the details of previously recorded sites, an additional three archaeological sites and two PADs were identified by JMcD CHM within Area 20. These additional recordings were RH/SP15 (45-5-2805), RH/SP16 (45-5-2807), RH/SP17 (45-5-3108), PAD41 and PAD42 (see Figure 6).

JMcD CHM (2002: Figure 21) considered a majority of Area 20 as being of low archaeological sensitivity, based largely on an assessment of disturbance based on aerial photography and field observations. Large portions of Area 20 were assessed as having suffered "high disturbance" – defined as those areas where there had been severe disturbance to the soil, including buildings, houses, suburbs, roads, market gardens, poultry farms, BMX tracks, rubbish tips, formed tracks, dams, drains and other excavations". The assessment of disturbance was based on information from aerial photography that was ground-truthed during the field survey. In essence, areas of remnant vegetation were considered less likely to be disturbed than surrounding cleared and developed areas. As shown in Figure 6, a majority of the sites identified within Area 20 cover areas of remnant vegetation.

Sites RH/SP15, RH/SP16, RH/SP17 and PAD41 and PAD42, recorded by JMcD CHM (2002) were generally located within those areas identified as having "high" or "high to good archaeological potential". Each of the sites RH/SP15, RH/SP16 and RH/SP17 consisted of several recorded artefacts and a large area of associated PAD. The sites were generally located on the margins of Second Ponds Creek, extending across gently sloping land up to 100 m from the creekline. PAD41 and PAD42 were located in similar landform contexts to sites RH/SP15, RH/SP16 and RH/SP17. The extent of the two PADs was defined by landform setting and previous disturbance.

Sites OWR1 (45-5-0956), OWR2 (45-5-0957) and OWR3 (45-5-0958) were originally recorded by Corkill (1992) as part of a survey for archaeological sites along Windsor Road and Old Windsor Road (see Figure 6). Archaeological excavation and collection of surface artefacts was subsequently carried out by Douglas (1993) at OWR2 and OWR3. The excavation and surface collection at OWR2 recovered 64 artefacts, and excavation at OWR3 recovered 25 artefacts. The predominant lithic raw material at both sites was silcrete, comprising 98% of the artefacts at OWR2 and 76% at OWR3.

The description and extent of sites OWR1, OWR2 and OWR3 were updated by JMcD CHM (2002). OWR1 was described as being in poor condition because a gas pipeline had been installed through the site subsequent to the initial recording (Corkill 1992) resulting in a wide surface exposure with erosion from sheet wash and gullyng (JMcD CHM 2002: 24). JMcD CHM (2002: 25) documented sites OWR2 and OWR3 as covering a wider area than originally recorded, and suggested that the two sites are one archaeological feature. Over 50 surface artefacts were observed by JMcD CHM at site OWR2.

JMcD CHM (2005) conducted an archaeological salvage excavation at site OWR2 as part of the RHIP (Stage 3) infrastructure works. The excavation and surface collection of artefacts focussed on a 20 m x 20 m area where a proposed access shaft and bore pit for a sewer main were to be placed. A total of 104 1 x 1 m² pits were excavated at OWR2 by JMcD CHM (2005), recovering a total of 743 artefacts. A low density of naturally occurring silcrete gravels was also observed across the site, with the artefact analysis concluding that there was only limited evidence to support the use of the naturally occurring silcrete source as a quarry (JMcD CHM 2005: 38).

Site RH/SP2 (AHIMS 45-5-0808) was originally recorded by Smith (1990) during an archaeological investigation for proposed sewerage treatment works at Rouse Hill. Smith described the sites as consisting of three silcrete artefacts located on the eastern creek flats of Second Ponds Creek, approximately 10 m east and 1 m higher than the creek. Surface visibility was relatively low at the time of the original recording, with Smith noting that it was possible that there were likely to be more artefacts at the site.

Site RH/SP2 was excavated by Douglas (1993) and a subsequent field inspection by JMcD CHM (2002) updated the site description and extent. JMcD CHM (2002) identified two artefacts close to the location of the original recording, and an additional concentration of artefacts slightly further to the east. In addition to expanding the extent of the original surface recording of artefacts, JMcD CHM (2002) also noted that there was likely to be an extensive area of PAD around the site, stretching along the eastern margin of Second Ponds Creek and joining the western boundary of OWR3 (see Figure 6).

Sites RH/RP1 and RH/RP2 (AHIMS 45-5-2439 and 45-5-2415) were identified and recorded by Steve Randall (DLALC) in 1998. JMcD CHM (2002) revisited the area and noted that the majority of the western margin of Second Ponds Creek in that area demonstrated "high archaeological potential". Artefacts were visible on the surface where the National Parks and Wildlife Service (NPWS) had installed walking trails which had resulted in surface exposure. Due to the fact that the site card for site RH/RP1 (45-5-2439) was

missing, and the extensive distribution of archaeological material, JMcD CHM (2002) merged both sites into one larger site extent and submitted additional information to DECCW for site card 45-5-2415 documenting the revised site extent.

Sites RHAC1 (45-5-2575), RHAC2 (45-5-2573), RHAC3 (45-5-2574) and PAD RHAC/PAD2 were recorded as part of archaeological investigations conducted by Stephanie Garling Archaeological Consulting (SGAC) in 2000 on the Rouse Hill Anglican College lands (2000a and 2000b). Site RHAC1 was originally recorded as an isolated artefact (2000a) and later expanded to an artefact scatter on subsequent identification of further artefacts (2000b). Sites RHAC2 and RHAC3 were originally recorded as PADs (2000a), and were subsequently excavated (2000b).

Site RHAC2 was located on gently sloping lower hillslope, with the eastern part of the site less than 100 m from Second Ponds Creek. A total of 942 artefacts were recovered from excavation at RHAC2. Excavation also uncovered one knapping floor and intercepted the margins of a second knapping floor. The artefact analysis involved extensive conjoins and also identified the production of Bondi points.

RHAC/PAD2 was located on moderate to gently sloping lower hillslope to the northwest of RHAC2 (RHAC/PAD1). RHAC/PAD2 covered an area of remnant Cumberland Plain Woodland and adjoining cleared/ploughed land. As the portion of remnant Cumberland Plain Woodland was not going to be impacted by the proposed development, excavation of the PAD focussed on the cleared area. Excavation recovered seven artefacts. Following from the excavation, RHAC/PAD2 was divided into two portions – the excavated portion of the PAD where artefacts were identified became RHAC3 (AHIMS 45-5-2574), while the unexcavated and more intact portion of the PAD within the remnant Cumberland Plain Woodland remained RHAC/PAD2 (see Figure 6).

Several Aboriginal heritage assessments were conducted for the proposed upgrading of the 132kV transmission line between Rouse Hill and Vineyard including a substation at the corner of Schofields and Cudgegong Roads (Campbell *et al* 2007, Heritage Concepts 2005; Hardy 2007, SAS 2008). Archaeological excavation at site 45-5-3392 documented low sub-surface artefact densities across the site, with 83 artefacts recovered from 23 test pits.

5.3 Previous Investigations in the Vicinity of the Precinct

Numerous archaeological investigations have been conducted in the vicinity of Area 20. This section outlines several of those investigations in the Second Ponds Creek valley and surrounding area. A further discussion of the distribution of archaeological material across the Cumberland Plain follows in Section 5.4.

Excavations within the Second Ponds Creek valley have included a test and salvage program south of Area 20 by JMcD CHM (2005), and test and salvage excavation northeast of Area 20 for the Windsor Road upgrade (Therin 2004). A number of archaeological investigations have been conducted in the area surrounding the Second Ponds Creek valley, including excavations by Baker (2000) and JMcD CHM (2007).

The most extensive excavations conducted within the Second Ponds Creek valley to date were by JMcD CHM (2005). The program included excavation of eight sites (including OWR2 within Area 20, see Section 5.2), excavating a total of 230 test pits and recovering 40,909 artefacts, including 7,922 from surface collection. The excavation program sampled each landform within the Second Ponds Creek valley, including creek flat, lower slope, mid-slope, upper slope and ridge top (JMcD CHM 2005: 64).

Therin conducted test excavations at four locations along the proposed Windsor Road upgrade between Mile End Road, Rouse Hill and Level Crossing Road, Vineyard (Therin 2004). Therin excavated four different landforms, including minor drainage line, major creekline, level ground greater than 200 m from a source of permanent water and upper hillslop / hill crest. The latter three landforms were located within the Second Ponds Creek valley. A total of 1,840 artefacts were recovered from the excavations, with the highest artefact density identified on the northern margin of Second Ponds Creek.

Therin (2001) also conducted an archaeological field survey within the Second Ponds Creek valley at Tebutts Poultry Farm, Schofields Road, which was located immediately south of Area 20. The study area covered upper hillslope and ridge crest landforms. The low ridge formation was a continuation of the low ridgeline within the western section of Area 20. Three artefact scatters and two isolated finds were identified during the field survey. Therin suggested that these sites were the surface manifestation of a larger sub-surface PAD that covered the entire study area with the exception of any built structures and dams (Therin 2001: 17).

Baker (1998 and 2000) conducted archaeological field survey and subsequent test and salvage excavation within the Caddies Creek valley on the eastern side of Windsor Road. The area was referred to as Mungerie Park. The test and salvage excavation program involved the excavation of 211 m², recovering 994 artefacts from the test pits, and 4,510 artefacts from three open area excavations.

Subsequent excavations within the Caddies Creek valley were conducted by JMcD CHM (2007), focussing on sites along Caddies Creek that would be affected by proposed trunk drainage and transport link infrastructure. The excavations followed on from an Aboriginal Heritage Management Plan (JMcD CHM 2004) that recommended a salvage excavation program was required for those identified areas of high archaeological sensitivity.

The excavation program along Caddies Creek involved test and salvage excavation at three sites, RH/CD5, RH/CD10 and RH/CD7. A total of 18,263 artefacts were recovered from 545m². The highest artefact density was recorded at RH/CD5 Area A, located on a lower slope landform located within 120 m of Caddies Creek and near its confluence with a 2nd order stream (JMcD CHM 2007: 302).

5.3.1 Alex Avenue and Riverstone Precincts

ENSR Australia conducted an archaeological investigation of the Alex Avenue and Riverstone Precincts within the North West Growth Centre, both located to the west of Area 20 (ENSR 2008). The investigation identified 23 Aboriginal sites in addition to 14 previously recorded sites, making a total of 37 recorded Aboriginal sites within the two precincts. The site types were recorded as (ENSR 2008: 50-51):

- 18 isolated finds;
- 5 low-level (background) artefact scatters;
- 3 natural silcrete outcroppings;
- 4 artefact scatters;
- 2 scarred trees;
- 6 archaeological deposits; and,
- 3 PADs.

The archaeological investigation found that the larger sites with higher archaeological significance tended to be concentrated within 100 m of First Ponds Creek. The highest density of archaeological material identified by ENSR was called the A7 Complex, and consisted of several artefact scatters and two areas of PAD within an area covering approximately 1,000 m north-south and 400 m east-west along both sides of First Ponds Creek (ENSR 2008: 71).

5.4 Predictive Model

Archaeological survey and excavations across the Cumberland Plain have provided a great deal of information regarding the way people moved around the area and utilised resources.

Based on the results of the excavation program at Mungerie Park and comparison with other investigations, including earlier excavations at Mungerie Park by Douglas and McDonald (1993) and the excavation of site RS1 at Regentville (Craib *et al* 1999), Baker (2000) developed a model outlining the likely complexity of the archaeological record in relation to distance from environmental focal points. In the case of Mungerie Park, Baker identified two environmental focal points, those being Caddies Creek and the sandstone outcrops in the area where grinding grooves had been identified.

Baker (2000: 53-54) suggested three zones of archaeological complexity related to distance from environmental focal points. The three zones and their corresponding archaeological representation were:

1. „A “complex zone” where overlapping knapping floors and high density concentrations are present due to the repeated occupation and use of the area with closest access to resources and facilities. The Mungerie Park results suggest a zone of complexity within about 120 m of the creek, although this seems to vary according to proximity to the grinding grooves.
2. A “dispersed zone”, where knapping floors and/or activity areas are spatially discrete due to less frequent occupation of those areas, or the positioning of activities requiring a measure of separation from a main camp.
3. A “sparse zone” comprising a consistently low density distribution of artefacts likely to have resulted from discard in the context of use (or loss) rather than manufacture.

Beyond the “sparse” zone archaeological evidence may be present, but in such low density that the sampling intensity used in this project would fail to pick it up reliably” (Baker 2000: 54).

JMcD CHM has also developed a predictive model based on extensive archaeological investigations on the Cumberland Plain. This predictive model bears similarities to that proposed by Baker (2000), but includes other variables, such as the likelihood of certain landscapes to retain archaeological deposits over time and relationship to raw material sources (which could be considered one of Baker's (2000) environmental focus points). Excerpts of this predictive model include (JMcD CHM 2007: 246-247):

- „Most areas, even those with sparse or no surface manifestations, contain sub-surface archaeological remains.
- Dispersed testing has shown that average artefact densities vary in a regular manner in relation to stream order...although exceptions have been found.
- The nature of artefact distribution varies in relation to stream order. There is a general trend for the archaeological record to become more discontinuous with increasing distance from water.
- Landscapes on and within 1 km of quarries had higher average artefact densities than is predictable on the basis of stream-order.
- Open area excavation in landscapes associated with higher order streams have shown that artefact distributions tend to consist of localised high density artefact concentrations, set within lower density artefact scatters. High density concentrations tend to be associated with backed artefacts and included evidence for intensive production of that type.
- Some landscapes provide suitable matrices or topographic characteristics suited to retaining deposits over time. On the Shale Plain these include alluvial terraces and levee banks, and sandy lower slopes.

The stream-order model indicates a close association of archaeological evidence and water supply which lends support to a cultural-ecological basis to landscape use. Exceptions to this general pattern of archaeological evidence: stream order and lithic sources occur – and these indicate cultural selectivity in Aboriginal landscape use“.

One of the key elements of both of these predictive models is the relationship between artefact density and waterways. Within the Second Ponds Creek valley, archaeological excavations have demonstrated that the highest density of artefacts occur within close proximity of the main drainage line (JMcD CHM 2005; SGAC 2000; Therin 2004). The sites yielding both the highest number and density of artefacts from excavations by JMcD CHM (2005) and Therin (2004) were located on the margin of Second Ponds Creek (sites RH/SP12 South and Site WMB1 respectively).

Excavation by SGAC (2000) was confined to a much smaller study area than JMcD CHM (2005) and Therin (2004), and as such was only able to make limited comparisons regarding distance from Second Ponds Creek. Site RHAC2, located approximately 100 m from the creekline, yielded an artefact density of 29.4/m² (lower than RH/SP12 South at 59/m² and WMB1 at 62/m²) and also identified two knapping floors. This contrasted with RHAC3, which was located northwest of RHAC2 on moderate to gently sloping lower hillslope, where only seven artefacts were recovered.

Low artefact densities were consistently recorded at excavated sites on the upperslopes and ridge crests of the Second Ponds Creek valley (JMcD CHM 2005 and Therin 2004).

The lowest artefact densities identified during the JMcD CHM (2005) excavation program were at sites RH/SP20 and RH/SP21, both located on upperslope/ridge crest landforms. JMcD CHM (2005: 65) suggested that there were different artefact usage traits evident at these two sites compared with those closer to Second Ponds Creek. The artefact assemblage included relatively high frequencies of backed artefacts and tools, less discard of large broken cores, slightly lower rates of cortex and a tendency to higher frequencies of good quality stone. The results from these sites demonstrated that although artefact density at these two sites was quite low (0.5/m² and 1/m² respectively), they were an integral part of understanding broader landscape use within the Second Ponds Creek valley.

Therin (2004) also attempted to test landforms further away from the main drainage line within the Second Ponds Creek valley. Therin (2004: 14) noted that archaeological studies across the Cumberland Plain have provided a good indication of activities occurring in close proximity to creeklines, but „in contrast, sites not directly associated with creek lines are very poorly understood“.

Therin's excavation program (briefly outlined in Section 5.3) demonstrated that artefacts were present across each of the landforms tested and the highest artefact densities and evidence of both intensive knapping and small-scale knapping events were located along the margins of Second Ponds Creek (site WMB1). Testing of upperslope and ridge crest landforms was problematic due to high levels of disturbance at site WMB2, including the possibility that the seven artefacts recovered from that site during excavation may have been brought into the area during stabilisation and turfing works.

Implications for Area 20

The previous archaeological investigations in the Rouse Hill area have demonstrated the presence of archaeological material in varying densities across all landforms. The implications of the results of these previous archaeological surveys and excavations for Area 20 are that:

- stone artefacts are likely to occur across the entire study area;
- the highest artefact numbers and densities will be associated with the margins of Second Ponds Creek;
- artefact densities are likely to be quite low on the higher upperslope and crest landforms within Area 20. Although artefacts may not be observed on the surface during field survey they are likely to be present in a subsurface context; and
- the subsurface archaeological context across Area 20 would not necessarily have been heavily disturbed by ploughing and/or vegetation clearance.

6 Field Survey Results

Field survey was carried out across the precinct to assess the Aboriginal cultural heritage values of the precinct, including the general condition of the study area, the extent and condition of archaeological sites and identifying areas of Potential Archaeological Deposit (PAD).

The Step 2 survey was conducted over nine days, with representatives of registered Aboriginal stakeholder groups. The majority of the precinct was covered, with only a minimal number of lots not being surveyed as landowner access was not provided (see Figure 7). This has led to a statistically viable survey and assessment for the precinct.

As a result of the survey, the extent of known sites of Aboriginal objects (sites) and areas of potential archaeological deposit (PAD) have been identified. This includes revisions to previously recorded sites (that had been identified in the Step 1 process). Survey results include:

- 19 newly recorded Aboriginal archaeological sites within the precinct;
- 8 newly recorded PAD within the precinct; and
- revised conditions and boundaries for a number of the previously recorded sites and PADs.

The newly identified Aboriginal sites are described below and their locations and extent are shown on Figure 7. Property details and access information are also shown on Figure 7 as these relate to the descriptions provided below. Descriptions of previously recorded sites and PADs based on the current Step 2 survey findings are presented in section 7 following. Areas of archaeological potential are also shown on Figure 7 and described in section 8, as they comprise both previously recorded and newly recorded PADs.

Details of all Aboriginal objects recorded within the identified sites are documented in site descriptions following and summarised in Appendix C.

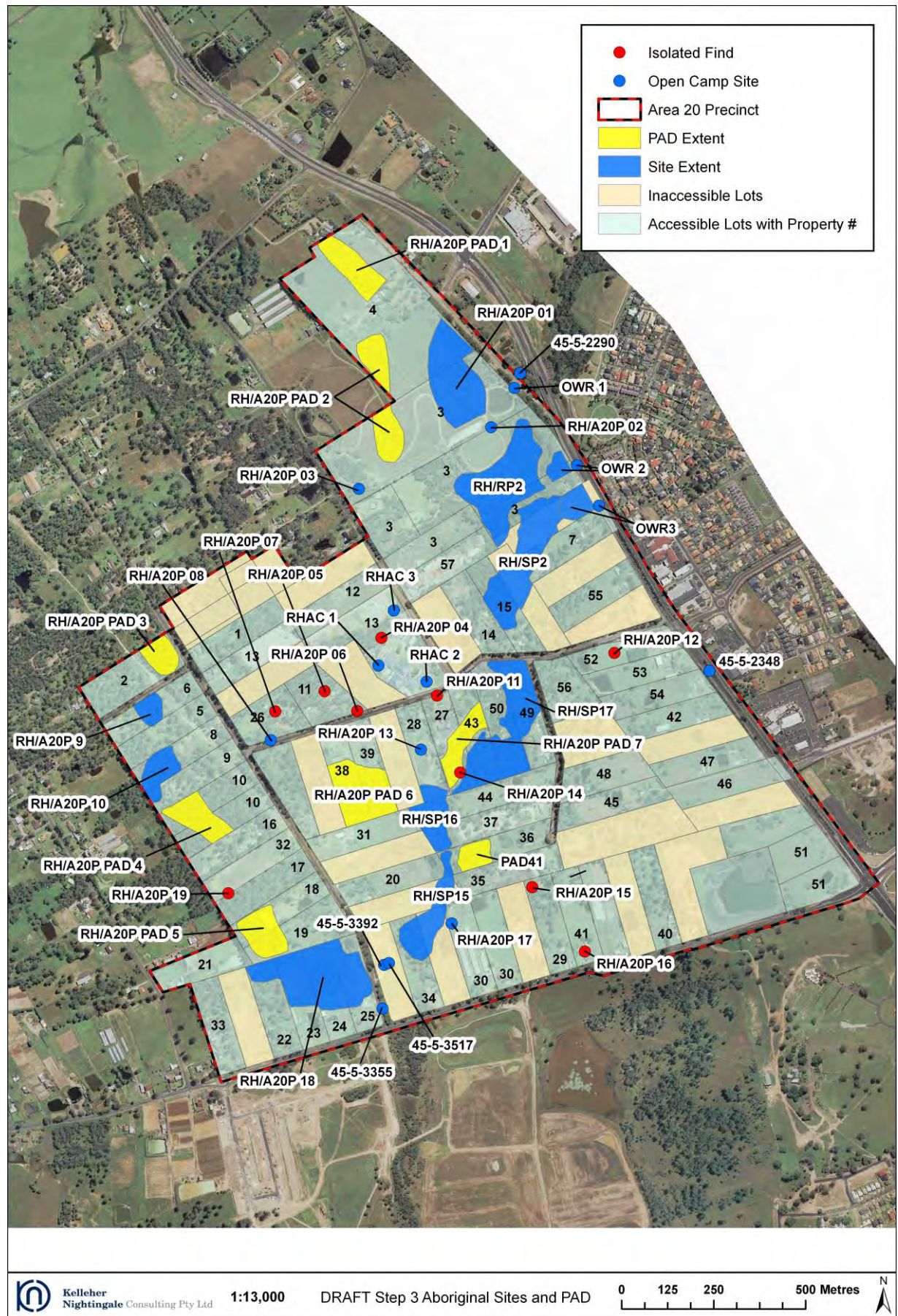


Figure 7. Aboriginal heritage sites and areas of potential archaeological deposit in the precinct
 (Note: property details and access details are provided for reference)

6.1 RH/A20P 01

Site Type:	Artefact scatter
Property Number:	Properties 3 and 4
Property Type:	Rouse Hill Regional Park (Property 3); Rouse Hill House and Farm, Historic Houses Trust of NSW (Property 4)
Site Coordinates:	GDA Zone 56 306300E 6271641N AGD Zone 56 306195E 6271451N
Landform:	Lower slope
Vegetation:	Dense grass, regrowth Eucalypts
Surrounding Features:	Second Ponds Creek 100 m southeast of site
Site Extent:	29,977m ² Approximately 300 m x 130 m
Site Condition:	Moderate – Poor Formed walking track, sheet wash exposures and surrounding grassed area
Site Boundary Criteria:	Lower slope landform
Significance:	Refer Section 10 for details
Map:	See Figure 7
Site Contents:	

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 01	Medial flake fragment	Silcrete	15	10	5	Reddish pink, good quality, slight gloss, zero cortex
RH/A20P 01	Distal flake fragment	Silicified tuff	20	12	3	Yellowish brown, patinated, zero cortex, transverse snap
RH/A20P 01	Core	Silicified tuff	34	21	11	Distal flake fragment reused as a core, 1 asymmetrical alternating platform, zero cortex
RH/A20P 01	Distal flake fragment	Silcrete	15	11	5	Purple colour, broken in two fragments, zero cortex, dull
RH/A20P 01	Broken flake / retouched flake	Silcrete	33	20	11	Glossy red, faceted platform, zero cortex, distal end retouched? heat altered, used as core?
RH/A20P 01	Cone split broken flake	Silcrete	23	19	5	Red, slight gloss, longitudinal split, plain platform, zero cortex
RH/A20P 01	Heat shatter	Silcrete	20	16	5	Red, slight gloss, zero cortex, pot lidded
RH/A20P 01	Proximal flake fragment	Silcrete	15	12	2	Red, zero cortex, glossy
RH/A20P 01	Cone split broken flake	Silcrete	26	12	8	Red, zero cortex
RH/A20P 01	Flake (blade)	Silcrete	50	22	8	Pink, zero cortex, elongate shape – blade, plain platform, slight gloss, three parallel scars
RH/A20P 01	Heat shatter? Angular fragment	Silcrete	25	22	12	Pinkish red, 100% cortex, slight gloss
RH/A20P 01	Heat shatter	Silcrete	11	7	2	Pinkish red, zero cortex

Date Recorded: 19/5/2009

Comments:

Site RH/A20P 01 was located across Properties 3 and 4 on a lower slope context on the western side of a disused section of Old Windsor Road. The southern portion of the site was within the Rouse Hill Regional Park (Property 3), whilst the northern portion was within the Rouse House Historic Houses Trust property (Property 4). Second Ponds Creek was located approximately 100 m southeast of the site. Within Property 4, the eastern edge of the site bordered the edge of a disused section of Windsor Road, whilst in Property 3 the site was set back approximately 40 m west of the disused road verge due to surface disturbance from drainage works. A large dam bordered the southeast corner of the site. The site was predominantly covered by dense grass, with the main source of surface exposure being a portion of walking track and adjacent area of patchy grass cover within Property 3.

The northern portion of the walking track bordering the Rouse House property fence line provided good surface exposure as it was not top dressed. The remainder of the walking track, leading south towards Second Ponds Creek, was formed and top dressed, with clear boundaries and bordered by small embankments and some drainage works on either margin. A thin, approximately 8 m strip of closely mown

grass across relatively undisturbed ground bordering either side of the walking track provided the best opportunity for observing artefacts within site RH/A20P 01.

Two artefacts were identified at the northern termination of the walking track bordering the Rouse House fence line, and a further 12 artefacts were identified along a 150 m stretch of the mown strip bordering the walking track. The artefacts were predominantly identified on the western side of the walking track.

Photographs:



Plate 1. View south across RH/A20P 01, showing formed walking track and sheet wash exposure.



Plate 3. Silcrete artefacts, site RH/A20P 01



Plate 2. View north across sheet wash exposure towards the northern end of Property 3.



Plate 4. Silcrete artefacts, site RH/A20P 01

6.2 RH/A20P 02

Site Type:	Artefact scatter
Property Number:	Property 3
Property Type:	Rouse Hill Regional Park
Site Coordinates:	GDA Zone 56 306391E 6271463N AGD Zone 56 306286E 6271273N
Landform:	Lower slope
Vegetation:	Patchy grass cover
Surrounding Features:	Second Ponds Creek 100 m east of site
Site Extent:	Approximately 0.5 m x 1 m
Site Condition:	Poor
	Artefacts identified in artificial drainage channel
Site Boundary Criteria:	Artefact location within drainage channel
Significance:	Refer Section 10 for details
Map:	See Figure 7
Site Contents:	

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 02	Heat shatter	Silcrete	34	15	12	Purplish red, pot lidded fragment, zero cortex
RH/A20P 02	Angular fragment	Silcrete	20	16	6	Not glossy, zero cortex

Date Recorded: 19/5/2009

Comments:

Site RH/A20P 02 was located in the Rouse Hill Regional Park (Property 3) and approximately 40 m south of site RH/A20P 01. Second Ponds Creek was located 100 m to the east. Two artefacts were identified within an artificial drainage channel bordering the southern side of a walking track. The track started within site RH/A20P 01 at the boundary fence between the Rouse Hill Regional Park and the Rouse House Historic Houses Trust property, before heading south between a large dam and a grassed oval and then east towards Second Ponds Creek. The walking track was formed and top dressed, with clear boundaries and some drainage works along its margins. The dam was located 30 m northeast of the site, whilst the large, grassed oval was located 10 m to the southwest. An expansive, rectangular, disturbed clearing was located 20 m to the northwest, the origin of which was not determined.

Site RH/A20P 02 was located in the same lower slope context as site RH/A20P 01, but was not included as part of site 01 due to the high degree of surface disturbance in the area surrounding the site.

Photographs:



Plate 5. View south across drainage channel, site RH/A20P 02



Plate 6. Silcrete artefacts, site RH/A20P 02

6.3 RH/A20P 03

Site Type:	Artefact scatter
Property Number:	Property 3
Property Type:	Rouse Hill Regional Park
Site Coordinates:	GDA Zone 56 306031E 6271295N AGD Zone 56 305926E 6271105N
Landform:	Ridge crest
Vegetation:	Patchy grass cover
Surrounding Features:	Second Ponds Creek 400 m southeast of site
Site Extent:	Approximately 8 m x 2 m
Site Condition:	Poor Sheet wash erosion and Regional Park infrastructure
Site Boundary Criteria:	Surface exposure
Significance:	Refer Section 10 for details
Map:	See Figure 7
Site Contents:	

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 03	Retouched flake	Silcrete	22	23	9	Pinkish red, slight lustre, zero cortex, scarred platform, retouched distal and one margin
RH/A20P 03	Proximal flake fragment	Silcrete	14	9	5	Pinkish red, slight lustre, zero cortex
RH/A20P 03	Cone split broken flake	Silicified tuff	12	8	4	Reddish brown, glossy, longitudinal split, less than 30% cortex, distal break

Date Recorded: 16/6/2009

Comments:

Site RH/A20P 03 was located across a gently sloping ridge crest landform within the Rouse Hill Regional Park (Property 3). The site was located on the southern side of a bitumen access road through the Park. The bitumen road was the main access road for the Regional Park and was accessible via an entrance off Worcester Road, approximately 300 m north of the site. Several small picnic tables were located to the south and west of the site.

Vegetation across the site consisted of short, patchy grass with 40% surface visibility. The high surface visibility was likely the result of the high number of visitors to the picnic tables and associated car parking on the grassy area bordering the bitumen road. The surface exposures from foot and vehicle traffic appeared to have been compounded by sheet wash erosion. A background of ironstone, shale and leaf litter was observed across the surface exposures. Three artefacts were identified across an 8 m x 2 m area between the bitumen road and a picnic table.

Photographs:



Plate 7. Looking west across site RH/A20P 03 towards bitumen access road



Plate 8. Silcrete artefacts, site RH/A20P 03

6.4 RH/A20P 04

Site Type:	Isolated artefact
Property Number:	Property 13
Property Type:	Rouse Hill Anglican College
Site Coordinates:	GDA Zone 56 306093E 6270890N AGD Zone 56 305988E 6270700N
Landform:	Mid slope
Vegetation:	Regrowth woodland, patchy grass cover
Surrounding Features:	Ridge crest 250 m northwest of site, Second Ponds Creek 240 m southeast of site
Site Extent:	0.5 m x 0.5 m
Site Condition:	Poor Erosion scour
Site Boundary Criteria:	Artefact location
Significance:	Refer Section 10 for details
Map:	See Figure 7
Site Contents:	

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 04	Flake	Silcrete	30	22	6	Reddish orange, less than 30% bleached cortex, platform concave / plain, glossy

Date Recorded: 21/5/2009

Comments:

Site RH/A20P was located in a gently sloping mid slope context on an erosion scour/walking track within the Rouse Hill Anglican College (Property 13). The site was located at the eastern end of a large stand of regrowth woodland that stretches west and southwest from the site location, through an adjoining property and to the northern margin of Rouse Road. Only a thin, 20 m wide sliver of that regrowth woodland was within the Anglican School boundaries. The portion of woodland where the artefact was identified was quite disturbed. The site vicinity had been affected by recent construction activity, with the entire school having been developed since 2000. The artefact was identified in a long, narrow, concave depression running south off a raised, brick dressed walking track 7 m to the north. The depression may have developed as an unformed walking track, or from increased run off from the raised path. Background material across the exposure included shale, blue metal and leaf litter. The artefact consisted of one reddish orange silcrete flake.

SGAC (2000a and 2000b) conducted archaeological investigations across the property prior to the construction of the school. Most of the northern half of the property was designated as PAD, and called RHAC/PAD2. Based on the proposed development impacts, SGAC conducted archaeological excavation across the northern half of the PAD. The excavated portion of the PAD became site RHAC3. The remaining southern portion of the PAD included the regrowth woodland. At the time of SGAC's investigation, the woodland was demarcated as „Protected Woodland“ where no development impacts would occur (SGAC 2000b: 81). Although the outline of the woodland based on maps in the SGAC (2000b) excavation report appeared similar to the current outline, it is clear that there have been numerous impacts within that area. There are a number of walking tracks through the woodland, some erosion scours, blue metal spread over some sections, and other landscaping work.

Based on the impacts to RHAC/PAD2, and the identification of an artefact in a disturbed context within the boundaries of the PAD, it was likely that no substantially intact areas of Potential Archaeological Deposit remained within the school property.

Photographs:



Plate 9. Looking west across site RH/A20P 03 towards bitumen access road.



Plate 11. Ventral surface of silcrete artefact, site RH/A20P 04.



Plate 10. Silcrete artefacts, site RH/A20P 03.

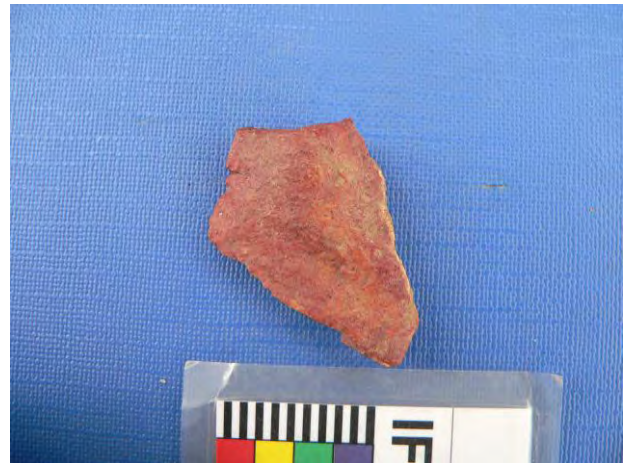


Plate 12. Dorsal surface of silcrete artefact, site RH/A20P 04.

6.5 RH/A20P 05

Site Type:	Isolated artefact
Property Number:	Property 11
Property Type:	Private property
Site Coordinates:	GDA Zone 56 305938E 6270745N AGD Zone 56 305833E 6270555N
Landform:	Lower slope
Vegetation:	Patchy grass cover, scattered regrowth Grey Box and Forest Red Gum
Surrounding Features:	Ridge crest 350 m northwest of site, Second Ponds Creek 420 m southeast of site
Site Extent:	Approximately 0.5 m x 0.5 m
Site Condition:	Poor Sheet wash erosion
Site Boundary Criteria:	Artefact location
Significance:	Refer Section 10 for details
Map:	See Figure 7
Site Contents:	

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 05	Proximal flake fragment	Silcrete	8	8	3	Red, glossy, zero cortex, crushed platform, one dorsal scar (micro blade fragment?)

Date Recorded: 21/5/2009

Comments:

Site RH/A20P 05 was a single artefact identified in a gently sloping lower slope context in Property 11. The artefact was identified on an exposure measuring approximately 4 m wide and 50 m long that ran from the higher, northern portion of the property, south towards a gate leading out onto Rouse Road. A large shed was located 18 m southeast of the artefact, and the house, fronting Rouse Road, was located 50 m to the southwest. The exposure was partially overgrown with short grass, and background material included leaf litter and blue metal gravel. It was likely that the exposure was a partly overgrown vehicle track affected in some parts by sheet wash erosion. Vegetation across the surrounding area consisted of scattered regrowth Grey Box and Forest Red Gums.

Some surface disturbance was observed in the vicinity of the site, including a narrow drainage cut, several spoil mounds, and a flattened area for the large shed immediately east of the exposure. The artefact consisted of one red silcrete proximal flake. Site RH/A20P 06 was located 100 m to the southeast within the same property.

Photographs:



Plate 13. View south across RH/A20P 05 towards Rouse Road



Plate 14. Proximal flake fragment, site RH/A20P 05

6.6 RH/A20P 06

Site Type:	Isolated artefact
Property Number:	Property 11
Property Type:	Private property
Site Coordinates:	GDA Zone 56 306027E 6270691N AGD Zone 56 305922E 6270501N
Landform:	Lower slope
Vegetation:	Dense grass cover, occasional regrowth Eucalypts
Surrounding Features:	Second Ponds Creek 310 m southeast of site
Site Extent:	Approximately 0.5 m x 0.5 m
Site Condition:	Poor Surface ripping, possible location of underground services easement
Site Boundary Criteria:	Artefact location
Significance:	Refer Section 10 for details
Map:	See Figure 7
Site Contents:	

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 06	Medial flake fragment	Silicified tuff	28	15	12	Patinated yellow brown, crazed, 40 – 60% cortex, one fresh break, blocky fragment, ventral undulations, off broken thick flake

Date Recorded: 21/5/2009

Comments:

Site RH/A20P 06 was a single artefact identified in a very gently sloping lower slope context in a largely cleared, grassy area towards the southeastern corner of Property 11. The artefact was identified 1 m north of the southern boundary fence of the property. Rouse Road was located on the southern side of the fence line. The area was covered by mown, short grass, with occasional regrowth Eucalypts. A section of the paddock 4 m wide and running parallel to the fence line appeared to have been ripped and since overgrown by grass, possibly the location of a service trench. The grass closer to the fence was moderately dense, allowing approximately 30% surface visibility. Further north from the fence surface exposure dropped off as the grass cover increased in density.

The artefact consisted of a yellowish brown silicified tuff medial flake fragment. Site RH/A20P 05 was located 100 m to the northwest within the same property.

Photographs:



Plate 15. View east across RH/A20P 06



Plate 16. Medial flake fragment, site RH/A20P 06

6.7 RH/A20P 07

Site Type:	Isolated artefact
Property Number:	Property 26
Property Type:	Private property
Site Coordinates:	GDA Zone 56 305804E 6270690N AGD Zone 56 305699E 6270500N
Landform:	Lower slope
Vegetation:	Patchy grass cover
Surrounding Features:	Ridge crest 350 m north of site, Second Ponds Creek 520 m southeast of site
Site Extent:	Approximately 0.5 m x 0.5 m
Site Condition:	Poor Sheet wash
Site Boundary Criteria:	Artefact location
Significance:	Refer Section 10 for details
Map:	See Figure 7
Site Contents:	

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 07	Angular fragment	Petrified wood	39	28	12	Dark greyish black with thin (less than 1 mm) reddish brown bands

Date Recorded: 16/6/2009

Comments:

Site RH/A20P 07 consisted of a single artefact identified in a gently sloping lower slope context on an erosion scour exposure in Property 26. A house was located 15 m east of the site, whilst a large shed was 25 m to the northwest, a large underground water tank 7 m to the southwest, a small dam 30 m to the west and a large dam 20 m to the southwest, bordering the underground water tank.

The exposure the artefact was identified on was a long, slightly concave depression that ran from the higher northern portion of the property to the house. As the exposure was located at a central location within the property, the exposure was likely the result of numerous activities, including sheet wash erosion, artificial drainage cuts directing water towards the dams, and foot traffic. Background material across the exposure included blue metal, some dumped building material, including bricks, and leaf litter. There was a substantial amount of surface disturbance in the vicinity of the artefact location. The artefact consisted of a dark greyish black petrified wood angular fragment. Thin, reddish brown bands through the material were discernable.

Photographs:



Plate 17. View north across RH/A20P 07



Plate 18. Detail of angular fragment, site RH/A20P 07

6.8 RH/A20P 08

Site Type:	Artefact scatter
Property Number:	Rouse Road easement
Property Type:	Public road
Site Coordinates:	GDA Zone 56 305792E 6270612N AGD Zone 56 305687E 6270422N
Landform:	Lower slope
Vegetation:	Patchy grass cover
Surrounding Features:	Ridge crest 270 m west of site, Second Ponds Creek 520 m east of site
Site Extent:	Approximately 1 m x 0.5 m
Site Condition:	Poor Sheet wash, disturbance from road construction, underground services easement
Site Boundary Criteria:	Artefact location
Significance:	Refer Section 10 for details
Map:	See Figure 7
Site Contents:	

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 08	Flake	Silcrete	10	15	4	Red, width greater than length, plain platform, zero cortex, slight lustre
RH/A20P 08	Medial flake fragment	Silcrete	10	5	2	Red, glossy, zero cortex

Date Recorded: 16/6/2009

Comments:

Site RH/A20P 08 consisted of two artefacts located in a gently sloping, lower hill slope context on the northern verge of Rouse Road. The road verge was approximately 5 m wide and bordered to the north by a property fence line (Property 26). Average surface visibility across the verge was 50% as a result of sheet wash erosion and impacts to the verge from grading for Rouse Road and installation of utilities trenches. Vegetation consisted of patchy, short grass. Exposure background material included occasional leaf litter and blue metal. The artefacts were located in a very disturbed context.

The artefacts consisted of one red silcrete flake and one red silcrete medial flake fragment.

Photographs:



Plate 19. View east across RH/A20P 08



Plate 20. Flake and medial flake fragment, site RH/A20P 08

6.9 RH/A20P 09

Site Type:	Artefact scatter
Property Number:	Property 6
Property Type:	Private property
Site Coordinates:	GDA Zone 56 305454E 6270723N AGD Zone 56 305349E 6270533N
Landform:	Ridge crest
Vegetation:	Patchy to dense grass cover, scattered regrowth Ironbarks and other Eucalypts
Surrounding Features:	Second Ponds Creek 830 m southeast of site
Site Extent:	4,889m ² Approximately 80 m x 85 m
Site Condition:	Moderate Some surface disturbance from heavy machinery, sheet wash
Site Boundary Criteria:	Landform
Significance:	Refer Section 10 for details
Map:	See Figure 7
Site Contents:	

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 09	Heat shatter	Silcrete	26	18	10	Pinkish red, pot lid scars, zero cortex, dull lustre
RH/A20P 09	Proximal flake fragment	Silcrete	14	10	3	Red, glossy, good quality, zero cortex, one margin edge fractured
RH/A20P 09	Flake	Silcrete	24	14	3	Purplish red, glossy, good quality, zero cortex, faceted platform, step termination, length greater than width

Date Recorded: 20/5/2009

Comments:

Site RH/A20P 09 consisted of a scatter of three artefacts across a gently sloping ridge crest landform within Property 6. Vegetation across the site consisted of scattered young regrowth Ironbarks and other Eucalypts with patchy to dense grass cover and no understorey. The artefacts were identified in the northern portion of the site on an exposure measuring approximately 20 m x 30 m bordering the northern property fence line. The surface exposure appeared to be the result of recent heavy machinery scrapes, causing considerable surface disturbance. Exposure background material included shale/laterites, leaf litter and reddish brown clayey soil.

Immediately south of the exposure on the ridge crest was a more densely grassed area that appeared to be relatively intact and was included as part of site RH/A20P 09. The site measured approximately 80 m x 85 m. The southern boundary of the site was bordered by a thin stand of bamboo demarcating the southern property boundary. A large house and associated landscaping works were located in the area south of the stand of bamboo within the neighbouring property (Property 5).

The three artefacts consisted of a pinkish red silcrete heat shatter fragment, a red silcrete proximal flake fragment and a purplish red silcrete flake.

Photographs:



Plate 21. View southeast across RH/A20P 09



Plate 23. Recording artefacts, site RH/A20P 09



Plate 22. View south across RH/A20P 09



Plate 24. Heat shatter, proximal flake fragment and flake, site RH/A20P 09

6.10 RH/A20P 10

Site Type:	Isolated artefact
Property Number:	Properties 8 and 9
Property Type:	Private property
Site Coordinates:	GDA Zone 56 305482E 6270525N AGD Zone 56 305377E 6270335N
Landform:	Ridge crest and upper slope
Vegetation:	Regrowth woodland, including Ironbark with native grasses
Surrounding Features:	Second Ponds Creek 720 m east of site, First Ponds Creek 890 m west of site
Site Extent:	9,506m ² Approximately 140 m x 100 m
Site Condition:	Moderate Regrowth vegetation, some vegetation clearance
Site Boundary Criteria:	Landform
Significance:	Refer Section 10 for details
Map:	See Figure 7
Site Contents:	

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 10	Medial flake fragment	Silcrete	24	16	5	Purplish pink, slight gloss, three parallel dorsal scars, transverse break both ends, zero cortex

Date Recorded: 20/5/2009

Comments:

Site RH/A20P 10 was located across gently sloping ridge crest and upper slope landforms within Properties 8 and 9. Both properties fronted onto the western side of Cudgegong Road. Vegetation across the site consisted of regrowth woodland, including Ironbark, with native grasses and Bursaria understorey. Surface visibility was very low across the site due to grass cover, understorey, and abundant leaf litter. The eastern half of the site covered the ridge crest landform, whilst the western half of the site covered the upper slope landform that sloped gently down to the west towards First Ponds Creek. The site appeared to be relatively undisturbed, apart from vegetation clearance prior to the establishment of the regrowth woodland.

The house and other associated infrastructure of Property 8 was located 100 m east of the site in a mid slope context fronting Cudgegong Road. The house and sheds of Property 9 were located on the ridge crest, meaning that the site only covered that portion of the property immediately west of the house that appeared to be the least disturbed. The site measured approximately 140 m north-south and 100 m east-west. Site RH/A20P 09 was located 70 m to the north of site RH/A20P 10 on the same ridge crest formation. A large house and associated landscaping resulting in substantial surface disturbance was located between the two sites (Property 5). RH/A20P PAD 5 was located 20 m south of site RH/A20P 10 on the southern side of the house, also on the same ridge crest formation.

A single artefact was identified towards the centre of the site on the ridge crest within Property 8. The artefact was identified on a very small exposure at the base of a tree, and consisted of a purplish pink silcrete medial flake fragment.

Photographs:



Plate 25. View south across location of artefact, site RH/A20P 10



Plate 27. Dense undergrowth, site RH/A20P 10



Plate 26. View east across RH/A20P 10



Plate 28. Medial flake fragment, RH/A20P 10

6.11 RH/A20P 11

Site Type:	Isolated artefact
Property Number:	Rouse Road easement
Property Type:	Public road
Site Coordinates:	GDA Zone 56 306244E 6270733N AGD Zone 56 306139E 6270543N
Landform:	Lower slope
Vegetation:	Patchy grass cover
Surrounding Features:	Second Ponds Creek 150 m southeast of site
Site Extent:	Approximately 0.5 m x 0.5 m
Site Condition:	Poor Introduced road material, surface disturbance from road construction, sheet wash erosion
Site Boundary Criteria:	Artefact location
Significance:	Refer Section 10 for details
Map:	See Figure 7
Site Contents:	

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 11	Flake	Silcrete	28	15	13	Purplish red, less than 30% cortex, two dorsal scars, scarred platform, feather – plunge termination, distal edge damage (not use-wear), slightly lustrous

Date Recorded: 17/6/2009

Comments:

Site RH/A20P 11 was a single artefact located on the southern margin of Rouse Road, within the road easement. The site was 10 m west of the driveway access off Rouse Road into Property 27, and approximately 60 m west of the intersection of Rouse Road and Worcester Road. The road margin was approximately 7 m wide, of which 3 – 4 m bordering the road was cleared with a high blue metal content. The remaining area to the property boundary was covered by moderate, short grass cover. Exposure background consisted of occasional leaf litter and blue metal. The road verge was considered to be significantly disturbed at the site location. The artefact consisted of a purplish red silcrete flake.

Photographs:



Plate 29. View east across RH/A20P 11 and Rouse Road



Plate 30. Silcrete flake, site RH/A20P 11

6.12 RH/A20P 12

Site Type:	Isolated artefact
Property Number:	Property 52
Property Type:	Private property
Site Coordinates:	GDA Zone 56 306726E 6270849N AGD Zone 56 306621E 6270659N
Landform:	Mid slope
Vegetation:	Dense grass cover
Surrounding Features:	Second Ponds Creek 330 m west of site
Site Extent:	Approximately 0.5 m x 0.5 m
Site Condition:	Poor Introduced road gravels, sheet wash erosion
Site Boundary Criteria:	Artefact location
Significance:	Refer Section 10 for details
Map:	See Figure 7
Site Contents:	

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 12	Heat shatter	Silcrete	25	18	13	Pinkish grey, glossy, zero cortex, mottled, dorsal flake scars, ventral also two broken surfaces – heat fractured, possibly fragment off a core

Date Recorded: 25/6/2009

Comments:

Site RH/A20P 12 was located in a mid slope context on an unformed vehicle track within Property 52. The property was located at the southwestern corner of the intersection of Rouse Road and Windsor Road. The western half of the property was covered by dense, short grass cover, with an unformed vehicle track leading to a dam next to the western boundary fence.

The unformed vehicle track consisted of two parallel tyre track exposures, each 20 cm wide with surface exposure of approximately 20%. Background material across the exposures consisted of grass, blue metal and clayey soil. The surrounding area was completely cleared with very low / zero surface visibility due to the dense grass cover. The artefact was pinkish grey silcrete heat shatter.

Photographs:



Plate 31. Looking east across RH/A20P 12



Plate 32. Silcrete heat shatter, site RH/A20P 12

6.13 RH/A20P 13

Site Type:	Artefact scatter
Property Number:	Property 28
Property Type:	Private property
Site Coordinates:	GDA Zone 56 306200E 6270586N AGD Zone 56 306095E 6270396N
Landform:	Lower slope
Vegetation:	Patchy grass cover
Surrounding Features:	Second Ponds Creek 115 m east of site
Site Extent:	Approximately 0.5 m x 0.5 m
Site Condition:	Poor Substantial surface disturbance
Site Boundary Criteria:	Artefact location
Significance:	Refer Section 10 for details
Map:	See Figure 7
Site Contents:	

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 13	Core	Silcrete	40	26	17	Pink, no cortex, at least three platforms and seven negative scars, rotated, glossy, longest scar 2 cm, expanding scars
RH/A20P 13	Proximal flake fragment	Silcrete	11	21	4	Pink, glossy, no cortex, one dorsal scar, plain platform, transverse snap

Date Recorded: 17/6/2009

Comments:

Site RH/A20P 13 consisted of a scatter of artefact across a disturbed, lower slope context. The artefacts were identified on two small exposures within a horse trotting track in the southern half of Property 28. The exposures were 2 m apart from each other and measured approximately 0.5 m x 1 m and 2 m x 1 m. Immediately south of the exposures was a large spoil pile up to 80 cm high, whilst 2.5 m east of the exposures was a large dam / horse wading pool that measured 30 m x 8 m. Around 3 m north of the exposures was a larger exposure measuring 24 m x 10 m bordering the trotting track. Vegetation cover around the exposures consisted of moderate, short, grass cover. The majority of the property, especially associated with the trotting track, was quite disturbed. The artefact may have originated from another part of the property and been moved to the location where they were identified with spoil from the dam excavation or trotting track construction / maintenance. The only portion of the property that appeared relatively undisturbed was the southern 45 m, around 100 m south of site RH/A20P 13, that was included as part of site RH/SP16.

The two artefacts identified at site RH/A20P 13 consisted of a pink silcrete core and a pink silcrete proximal flake fragment.

Photographs:

Plate 33. Looking southwest across dam towards site RH/A20P 13



Plate 34. Silcrete core and proximal flake, site RH/A20P 13

6.14 RH/A20P 14

Site Type:	Isolated artefact
Property Number:	Property 27
Property Type:	Private property
Site Coordinates:	GDA Zone 56 306307E 6270524N AGD Zone 56 306202E 6270334N
Landform:	Creek flat
Vegetation:	Dense grass cover
Surrounding Features:	Second Ponds Creek 5 m east of site
Site Extent:	Approximately 0.5 m x 0.5 m
Site Condition:	Poor Artefact identified amongst dumped spoil
Site Boundary Criteria:	Artefact location
Significance:	Refer Section 10 for details
Map:	See Figure 7
Site Contents:	

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 14	Medial flake fragment	Quartz	23	8	2	Good quality, translucent, zero cortex, elongate, two parallel dorsal ridges, one margin usewear, two transverse breaks

Date Recorded: 17/6/2009

Comments:

Site RH/A20P 14 consisted of a single artefact identified on an area of dumped spoil bordering the northern side of Second Ponds Creek within Property 27. Vegetation across the property on the northern side of Second Ponds Creek consisted of a large clearing covered by dense, short, grass with occasional pine plantings and tall Forest Red Gums, Casuarinas and dense undergrowth along the creek edge. Surface visibility was zero / very low due to the dense grass cover. Several small spoil mounds were dotted across the clearing. The source of the spoil mounds was unclear, as the remainder of the area appeared quite intact. In one area, approximately 5 m north of the creek bank, was an area of dumped material that had been levelled. Some grass had subsequently started to grow across the spoil, but the majority of the 7 m x 10 m area remained clear of vegetation. The spoil consisted of dumped gravels, including shale, blue metal and clay. One quartz artefact was identified towards the centre of the dumped spoil. It is unclear where the artefact originated, and it was quite likely to be completely out of context.

The spoil piles and vegetation clearance across this portion of the property appeared relatively superficial, meaning that the subsurface context of the area may be relatively intact. This portion of Property 27 and a portion of the neighbouring property to the east (Property 43) with the same landform characteristics was designated as RH/A20P PAD 14.

Photographs:

Plate 35. Looking northeast across RH/A20P 14 towards Second Ponds Creek



Plate 36. Quartz medial flake fragment, site RH/A20P 14

6.15 RH/A20P 15

Site Type:	Isolated artefact
Property Number:	Property 29
Property Type:	Private property
Site Coordinates:	GDA Zone 56 306503E 6270212N AGD Zone 56 306398E 6270022N
Landform:	Mid slope
Vegetation:	Dense grass cover with regrowth Ironbark, Grey Box, Bursaria and Melaleuca
Surrounding Features:	Second Ponds Creek 200 m west of site
Site Extent:	Approximately 0.5 m x 0.5 m
Site Condition:	Moderate Regrowth vegetation, close proximity of large dam
Site Boundary Criteria:	Artefact location
Significance:	Refer Section 10 for details
Map:	See Figure 7
Site Contents:	

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 15	Core	Silcrete	31	26	16	Pink, good quality, glossy, zero cortex, one alternating platform with faceting, five scars

Date Recorded: 17/6/2009

Comments:

Site RH/A20P 15 consisted of a single artefact identified at the northern end of Property 29. A house and several sheds / dog kennels were located toward the southern end of the property, fronting Schofields Road. The northern two thirds of the property consisted of a flat to gently sloping area covered by a dense coverage of grass with moderate numbers of regrowth Ironbark, Grey Box, Bursaria and Melaleuca. A large dam was located in the northeastern corner of the property.

One pink silcrete core was identified on a small exposure at the base of an Ironbark tree, approximately 10 m west of the dam.

Photographs:

Plate 37. Looking east across RH/A20P 15 towards western wall of dam.



Plate 38. Silcrete core, site RH/A20P 15

6.16 RH/A20P 16

Site Type:	Isolated artefact
Property Number:	Property 41
Property Type:	Private property
Site Coordinates:	GDA Zone 56 306646E 6270037N AGD Zone 56 306541E 6269847N
Landform:	Mid slope
Vegetation:	Driveway bordered by dense, tall grass
Surrounding Features:	Ridge crest 480 m east of site, Second Ponds Creek 400 m west of site
Site Extent:	Approximately 0.5 m x 0.5 m
Site Condition:	Poor
	Artefact identified amongst introduced gravels
Site Boundary Criteria:	Artefact location
Significance:	Refer Section 10 for details
Map:	See Figure 7
Site Contents:	

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 16	Flake	Silcrete	21	34	9	Purplish red, hinge termination, slight gloss, scarred platform, pot lid scar on ventral, possible minor cortex on platform – less than 30%, right ventral fresh break

Date Recorded: 24/6/2009

Comments:

Site RH/A20P 16 consisted of a single artefact identified amongst introduced gravels used to top dress a driveway in the southern portion of Property 41. The driveway provided access to the house and sheds off Schofields Road, which was located approximately 45 m south of the site. There was no soil exposure along the driveway and the surrounding area was covered by very dense, tall grass. The predominant material used to top dress the driveway was blue metal. It was quite possible that the artefact was brought into the property with the other gravels. The artefact consisted of a purplish red silcrete flake.

Photographs:



Plate 39. Looking south across RH/A20P 16 towards Schofields Road.



Plate 40. Silcrete flake, site RH/A20P 15

6.17 RH/A20P 17

Site Type:	Artefact scatter
Property Number:	Property 30
Property Type:	Private property
Site Coordinates:	GDA Zone 56 306284E 6270113N AGD Zone 56 306179E 6269923N
Landform:	Creek flat
Vegetation:	Dense grass cover
Surrounding Features:	Second Ponds Creek 5 m west of site
Site Extent:	Approximately 40 m x 2 m
Site Condition:	Poor Artefacts located on former dam wall, substantial disturbance
Site Boundary Criteria:	Artefact location
Significance:	Refer Section 10 for details
Map:	See Figure 7
Site Contents:	

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 17	Flake	Silcrete	24	12	4	Orangey red, elongate – blade, slight gloss, zero cortex, feather termination, faceted platform, two dorsal parallel scars
RH/A20P 17	Distal flake fragment	Silcrete	10	15	4	Purplish red, no cortex, slight lustre, feather termination
RH/A20P 17	Proximal flake fragment	Silcrete	14	14	4	Purplish red, faceted platform, slight lustre, zero cortex, good quality, central ridge transverse snap
RH/A20P 17	Flake	Silcrete	16	13	5	Purplish red, glossy, platform ridged / scarred, zero cortex
RH/A20P 17	Cobble fragment	Silcrete	260	170	70	Yellow, half of large silcrete cobble, 100% bleached cortex on dorsal, some marginal scars – probably broken by machine

Date Recorded: 17/6/2009

Comments:

Site RH/A20P 17 consisted of a scatter of artefacts across an in filled dam bordering the eastern side of Second Ponds Creek within Property 30. The area where the artefacts were identified was within the northwestern corner of the Property, on an artificially flat and raised area bordering Second Ponds Creek. Vegetation across the flat area consisted of dense grass cover with areas of sheet wash erosion towards the creek margin. The artefacts were identified across the sheet wash surface exposures along the western edge of the raised area bordering the creek. The context was highly disturbed.

The artefacts consisted of one orangish red silcrete flake, one purplish red silcrete distal flake fragment, one pinkish red proximal flake fragment and one purplish red flake. One yellow silcrete cobble fragment with possible machine damage was also identified.

Photographs:



Plate 41. View north across RH/A20P 17



Plate 43. Silcrete artefacts, site RH/A20P 17



Plate 42. View south across RH/A20P 17



Plate 44. Silcrete cobble, site RH/A20P 17

6.18 RH/A20P 18

Site Type:	Artefact scatter
Property Number:	Properties 22, 23, 24 and 25
Property Type:	Private property
Site Coordinates:	GDA Zone 56 306037E 6269899N AGD Zone 56 305932E 6269709N
Landform:	Lower slope
Vegetation:	Regrowth Eucalypts with dense understorey, dense grass cover
Surrounding Features:	Ridge crest 140 m west of site, Second Ponds Creek 130 m east of site
Site Extent:	41,020m ² Approximately 320 m x 200 m
Site Condition:	Moderate Regrowth vegetation, some vegetation clearance and sheet wash erosion, spoil pile in southeastern corner of site
Site Boundary Criteria:	Artefact location
Significance:	Refer Section 10 for details
Map:	See Figure 7
Site Contents:	

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 18	Distal flake fragment	Silcrete	13	17	4	Red, distal hinge termination, zero cortex, slight lustre, fresh dorsal break
RH/A20P 18	Angular fragment	Silcrete	24	20	7	Red, glossy, zero cortex
RH/A20P 18	Proximal flake fragment	Silcrete	19	25	8	Pink, glossy, zero cortex, mottles, one scar on platform, distal break
RH/A20P 18	Medial flake fragment	Silcrete	16	15	10	Purplish grey, glossy, 40-60% cobble cortex, one heat shatter surface – crenate
RH/A20P 18	Medial flake fragment	Silcrete	18	12	9	Grey, glossy, zero cortex, longitudinal split and distal break
RH/A20P 18	Heat shatter	Silcrete	18	14	6	Purple, slight heat shatter off cortical piece, 40 – 60% cobble cortex
RH/A20P 18	Distal flake fragment	Silcrete	10	7	1	Purplish red, feather termination, glossy dark red, zero cortex

Date Recorded: 16/6/2009

Comments:

Site RH/A20P 18 was a large site across a lower slope landform within Properties 22, 23, 24 and 25. The site included the more intact areas across the northern portions of the four properties, with houses and other infrastructure predominantly at the southern end fronting Schofields Road. Vegetation coverage across the site within Property 22, the northern portion of Property 23 and all of Property 24 consisted of regrowth Eucalypts with a dense understorey. Half of the site within Property 23 was covered by dense, short grass. In contrast, Property 25, on the northwestern corner of Schofields Road and Cudgegong Road, was predominantly cleared, with only a small portion of regrowth surrounding a dam in the northeastern corner of the property. The best surface exposure was in the southern portion of the site within Property 25, where there were occasional spoil piles and associated surface disturbance resulting in surface exposures. Seven silcrete artefacts were identified across those exposures, consisting predominantly of broken flakes and one heat shatter fragment.

Photographs:



Plate 45. View east across site RH/A20P 18 within Property 24



Plate 47. View northeast across Property 25 towards Cudgegong Road, site RH/A20P 18



Plate 46. View north across location of stone artefacts within Property 25, site RH/A20P 18



Plate 48. Silcrete artefacts, site RH/A20P 18

6.19 RH/A20P 19

Site Type:	Isolated artefact
Property Number:	Property 32
Property Type:	Private property
Site Coordinates:	GDA Zone 56 305676E 6270195N AGD Zone 56 305571E 6270005N
Landform:	Mid slope
Vegetation:	Patchy grass cover
Surrounding Features:	Ridge crest 50 m east of site, Second Ponds Creek 600 m east of site
Site Extent:	Approximately 0.5 m x 0.5 m
Site Condition:	Poor Sheet wash exposure, surface disturbance, waste building material
Site Boundary Criteria:	Artefact location
Significance:	Refer Section 10 for details
Map:	See Figure 7
Site Contents:	

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 19	Flake	Silcrete	28	22	12	Purplish red, less than 30% cortex, possible usewear left ventral margin, length greater than width, scarred platform, feather termination, slightly rounded edge

Date Recorded: 18/6/2009

Comments:

Site RH/A20P 19 consisted of a single artefact identified in a mid slope context in the southwestern portion of Property 32. The area gently sloped down to the west towards First Ponds Creek. A large dam was located in the northwestern corner of the property, and 25 m north of the artefact. The majority of the property was cleared of vegetation except for a sparse to moderate grass cover, and occasional regrowth Eucalypts around the dam. There was extensive surface disturbance and introduced spoil / building waste across the property. The artefact was identified on a sheet wash exposure where there was relatively less building waste than further to the east. The artefact consisted of a purplish red silcrete flake.

Photographs:



Plate 49. View northeast across RH/A20P 19.



Plate 50. Silcrete flake, site RH/A20P 19

7 Previously Recorded Sites

7.1 RH/SP2 (AHIMS # 45-5-0808)

Site RH/SP2 was originally recorded in 1990 as part of an investigation for proposed sewerage treatment works. The original recording documented three artefacts located 10 m east of Second Ponds Creek. Two of the artefacts were identified on a horse / vehicle track, and one artefact was identified amongst leaf litter. The coordinates of the original recording place the site within Lot 189 DP201260, which was not accessible for the current field survey. However, based on the description of the location of the artefacts, the site was more likely to be located towards the southern margin of Lot 4 DP135890 (Property 3), which has been subsumed into the Rouse Hill Regional Park since the original recording.

Subsequent investigation of the site by JMcD CHM (2002: 30) did not identify any artefacts at the original recorded location, but did identify a number of additional artefacts further to the east towards Windsor Road. JMcD CHM (2002) subsequently extended the extent of the site and associated PAD over a much wider area, stretching over 300 m along Second Ponds Creek from sites OWR 2 and OWR 3 in the east.

The central portion of the site was within Lot 189 DP201260 and part of the southwestern portion of the site within Lot 184 DP208203 was not accessible for the current field survey.

Artefacts were identified during the current field survey around the southwestern margin of the site, within Property 15. The artefacts were identified across both the underground sewer line easement and an area 20 m to the north amongst a sparse stand of trees. The southwestern extent of the site was extended to include the location of the artefacts.

Apart from the underground sewer line easement, vegetation clearance appeared to be the main impact to the site in those areas that were accessible for the current field survey.

7.2 OWR 1 (AHIMS # 45-5-0956)

Site OWR 1 was recorded in 1992 as:

„2 red silcrete artefacts 2.5 m apart found on disturbed area 5 m x 0.5 m along newish fenceline, 30 m from west side of 2nd Ponds Creek and about 3 m above it. This is the highest level ground in the immediate vicinity of the creek“ (AHIMS Site Card # 45-5-0986)

The site condition was updated and re-assessed by JMcD CHM (2002: 24):

„Since its earlier recording, this site has been impacted upon by the installation of a gas pipeline. This has resulted in a surface exposure of roughly 30 m x 2.5 m which is sheet-washed and in parts gullied. This is located between the fenceline and the road. The pink silcrete flake was relocated; the red silcrete Flaked Piece was not. The site is in poor condition“

From observations during the field survey, it is clear that the area where the artefacts were recorded was substantially disturbed. The area was bordered by the old Windsor Road alignment to the east and a large dam to the west, in addition to the pipeline installation there have also been other landscaping and drainage works in the vicinity. No artefacts were identified at site OWR 1 during the current field survey.

7.3 OWR 2 (AHIMS # 45-5-0957)

Site OWR 2 was recorded in 1992 as:

„Driveway of Lot 900 Windsor Rd. More than 10 red silcrete artefacts, 1 cream chert broken flake and at least 2 cream silcrete cores in an area 15 m x 15 m. These artefacts were not measured because they were firmly embedded in the driveway clay by traffic. Possibly they were brought in with the other gravel on the driveway or are part of a lag surface – there is little topsoil left in the front yard of Lot 900. Site is about 100 m NE of Site RH 2“ (AHIMS Site Card 45-5-0957)

Two separate phases of archaeological subsurface investigation have been conducted at site OWR 2. This included test excavation and surface collection of artefacts in 1993 for the upgrade of Windsor Road (Douglas 1993) and salvage excavation conducted by JMcD CHM (2005) for the installation of an access shaft and bore pit for a sewer main.

The test pit location (Douglas 1993) has subsequently been destroyed by the duplication of Windsor Road. That test excavation recovered a total of 64 artefacts, with 41 of those from a surface collection and 23 from four 0.25 m² test pits.

The salvage excavation conducted by JMcD CHM (2005) took place within the eastern portion of Property 3 (Lot 4 DP135890), and approximately 20 m west of the Douglas (1993) test excavation. The salvage excavation recovered a total of 743 artefacts from 104 1 m² pits. The excavation also identified the presence of naturally occurring silcrete gravel that was determined to have not been extensively used for the manufacture of artefacts (JMcD CHM 2003: 38). The salvage excavation focussed on that area that was going to be impacted by the sewer line installation, and JMcD CHM (2005: 38) noted that „the areas identified as having this (sic) best excavation potential were not investigated during this work“.

During the field survey the area where the salvage excavation took place was covered by a mixture of grass and a thick layer of wood chips. The area to the north of Lot 4 DP135890, within Lot 1 DP787122 (also Property 3), was covered by woodland with relatively dense undergrowth and very limited surface visibility. Due to the surface disturbance across the eastern portion of Lot 4 DP135890 from the salvage excavation, the remaining intact portion of OWR 2 was likely to be the densely vegetated area within Lot 1 DP787122, between the location of the salvage excavation to the south and Second Ponds Creek to the north and west. No artefacts were identified at site OWR 2 during the current field survey.

7.4 OWR 3 (AHIMS # 45-5-0958)

Site OWR 3 was located within Lot 189 DP201260, which was not accessible for the field survey. A current assessment of the sites condition could not be completed.

The original recording of site OWR 3 by Corkill (1992) identified two surface artefacts. Subsequent archaeological test excavation was conducted at the site by Douglas (1993). A total of 25 artefacts were recovered from the excavation of a small area near the southeastern corner of Lot 189 DP201260, located approximately 80 m south of the OWR 2 salvage location. The test excavation area has since been destroyed by the duplication of Windsor Road.

The extent of sites OWR 2 and OWR 3, as well as their similar landform setting, lead JMcD CHM (2002) to suggest that the two sites were part of the same archaeological feature.

7.5 RH 46 (AHIMS # 45-5-2348)

According to the details on site card AHIMS # 45-5-2348, site RH 46 was located on the eastern side of Windsor Road, within the road easement, and in front of Rouse Hill Golf Course. There have been extensive modifications to the Windsor Road easement since the recording, and the site was likely to have been destroyed.

7.6 RH/RP1 and RH/RP2 (AHIMS # 45-5-2415 and 45-5-2439)

Sites RH/RP1 and RH/RP2 were two isolated artefacts identified approximately 160 m apart on a lower slope landform within the Rouse Hill Regional Park. The site card for RH/RP1 (AHIMS # 45-5-2439) was missing from the AHIMS register. Subsequent investigation of the area by JMcD CHM (2002) provided an updated assessment of the condition of the site, and determined that the sites were part of the same, large archaeological feature. JMcD CHM (2002: 46) noted that since the original recording in 1998, NPWS had installed a number of walking tracks and associated drainage works which had resulted both in the damage and exposure of an extensive Aboriginal site. The description of the site was (JMcD CHM 2002: 46):

„More than 40 artefacts were observed over an area of 350 m along the creek and up to 100 m from the creek bank. These consisted mainly of silcrete and silicified tuff (in roughly equal proportions). These were found wherever drains/walkways had penetrated the artefact bearing deposit. One large silicified tuff flake with heavy retouch/usewear on both lateral margins was found near the installed Aboriginal interpretation sign (which identifies the importance of this location to Aboriginal people)..... Artefacts were also seen in recreation areas where new surface had not been introduced.“

Instead of referring to both of the site names, RH/RP1 and RH/RP 2, for the purposes of the current investigation, the site was referred to as „RH/RP2“ only.

During the field survey, artefacts were identified both within and bordering the site extent of RH/RP2 as indicated by JMcD CHM (2002). Artefacts were identified outside the northern margin of the original RH/RP2 extent, in areas bordering the car park and a cleared area bordering the southern side of a raised, grassy oval north of RH/RP2. More than 40 artefacts were identified during the current field survey. It was clear from

the distribution of artefacts as observed by JMcD CHM (2002) and the current field survey that RH/RP2 represents an extensive Aboriginal site.

As with the JMcD CHM (2002) investigation, many of the artefacts identified during the current survey were observed on exposures created by the construction of walkways and associated drainage ditches, as well as the large cleared area around the car park and play area where there was high surface exposure and very little ground cover.

7.7 RHAC 1; RHAC 2; RHAC 3 (AHIMS # 45-5-2575; 45-5-2573; 45-5-2574)

Site RHAC 1 (45-5-2575), RHAC 2 (45-5-2573) and RHAC 3 (45-5-2574) were originally recorded by SGAC (2000a) as part of an archaeological investigation prior to the construction of the Rouse Hill Anglican College. Archaeological excavation was subsequently undertaken at sites RHAC 1 and RHAC 3 (SGAC 2000b).

The school has since been constructed and the sites have been destroyed. One artefact was identified on the school property during the current field survey in an area designated by SGAC (2000b) as RHAC/PAD2 (see RH/A20P 04). For further discussion of the archaeological excavations at sites RHAC 1 and RHAC 3 refer to 5.2.

7.8 RH/SP17 (AHIMS # 45-5-3108)

The site was first recorded by JMcD CHM (2002) during an archaeological investigation of Second Ponds Creek. The site description was as following (JMcD CHM 2002: 43):

„The site consists of a number of artefacts on an exposure associated with a vehicle track just south of the corner of Rouse Road and Terry Road. The site is on the eastern side of the creekline, near a large meander. There is an area of PAD which is defined by the road and property boundaries. There are much higher levels of disturbance in adjoining lots. The site is mostly on property 73, although there is an area of PAD in the front of property 72 – on the opposite side of the creek. No 72 has got high levels of disturbance at its southern end. Property 72 has a house on the opposite side of the creek and the site and associated PAD appears restricted to the eastern side of the creek.“

A total of seven artefacts were identified at the site by JMcD CHM (2002). The current field survey confirmed that there was extensive surface disturbance across the southern end of Property 49 (JMcD CHM 2002 Property 73), and that Second Ponds Creek meanders very close to the eastern boundary of the adjoining property, Property 50 (JMcD CHM 2002 Property 72).

During the field survey there was very little surface visibility across the area where the artefacts were originally recorded by JMcD CHM (2002: 43) at the corner of Rouse Road and Terry Road. The small amount of surface visibility that there was consisted of exposures where heavy machinery had moved across the area, disturbing some of the surface deposit.

During the field survey a silcrete artefact was identified towards the southern end of Property 49, approximately 15 m north of the house and sheds, and just outside the southwestern boundary of site RH/SP17 as delineated by JMcD CHM (2002). In addition to this, JMcD CHM identified an area of PAD (PAD 42) approximately 70 m to the southwest of RH/SP17. PAD 42 stretched across the creek flats on the southern side of Second Ponds Creek within Properties 27, 43 and 50, but was recorded between 20 to 70 m south of the creek channel. During the field survey a silcrete artefact was identified within the northwestern corner of PAD 42, in Property 27.

Further inspection of the area between site RH/SP17 and PAD 42 showed that the area consisted of the same, slightly raised creek flats bordering Second Ponds Creek. With the identification of additional artefacts and the likelihood that the area between the two archaeological features was likely to have similar archaeological potential, site RH/SP17 was expanded across the entire southern portion of Second Ponds Creek within Properties 27, 43, 49 and 50, incorporating the original area designated as PAD 42. The main areas of disturbance that were not included within RH/SP17 were a small house on the southern side of Second Ponds Creek within Property 50, and the disturbed area at the southern end of Property 49. The southern boundary of the site was the northern fence line of Property 44, which ran perpendicular to the Properties 27, 43, 49 and 50. There appeared to be substantial surface disturbance across the majority of Property 44 on the eastern side of Second Ponds Creek.

7.9 RH/SP16 (AHIMS # 45-5-2807)

The site was first recorded by JMcD CHM (2002) during an archaeological investigation of Second Ponds Creek. The site description was as following (JMcD CHM 2002: 43):

„This site consisted of seven artefacts on a sheetwash erosion close to a wooden bridge constructed across the creekline. The site is on the western side of the creekline. Here is an area of PAD which is defined by the property boundaries – and higher levels of disturbance in adjoining lots. The site is at the rear of property 74, on the opposite side of the creekline from the buildings associated within this subject land.

The PAD stretches between the creekline and up to 80 m from it – at an elevation of c.44 m AHD. There is an intact stand of trees here but the understorey has been cleared.”

No artefacts were observed at site RH/SP16 during the current filed survey due to very dense, tall grass across the area, resulting in zero surface visibility. Based on an inspection of the area, and adjoining lots, the boundaries of site RH/SP16 were extended slightly to the west and north. This included extending the site boundary between 5 and 30 m to the western fence line of Property 44, and extending the site northwards approximately 50 m into Property 28.

7.10 RH/SP15 (AHIMS # 45-5-2805)

The site was recorded by JMcD CHM (2002) during an archaeological investigation of Second Ponds Creek. The site description was as following (JMcD CHM 2002: 42):

„This site consists of a number of artefacts in two locations. One of these locations (Area 1) comprises sheetwash erosion associated with a track and a larger area of PAD. It is in the rear paddock of Property 58, beyond the house yard which is quite disturbed by a domestic garden and animal enclosures. There is a fenceline between this and Area 2 – which is located at the creek’s edge downslope of a ploughed paddock. The second area is highly disturbed and has lower potential for intact archaeological deposit than Area 1.

The PAD stretches between the creekline and up to 80 m from it – at an elevation of c. 46 m AHD. There is an intact stand of trees at Area 1 and large tree near Area 2.”

Two silcrete artefacts were identified by JMcD CHM (2002) at Area 1 and three silcrete and one petrified wood artefact were identified within Area 2.

As described by JMcD CHM (2002: 42) and the AHIMS site card # 45-5-2805, Area 1 was located at the northwestern corner of Property 34, and Area 2 was located approximately 100 m northwest in Lot 120 DP208203, a property that was inaccessible for the current field survey. The extent of the site included a large stretch of creek flat and lower slope landform bordering the western side of Second Ponds Creek, and included a large portion of the northeast corner of Property 34, sections of inaccessible Lots 13 DP27220 and Lot 120 DP208203, a very small portion of the northwest corner of Properties 30 and 35, the southeast corner of Property 20 and the portion of Property 36 on the western side of Second Ponds Creek.

During the current filed survey, two artefacts were identified on an overgrown vehicle track in the northwestern corner of Property 34, approximately in the area described by JMcD CHM (2002) as „Area 1”. Although the artefacts identified during the current field survey were also silcrete, based on the description of the two artefacts identified by JMcD CHM (2002: 42), they are two different artefacts. Surface visibility across the vehicle track was limited by patchy grass cover and leaf litter. The surrounding area was covered by dense, tall grass.

7.11 SCR/UPG1 (AHIMS # 45-5-3355)

This site was described as a pinkish red silcrete flaked piece identified in an area adjacent to a tree and on an exposure bordering the eastern side of Cudgegong Road. The Cudgegong Road margin at this location was relatively disturbed.

7.12 Pole 45 and Compound (AHIMS # 45-5-3395; 45-5-3517)

Sites 45-5-3395 and 45-5-3517 were recorded as part of the installation of a 330kV substation within Lot 15 DP27220, on the northeastern corner of the intersection of Cudgegong Road and Schofields Road (Hardy 2007). The coordinates for both sites place them within the northern half of Property 25, which is the incorrect location, as the description for both sites places them within Lot 15 DP27220. Lot 15 DP27220 was not accessible for the current field survey.

7.13 RH/SP9 (AHIMS # 45-5-2290)

Site RH/SP9 was originally recorded by McDonald (1993) as an artefact scatter along the northern margin of Second Ponds Creek immediately downstream of the now disused section of Windsor Road. The site was referred to as RH/SP19 in JMCD CHM (2002).

The site was located in close proximity to the Area 20 Precinct, however the now disused section of Windsor Road provided a clear boundary between the Area 20 Precinct and site RH/SP9. The site was not located within the Area 20 Precinct.

8 Potential Archaeological Deposits (PAD)

8.1 RH/A20P PAD 1

RH/A20P PAD 1 was located on a gently sloping spur crest on the northern side of Rouse House within Property 4. Rouse House was situated on a local high point on a low-lying ridgeline that ran northeast along the western boundary of Area 20. RH/A20P PAD 1 was located on a spur that extended north from the main ridgeline. Surface visibility across the Rouse House property was generally zero to very low, due to a cover of dense, short to long grass.

RH/A20P PAD 1 covered an area 200 m northwest and 70 m wide from Rouse House across a large, cleared pastoral paddock covered by dense, long grass with zero surface visibility. The closest water courses to RH/A20P PAD 1 were Second Ponds Creek 480 m southeast and a first order tributary of Killarney Chain of Ponds 400 m west. Disturbance within RH/A20P PAD 1 appeared to be limited to vegetation clearance.

8.2 RH/A20P PAD 2

RH/A20P PAD 2 was located on the crest of a low-lying ridgeline that ran northwest along the western boundary of Area 20. The PAD was located across two properties, Property 4, which was the Rouse House Historic Houses Trust property, and Property 3 (Lot 3 DP538858), which was part of the Rouse Hill Regional Park.

The ridgeline consisted of a number of high points and saddles, with Rouse House, located approximately 85 m north of RH/A20P PAD 2, situated on one of the more prominent high points. As the ridgeline ran south from Rouse House, it dipped through a shallow saddle to a slightly lower high point with the Rouse Hill Regional Park. The PAD stretched south from the sheds and driveway on the western side of Rouse House, across the shallow saddle to the slightly lower high point 350 m south. The central portion of the PAD was located outside the Area 20 Precinct. Surface visibility across the PAD was generally zero due to dense grass cover. The closest water courses to RH/A20P PAD 2 were Second Ponds Creek 400 m east and a first order tributary of Killarney Chain of Ponds 200 m west. Disturbance across the PAD included a shed and small workers cottage within the Rouse House property, and formed walking tracks within the Regional Park. Otherwise, surface disturbance appeared to be limited to vegetation clearance.

8.3 RH/A20P PAD 3

RH/A20P PAD 3 was located across a flat to very gently sloping portion of a ridge crest within Property 2, on the northwest corner of Cudgegong Road and Macquarie Road. The ridgeline extended along most of the western boundary of Area 20, consisting of a number of high points and saddles. The portion of ridge crest within Property 2 was generally flat, with the western margin of the crest and upper slope landforms sloping west down to First Ponds Creek in the western half of the property.

RH/A20P PAD 4 covered the eastern third of the property, and measured approximately 110 m north-south and 90 m east-west. A 330kV transmission line easement that ran through the centre of the property was located 20 m west of RH/A20P PAD 4. Vegetation across the PAD consisted of regrowth Forest Red Gum, Grey Box and Ironbark, with a limited understorey of weeds, occasional grass and frequent leaf litter. Surface visibility was predominantly limited by the leaf litter. Sheet wash erosion and vegetation clearance appeared to be the main surface impacts across the PAD.

8.4 RH/A20P PAD 4

RH/A20P PAD 4 stretched across a saddle formation on the main ridgeline that ran along the western boundary of Area 20. The majority of the PAD was within Cudgegong Reserve, which covered Property 10 and consisted of a conservation area of regrowth Shale Plains Woodland. A 330kV transmission line easement passed through the eastern margin of the two properties.

Surface visibility across the majority of the Reserve was very low, due mainly to the dense understorey, native grasses and leaf litter amongst the regrowth Eucalypts. The main source of surface visibility was a wide walking / vehicle track (up to 3 m wide) that weaved through the property.

The eastern half of the Reserve consisted of gently sloping mid and upper slope landforms that drained east into Second Ponds Creek. The central portion of the Reserve consisted of a gently sloping to flat ridge crest and upper slope landforms, whilst the western quarter consisted of a mid slope landform that drained west towards First Ponds Creek. The ridge crest within the Reserve sloped gently up to the north and south, creating a saddle formation. The PAD covered the crest and upper slopes within the Reserve, as well as a

thin, less than 10 m section within Property 9 to the north. Site RH/A20P 10 was located 25 m north of RH/A20P PAD 5 in Property 9, with the main reason that the entire crest within that property was not designated as PAD being due to extensive surface disturbance in that area. The PAD measured approximately 150 m north-south and 130 m east-west.

8.5 RH/A20P PAD 5

RH/A20P PAD 5 was located in an upper to mid slope context across Properties 18 and 19. The PAD was on the eastern side of the main ridgeline that ran along the western boundary of Area 20. RH/A20P PAD 6 sloped gently down to the southeast towards Second Ponds Creek. The PAD measured approximately 140 m north-south and 110 m east-west.

Vegetation across the PAD consisted predominantly of a dense grass cover with occasional, tall Eucalypts. Grass cover within Property 18 was short and mown, whereas in Property 19 the grass was quite tall with a variety of introduced and native grasses and young Eucalypts. Surface visibility was generally zero to very low across the PAD due to the dense grass cover. The southern margin of RH/A20P PAD 6 was defined by a long, thin strip of disturbance running parallel to the southern boundary fence of Lot 71. Due to the dense grass cover it was unclear what the cause of the disturbance was, but it was scattered with fragments of concrete and sandstone. This strip of disturbance formed the boundary between RH/A20P PAD 6 and site RH/A20P 19 to the south.

8.6 RH/A20P PAD 6

RH/A20P PAD 6 was located in a mid slope context within Properties 38 and 39. The PAD sloped gently down to the east towards Second Ponds Creek, which was located 140 m away. The PAD had been completely cleared off all vegetation besides a cover of short, dense grass. Surface visibility across the PAD was zero, except for a very limited exposure along the northern side of the boundary fence separating the two Lots.

Overall, the PAD provided a gently sloping, well drained, raised area in close proximity to Second Ponds Creek. It measured approximately 180 m north-south and 145 m east-west.

8.7 RH/A20P PAD 7

RH/A20P PAD 7 was a large PAD covering the northern flats of Second Ponds Creek through Properties 27 and 43. The PAD covered an area approximately 215 m long and 50 m wide along the gently sloping creek flats along the northern margin of Second Ponds Creek. Vegetation coverage within Property 27 consisted of a large clearing covered by dense, short, grass with occasional pine plantings and tall Forest Red Gums, Casuarinas and dense undergrowth along the creek edge. Vegetation coverage across Property 43 consisted predominantly of dense, tall grass bordered by dense regrowth and understorey.

One artefact, site RH/A20P 14 was located bordering Second Ponds Creek in the southeastern section of the PAD. The PAD was not incorporated into site RH/A20P 14 due to the fact that the artefact appeared to have been introduced to the area with a small patch of spoil. There were several small spoil piles across the southern half of Property 27, but surface disturbance appeared to be minimal.

8.8 PAD 41 (Previously recorded PAD)

PAD 41 was recorded by JMcD CHM (2002) during an archaeological investigation of Second Ponds Creek. The PAD description was as following (JMcD CHM 2002: 48):

„The location of this PAD was defined on the basis of landuse mapping and field survey. It comprises the creek flats within the drainage reserve at 44 m AHD. The PAD is on the eastern side of Second Ponds Creek, north of Schofields Road, and south of Rouse Road. There has been some clearing of trees (pre 1947) but limited other forms of disturbance in this area. The boundaries of this feature are defined by high existing landuse impact. The landscape here is creek flats associated with second order stream.“

The current field survey established that the southern half of the PAD, within Property 35, had been significantly impacted since the original recording. The surface disturbance included extensive earthworks, introduction of blue metal, and vast quantities of mulch.

The northern half of the PAD, within property 36, appeared to be relatively intact, and was quite likely to be in a very similar condition to that during the original recording. Surface visibility was zero due to dense grass cover. The PAD was bordered to the north by Property 37, which was also extensively disturbed.

9 Survey Coverage

The Area 20 Precinct was comprised of 101 Lots and numerous landowners. Of those 101 Lots, 74 were accessible for the purposes of the site inspection. Following discussion with the respective landowners, four of the 74 Lots were not accessed during the field survey.

As each Lot was accessed during the field survey it was allocated a Property Number. Where there was a cluster of lots belonging to the same landowner, one Property Number was allocated. A total of 57 Property Numbers were allocated during the field survey.

Due to the large number of properties and the fact that most Lots had to be entered and surveyed separately, the survey coverage details were recorded on a property by property basis.

In general, survey coverage was good. Substantial amounts of the study area were covered by either dense grass or regrowth woodland, leaving surface visibility generally low. Surface exposures were largely identified in areas of surface impact, such as earthworks, heavy machinery operations, erosion scours, and other areas of cleared vegetation.

There was a relatively high degree of disturbance across the study area, depending on previous land uses within individual Lots. The most intact properties included the Rouse Hill Regional Park, Rouse House, and other properties bordering Second Ponds Creek and the main ridgeline to the west.

Details of survey coverage and conditions of each Property Number are presented in Table 3 following.

Table 3. Property descriptions and effective survey coverage

Property #	Lot & DP	Area (m ²)	Surface Visibility (%)	Area Surveyed (m ²)	Effective Coverage (m ²)	Site / PAD	Notes
1	Lot 112 DP208203	20,414	15	3,500	525	-	Gentle slopes in first paddock off Cudgegong Road – formerly cultivated, possibly market gardens. Eastern paddock of property – regrowth Ironbark, Stringybark, paddock ripped as recently as two years ago, stock track provides main surface exposure, occasional background ironstone gravels, no flowing water.
2	Lot 82 DP208203	28,869	30	3,400	1,020	RH/A20P PAD 3	330kV transmission line easement on north-south axis cuts through middle portion of property. Eastern portion of property is all tree regrowth, including Forest Red Gum, Grey Box, Ironbark. Landform is level ridgetop. Western half of property disturbed by earthworks, ripping, dumped building material. Large stand of bamboo.
3	Lot 3 DP 538858; Lot 2 DP787122; Lot 1 DP787122; Lot 4 DP135890; Lot 179 DP208203	243,200	10	6,140	614	RH/A20P 01; RH/A20P 02; RH/A20P 03; RH/RP2; RH/SP2; OWR2; RH/A20P PAD 2	Large area including a portion of Second Ponds Creek, creek flats, hillslopes and ridgeline. Northern half of the Regional Park was largely cleared with dense, tall grass. Dense vegetation bordering creekline, including regrowth, shrubs and weeds. Main impacts include access road, car parks, picnic infrastructure, playground, walking tracks, drainage works and large dam.
4	Lot 1 DP815213	124,007	5	3,600	180	RH/A20P 01; RH/A20P PAD 1 RH/A20P PAD 2	Predominantly cleared property covered by dense grass. Only surface exposures tended to be around the drip line of shed and other buildings across the crest/upper slope areas of the property.
5	Lot 80 DP208203	20,048	15	2,400	360	-	330kV transmission lines easement runs north – south through eastern portion of the property. House located towards centre of property. Western half of property slopes down to the west. All regrowth vegetation, including Ironbark, Grey Box as well as tufts of grass. Patchy surface exposure, background of shales/laterites and leaf litter.
6	Lot 81 DP208203	20,026	30	2,820	846	RH/A20P 9	330kv transmission line easement runs north-south through eastern portion of the property. No house on property. Western two thirds consisted of sparse regrowth with short grass and patchy exposure. Exposures showed a clayey deposit with laterites. Some recent machine scrapes across central crest area of property.
7	Lot 2 DP1033564	21,102	5	2,240	112	RH/SP2	House, driveway, other infrastructure and small dam located in eastern half of property. Western half of property consisted of sparse eucalypts and dense grass. A recently installed sewerage line easement was discernable from the southwest corner to the mid northern boundary of the property. The easement consisted of dense, short grass in contrast to the taller grass and wider variety of vegetation in the immediately surrounding area. Apart from the sewerage line easement, remainder of the western half of the property appeared relatively intact.

Property #	Lot & DP	Area (m ²)	Surface Visibility (%)	Area Surveyed (m ²)	Effective Coverage (m ²)	Site / PAD	Notes
8	Lot 79 DP208203	20,647	5	2,560	128	RH/A20P 10	House and other structures located in eastern third of property. 330kV transmission line ran north/south approximately 20 m west of the house. Large cleared area consisting predominantly of short, dense grass, covered the property west from the house west to the higher (crest), middle portion of the property. The western half of the property consisted of regrowth Ironbark, Grey Box and Forest Red Gums with moderately high grasses. Native grasses including Microlena.
9	Lot 78 DP208203	20,009	10	1,710	171	RH/A20P 10; RH/A20P PAD 4	House located on the higher (crest), western portion of the property. Eastern two thirds of the property slope gently down to the east. 330kV transmission line ran north/south across eastern portion of property. Graded access road to house from Cudgegong Road – top dressed with blue metal. Scattered regrowth including Ironbark and Forest Red Gums. Remainder of area covered by short, dense grass – no native understorey. To the west of house – short native grasses (Microlena?) and leaf litter. Some dumped clayey soil observed across southern portion of clearing – possibly locally derived, maybe from grading works on the driveway or from excavation for the pool at the rear of the house.
10	Lot 77 DP208203; Lot 76 DP208203	40,359	30	1,700	510	RH/A20P PAD 4	Cudgegong Reserve, managed and owned by Blacktown City Council. Consists of two properties. 330kV transmission line and easement passes through eastern portion of properties. Vegetation consists of Shale Plains Woodland – all regrowth. Ironbark, Forest Red Gum, Stringybark with dense Bursarua shrubs and native grass cover. Occasional olives and patches of Acacia Longifolia. Main surface exposure consisted of walking trail throughout the vegetation, up to 3 m wide.
11	Lot 2 DP540894	19,949	20	3,120	624	RH/A20P 05; RH/A20P 06	House and large shed located in lower, southern half of property. Southern portion of property consisted of dense, short grass cover with occasional regrowth Forest Red Gum and Grey Box. Occasional surface exposures, with the largest exposure associated with an unformed vehicle track turned erosion scour between the house and the large shed. Higher, northern half of property consisted of denser regrowth and dense, short, grass cover.
12	Lot 14 DP1120290	20,218	10	1,070	170	-	Moderate to steep slope down to the south. House located in higher north central portion of property. Property almost completely cleared of vegetation except for dense, short, grass cover. Main exposures across most of the property were horse tracks. The largest exposure was a largish area of sheet wash along the western boundary of the property.

Property #	Lot & DP	Area (m ²)	Surface Visibility (%)	Area Surveyed (m ²)	Effective Coverage (m ²)	Site / PAD	Notes
13	Lot 1 DP1083199; Lot 13 DP1120290	73,617	10	1,260	126	RHAC 1; RHAC 2; RHAC 3 RH/A20P 04	School buildings and car park cover the majority of the property. Thin strip of remnant regrowth woodland located across southwestern boundary of property. Woodland area surrounded to the north and east by large-scale impacts, including an artificially raised and flattened playing area, a brick path and associated drainage line cut across the eastern boundary of the woodland, and a large, flat excavated area to the southeast.
14	Lot 182 DP208203	20,043	2	1,680	33.6	-	Southern side of Second Ponds Creek included house and large shed. Remaining area largely cleared apart from occasional regrowth eucalypt and short, dense grass cover. Driveway laid with bitumen. Formed vehicle track top dressed with blue metal leads north from large shed, fording Second Ponds Creek, to the northern portion of property. The northern portion consisted of a large timber yard, almost completely cleared, with most of the area top dressed with blue metal.
15	Lot 183 DP208203	19,784	5	2,310	115.5	RH/SP2	House and sheds located in the southern third of property. Large underground sewerage line from lower southwest corner to mid eastern boundary of property, approximately 20 m north of house and sheds. Remainder of property on southern side of Second Ponds Creek was open and largely cleared with dense, short, grass and scattered eucalypt regrowth. Main area of surface exposure was across the surface of the sewerage pipeline easement. Section of property on northern side of Second Ponds Creek was heavily wooded, including occasional Eucalypt regrowth and weed species such as broad and small leaved Privet.
16	Lot 75 DP208203	20,514	15	2,800	420	-	Large house, sheds and tennis court located within the central, higher, portion of the property. 330kV transmission line runs north/south across eastern boundary of property. Western half of property slopes down to the west. Large dam located in northwestern corner of property. Other disturbances visible across remainder of western portion of property included large spoil mounds along southern boundary, and some building waste scattered across ground surface. Main exposures were unformed vehicle tracks and surrounding surface wash erosion along the northern and southern margins of the property. Vegetation was largely cleared with dense, short grass cover and some Kikuyu.
17	Lot 73 DP208203	20,923	10	2,400	240	-	House, sheds and various heavy machines and trucks located across eastern third of property. Western two thirds of property, including crest landform, consisted of regrowth Ironbark with very little undergrowth and moderate amounts of tall grass. Frequent amounts of leaf litter. Some piles of rubbish and holes scattered across property. Surface visibility largely limited by leaf litter.

Property #	Lot & DP	Area (m ²)	Surface Visibility (%)	Area Surveyed (m ²)	Effective Coverage (m ²)	Site / PAD	Notes
18	Lot 72 DP208203	20,200	10	2,100	210	RH/A20P PAD 5	House located in the eastern portion of the property, fronting Cudgegong Road. Remainder of property consisted of mown, dense, short grass. Ridge crest ran north/south through centre of property.
19	Lot 71 DP208203	24,987	5	1,600	80	RH/A20P PAD 5	House and sheds located in the eastern portion of the property, fronting Cudgegong Road. Remainder of property covered by very dense, long grass. Occasional regrowth Ironbark, Bursaria, Acacia and Kangaroo grass. Evidence of disturbance along southern margin of property included a narrow clearing with occasional shale, sandstone and concrete fragments.
20	Lot 119 DP208203	20,366	1	600	6	RH/SP15	House, driveway and sheds located in western third of property. Eastern two thirds of property sloped gently down to the east to Second Ponds Creek – completely cleared with occasional dumped vehicles, very tall Kikuyu grass, and no surface visibility across the majority of the property. Large dam located at lowest, western end of property.
21	Lot 70 DP30186	19,734	20	1,500	300	-	House, driveway and sheds located in southwestern portion of property. Remainder of property used as market gardens. Extensive surface disturbance, including large dam in southeastern corner, irrigation channels and raised vehicle track running to eastern boundary of property.
22	Lot 19 DP27220	21,368	5	1,330	66.5	RH/A20P 18	Southern half of property included house, sheds, fenced horse enclosures. Minor, 1 st order ephemeral drainage line ran southeast across the central portion of the property, immediately north of the sheds and horse enclosures. Northern third of property consisted of gentle slopes, short, dense grass cover and regrowth eucalypts. Low visibility across northern portion of property.
23	Lot 18 DP27220	20,257	1	2,720	27.2	RH/A20P 18	House, sheds and dam located within southern half of property. Middle portion of property consisted of a large clearing with dense, short grass cover. Higher, northern end of property consisted of regrowth bushland with dense undergrowth, tall grass and occasional Ironbarks. No surface exposures observed across northern two thirds of property.
24	Lot 17 DP27220	20,149	5	2,500	125	RH/A20P 18	House, driveway and shed located in southwestern portion of property. Remainder of southern half of property consisted of dense, short, grass cover. Northern half of property consisted of dense regrowth bushland, including occasional Forest Red Gums, Ironbarks, Bursaria, dense undergrowth and frequent weed grasses.
25	Lot 16 DP27220	20,357	5	2,500	125	RH/A20P 18	House and shed located in southeastern corner of property. Remainder of property was largely cleared with occasional regrowth eucalypts towards the northern boundary. Dame was located in the northeastern corner of the property.

Property #	Lot & DP	Area (m ²)	Surface Visibility (%)	Area Surveyed (m ²)	Effective Coverage (m ²)	Site / PAD	Notes
26	Lot 1 DP540894	20,406	5	1,928	96.4	RH/A20P 07	House, sheds, driveway, water tank and dam located across eastern half of property. Vegetation consisted of occasional regrowth Eucalypts. Surface exposure across eroded unformed vehicle track beside house and shed. Ephemeral 1 st order drainage line ran down to the southeast through centre of the property, feeding the large dam. Western half of property covered by dense, tall grasses, including Kikuyu.
27	Lot 126 DP208203	21,286	10	2,730	273	RH/A20P 14; RH/A20P PAD 7 RH/SP17	Large machinery shed, house, driveway and parking area located in northern half of property. Remaining area between shed and Second Ponds Creek cleared, creek flats was covered by mown, dense, short grass. Some surface exposures where on recently excavated ground. Portion of property on southern side of Second Ponds Creek consisted of regrowth Eucalypts with no understorey. Surface cover consisted of dense, short grass. A slight rise on the creek flats was discernable leading to the southeastern corner of the property. Large, 18 m x 6 m surface exposure against southeastern boundary fence. Visibility limited by leaf litter.
28	Lot 125 DP208203	19,908	15	2,131	319.65	RH/A20P 13; RH/SP 16	House, driveway, sheds and horse enclosures across northern third of property. To the south of the house was a horse trotting track covering most of the remainder of the property. Large number of surface disturbances observed associated with the trotting track, including a large dam, excavated areas, spoil piles and some dumped material in the centre of the trotting track and drainage cuts around portions of the outside of the trotting track. Several surface exposures observed associated with these surface disturbances. Southern portion of the property appeared relatively intact.
29	Lot 9 DP27220	20,322	2	2,136	42.72	RH/A20P 15	House, sheds and fenced kennel areas/dog runs located in southern third of property. Remainder of property covered with dense, short, grass and a moderate number of regrowth Ironbarks, Stringy Barks and some native grasses. Large dam was located within the northeastern corner of the property. Surface disturbance across the northern two thirds of the property appeared minimal, with the dam and occasional spoil piles closer to the house the main impacts.
30	Lot 11 DP27220; Lot 12 DP27220	40,380	5	3,156	157.8	RH/A20P 17; RH/SP15	Property 30 consisted of two Lots. The majority of Lot 12 (the western Lot) was covered by numerous sheds, including two large chicken barns. Northern third of Lot 12 bordered Second Ponds Creek and was very flat, with a large underground sewerage line running southwest/northeast. The area was a large dam that had been in filled, possibly when the sewer line was installed. Very disturbed area. House and sheds located across the southern quarter of Lot 11. Northern three quarters of Lot 11 consisted of a cleared, densely grassed pastoral paddock. A large dam was located at the northern end of Lot 11. Overall, both Lots demonstrate relatively high levels of surface disturbance.

Property #	Lot & DP	Area (m ²)	Surface Visibility (%)	Area Surveyed (m ²)	Effective Coverage (m ²)	Site / PAD	Notes
31	Lot 117 DP208203	20,124	5	1,606	80.3	-	House and sheds located across higher, western half of property, fronting Cudgegong Road. The remainder of the property, gently sloping down to the east, was covered by thick, tall grass, including Kikuyu. An overgrown motorbike track was discernable around the perimeter of this area. A large dam was located at the western end of the property. Most of property appeared quite disturbed – piles of spoil and other dumped material observed across the western half of the property. Dam overlooked Second Ponds Creek flats to the east.
32	Lot 74 DP208203	18,689	30	2,610	783	RH/A20P 19	330kV transmission lines and poles located just within eastern margin of property, bordering Cudgegong Road easement. House and sheds located within eastern third of property. Remainder of property consisted of a cleared, pastoral paddock across a ridge crest and upper slopes. A large dam was located within the northwestern corner of the property. Large amounts of building rubble spread across the majority of the paddock and subsequently ploughed and/or ripped. Major disturbance. Sheet wash erosion had occurred across the southwestern portion of the property adjacent to the dam where there appeared to be less building waste across the ground surface.
33	Lot 21 DP27220	20,543	20	2,888	288.8	-	House, tennis court, swimming pool and sheds located across southern half of property. Remainder of property consisted of regrowth woodland with moderate numbers of Ironbark, Grey Box and Forest Red Gum. Some areas appeared to be covered by dumped, locally derived, spoil. Other, small excavations were also observed across the property. The remainder of the property appeared relatively undisturbed. Entire property was located across a ridge crest formation, with clear views of the Blue Mountains to the west.
34	Lot 14 DP27220	20,038	5	1,439	71.95	RH/SP15	Second Ponds Creek divided the southern half of the property into two equal portions, before meandering northeast and exiting the property approximately midway along its eastern boundary. House and sheds were located in the southwestern portion of the property, whilst smaller sheds and a dumped vehicle were located in the southeastern portion. The large, generally flat northwestern portion of the property was thickly overgrown with tall grass and occasional regrowth Eucalypts. Only surface exposure was an vehicle track covered by large amount of leaf litter. Northwestern portion of property appeared relatively undisturbed.
35	Lot 133 DP208203	20,969	1	2,212	22.12	-	House, sheds and swimming pool were located in the eastern half of the property, surrounded by mown, dense, short grass fronting the Terry Road cul-de-sac. The remaining western two thirds of the property sloped gently down to the west towards Second Ponds Creek. The western two thirds of the property were heavily disturbed. Heavy machinery, an additional house and sheds, extensive top dressing with blue metal, extensive vegetation clearance, and large mounds of mulch, up to 1 m high were observed.

Property #	Lot & DP	Area (m ²)	Surface Visibility (%)	Area Surveyed (m ²)	Effective Coverage (m ²)	Site / PAD	Notes
36	Lot 132 DP208203	21,199	1	990	9.9	RH/SP15; PAD 41	House, sheds and dam located within the central portion of the property. Driveway leading off Terry Road was top dressed with crushed sandstone. Surrounding area covered by dense, tall Kikuyu and other grasses. Area appeared heavily disturbed – uneven ground, Kikuyu grass and introduced spoil. Western third of the property was covered by thick, tall grass, with occasional Forest Red Gum closer to Second Ponds Creek. Hard to determine level of disturbance across western area due to total lack of surface visibility, but based on less infrastructure, more even ground surface and less Kikuyu grass, the area appeared to be less disturbed than eastern two thirds of property. Small portion of property on western side of Second Ponds Creek was heavily wooded with regrowth Eucalypts and thick undergrowth. No surface visibility.
37	Lot 131 DP208203	24,484	1	1,092	10.92	RH/SP16	Eastern three quarters of property heavily disturbed. Heavy machinery, dumped vehicles, large amounts of introduced spoil. The small portion of the property on the western side of Second Ponds Creek was covered by dense, tall grass with occasional Eucalypts – that area appeared relatively undisturbed.
38	Lot 122 DP208203	19,938	1	1,936	19.36	RH/A20P PAD 6	House, driveway and dam located across northern third of property. Remaining southern portion consisted of gently sloping spur crest. Spur sloped down to the east towards Second Ponds Creek. Dense, short, grass cover across southern portion of property. Only surface visibility was a shallow, narrow, drainage cut along the eastern boundary fence. Southern portion of property appeared relatively undisturbed apart from vegetation clearance.
39	Lot 123 DP208203	19,803	0	171	0	RH/A20P PAD 6	House, driveway and dam located across northern half of property. Southern half of property gently sloping eastern continuation of same spur as passes through Property 38. Zero surface visibility due to dense, short grass cover.
40	Lot 5 DP27220	20,494	35	1,794	627.9	-	House, driveway and dam located in southern third of property, fronting Schofields Road. Oval shaped trotting track/car circuit (top dressed) located across the northern two thirds of the property. Large amount of timber, dumped vehicle and some building material located across eastern boundary of property. The property to the east (not accessible for survey) appeared to be a storage yard for vast quantities of spoil/building material, with the base of the mound encroaching into the eastern margin of Property 40. Remainder of Property 40 appeared relatively undisturbed. Gently sloping down to the west towards Second Ponds Creek.

Property #	Lot & DP	Area (m ²)	Surface Visibility (%)	Area Surveyed (m ²)	Effective Coverage (m ²)	Site / PAD	Notes
41	Lot 8 DP27220	20,120	5	1,180	59	RH/A20P 16 RH/A20P PAD 8	House and other structures located across southern third of property, fronting Schofields Road. Driveway top dressed with blue metal. Middle third of property consisted of tall, very dense grass, including Kikuyu. Northern third of property consisted of a large dam, with an area consisting of regrowth Eucalypts and less dense grass cover in the northeastern corner of the property – that area appeared relatively undisturbed. Property sloped gently down to the west towards Second Ponds Creek.
42	Lot 4 DP135883	20,214	5	1,391	69.55	-	Eastern two thirds of property consisted of a house, dam, large shed and other infrastructure – overall, appeared to be relatively disturbed. Western third of property regrowth Forest Red Gums, no native understorey, dense, tall grass and an open-ended shed with two cars. Appeared relatively undisturbed. Surface sloped gently down to the northwest towards Second Ponds Creek.
43	Lot 127 DP208203	21,399	1	730	7.3	RH/A20P PAD 7; RH/SP17	House and dog kennels located in northwest corner of property. Second Ponds Creek divided the property in two, passing approximately mid-way through the western boundary to mid-way through the eastern boundary. Vegetation over the majority of the property consisted of regrowth Eucalypts, with areas of very dense undergrowth and dense, tall grass. Gradients across the property tended to be flat to very gently sloping.
44	Lot 130 DP208203	27,882	1	1,420	14.2	RH/SP16	Three quarters of the property was located across a flat to gently sloping area on the eastern side of Second Ponds Creek. That section of the property was predominantly covered by thick, tall grass. Also, evidence of earthmoving activities, including a long mound of spoil near Second Ponds Creek, uneven ground across the remainder of the area, and a dam, house and other structures closer towards Terry Road. Small portion of the property on the western side of Second Ponds Creek appeared relatively undisturbed, and was covered by thick, tall grass with occasional regrowth Eucalypts. Very low to zero visibility across entire property.
45	Lot 135 DP208203	21,681	5	1,920	96	-	House and sheds located at the eastern, higher portion of the property. Driveway leading east off Terry Road to the house. The only portion of the property that appeared to be relatively undisturbed was the western half of the property, bordered to the south by the driveway, and to the north by the house and sheds of Property 48. That area was roughly divided into two sections, and eastern, cleared area covered by short, dense grass, and a western, wooded area covered by regrowth Eucalypts, some native understorey, and dense, tall grass. The entire property slopes gently down to the west towards Second Ponds Creek.

Property #	Lot & DP	Area (m ²)	Surface Visibility (%)	Area Surveyed (m ²)	Effective Coverage (m ²)	Site / PAD	Notes
46	Lot 1 DP1033570	20,341	15	1,180	177	-	Property predominantly cleared and covered by thick, tall grass. Only surface visibility was a vehicle track that ran from the eastern boundary of Property 45, across the northern margin of Property 46 to Windsor Road in the east, and an unformed walking track along the western boundary of the property that lead out of the caravan park to the south, along the western fence line of the property, to the vehicle track leading to Windsor Road. Parts of the vehicle track were top dressed with blue metal. Zero visibility across thickly grassed area to the south of the vehicle track. Difficult to determine surface disturbance, but based on undulations discernable by walking across the area and Kikuyu grass, there was likely to have been previous disturbance, possibly market gardens.
47	Lot 5 DP135883	20,549	0	105	0	-	Gently sloping terrain, down slope of Property 46. Sheds, house and dam spread the property, some market gardening evident. Zero visibility, covered by thick, tall grass, including Kikuyu. Likely to be extensive surface disturbance across the property.
48	Lot 211 DP208203	21,183	2	1,330	26.6	-	House, sheds, driveway and dam located across western half of the property. Driveway top dressed with blue metal. Area up to 50 m east of house was covered by mown, dense, short grass. Some small surface exposures showing clayey soil – possible soil stripping at some point? Remainder of eastern portion of property covered by dense, tall grass and appeared relatively undisturbed.
49	Lot 129 DP208203	22,796	3	1,572	47.16	RH/SP17	House, sheds and driveway located across southern third of property. Driveway. Large area of exposure between house, sheds and Terry Road – area possibly been stripped. Large spoil mound along the eastern boundary fence, bordering stripped area. Northern two thirds of property gently sloped down to the west / northwest towards Second Ponds Creek. Vegetation consisted of a moderate number of regrowth Eucalypts, with dense, short, grass as ground cover. Very limited surface visibility across that area. Some surface disturbance from heavy machinery evident towards northern end of property – possibly from recent vegetation slashing across that area.
50	Lot 128 DP208203	23,573	1	1,410	14.1	RH/SP17	The property was divided into two separate sections by Second Ponds Creek. The creek entered the mid-way through the western boundary of the property, before curving around to the north/northwest close by its eastern boundary, then exiting the northwest corner of the property. The main house was located on the small section of the property bordered by Second Ponds Creek to the north, east and south and Property 43 to the west. That section was relatively disturbed, with the small space taken up by the access driveway, house and small landscaped area out the back covered by dense, short grass with occasional spoil piles. A smaller house was located on at the northeast corner of the southern half of the property. The remainder of the southern section appeared relatively undisturbed and was heavily wooded, with Eucalypt regrowth, some areas of thick understorey, and dense, tall grass.

Property #	Lot & DP	Area (m ²)	Surface Visibility (%)	Area Surveyed (m ²)	Effective Coverage (m ²)	Site / PAD	Notes
51	Lot 1 DP1001478; Lot 1 DP882329	35,452	5	2,020	101	-	Property 51 consisted of two Lots located on the northwestern corner of the intersection of Windsor Road and Schofields Road. The property consisted of gentle to moderate slopes down to the southeast. The highest sections of the property – towards the northwestern corner – formed part of the crest of a ridgeline originating further to the south. The northwest corner of the property provided excellent views to the northwest, north, east and south, including views of the Blue Mountains. The main area of surface disturbance was towards the southeastern corner of the property, and included a dam and a large flatish area with that looked like there had been considerable earthworks and introduced spoil. The remainder of the property was covered by dense, tall grass with occasional Eucalypts.
52	Lot 100 DP1049793	15,538	10	1,005	100.5	RH/A20P 12	The property was located on the southwestern corner of the intersection of Windsor Road and Rouse Road. The eastern half of the property consisted of the house, sheds, turf farm areas and a small pine plantation. The western half of the property was a cleared, gently sloping area covered by mown, dense, short grass. A large dam was located at the western end of the property. The main surface exposure was an unformed vehicle track from the centre of the property to the dam. The western half of the property appeared relatively undisturbed.
53	Lot 101 DP1049793	19,756	5	1,420	71	-	House and sheds located across eastern third of property fronting Windsor Road. Western two thirds of the property consisted of a large, cleared area covered by dense, tall grass, with occasional spoil piles and a large dam towards the western boundary.
54	Lot 3 DP135883	20,848	1	325	3.25	-	House and sheds located at the eastern side of the property, fronting Windsor Road. Large dam located close to the centre of the property. Area between the dam and the house was covered by very thick, tall grass, including Kikuyu grass. Area to the west of the dam consisted of occasional regrowth Eucalypts, dense grass cover, and an ephemeral 1 st order drainage from the dam towards the northwest corner of the property. The area towards the southwest corner of the property appeared relatively undisturbed, although surface visibility across most of the area was zero.
55	Lot 2 DP135890	20,783	5	1,440	72	-	Abandoned house and shed located in the eastern third of the property, fronting Windsor Road. Western two thirds of property sloped gently down to the west. Main source of surface disturbance across that section appeared to be a large excavation towards the northwest corner of the property. The western section of the property was covered by dense, tall grass, with a moderate number of regrowth Eucalypts and dense understorey towards the northwestern portion of the property.
56	Lot 209 DP208203	20,058	1	1,300	13	-	The property was located on the southeastern corner of the intersection of Rouse Road and Terry Road. The house and sheds were located towards the central western portion of the property, fronting Terry Road. The majority of the property was covered by dense, tall grass with a moderate number of Eucalypts.

Property #	Lot & DP	Area (m ²)	Surface Visibility (%)	Area Surveyed (m ²)	Effective Coverage (m ²)	Site / PAD	Notes
57	Lot 180 DP208203	20,498	0	80	0	-	Major disturbance across property – large spoil mounds up to 5 m high across the majority of the property.
Road Easement	n/a	96,895	5	6,480	324	RH/A20P 8; RH/A20P 11; RH 46; OWR 1; OWR 2; OWR 3; SCR/UPG1	Majority of the road verges throughout Area 20 have been impacted by drainage works, previous road construction works and driveways. Some sections of the road verge top dressed with blue metal, whilst other sections covered by dense, short grass cover. Overall disturbed context.

10 Significance Assessment

10.1 Assessment Process

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

The Growth Centres Commission (GCC) provides an outline of how Aboriginal places and values should be assessed across Precincts within the Growth Centres (Appendix B 2006). The assessment criteria used by the GCC are based on the guidelines of the NSW Heritage Office which incorporate the five types of cultural heritage values identified in *The Burra Charter* (social, spiritual, scientific, aesthetic and historic values). *The Burra Charter* criteria are:

- a) *An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area).*
- b) *An item has strong or special association with the life or works of a person, or group of persons, of importance in the cultural or natural history of NSW (or the cultural or natural history of a local area).*
- c) *An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).*
- d) *An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.*
- e) *An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area).*
- f) *An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area).*
- g) *An item is important in demonstrating the principal characteristics of a class of NSW's:
cultural or natural places; or
cultural or natural environments
(or a class of the local areas' cultural or natural places; or cultural or natural environments)*

These criteria involve the assessment of both the cultural and scientific significance of a place or area, in that they incorporate both archaeological or scientific significance and the importance and values placed on these areas by the local Aboriginal community groups. Based on this concept and *The Burra Charter* criteria outlined above, the GCC has developed a significance ranking system for use across all Precincts within the Growth Centres (see Figure 8).





Ranking	Example justifications	Suggested mapping colour
Exceptional	<ul style="list-style-type: none"> • Rare example of its type in the nation, state or outstanding example of its type in the region; and / or • Irreplaceably expresses Aboriginal cultural heritage, history or stories of the region (or State or nation); and / or • Of primary and essential importance to the identity and culture of the Aboriginal communities of the region; and / or • Intact with no disturbance; and / or • Loss or unsympathetic or further disturbance or change <i>will irreversibly</i> diminish the Aboriginal cultural heritage significance of the Precinct and/or community cultural identity of the Aboriginal communities associated with the Precinct. 	Red with black hatching 
High	<ul style="list-style-type: none"> • Rare example of its type in the region; and / or • Expresses (possibly in combination with other places or features) the Aboriginal cultural heritage, history or stories of the region; and / or • Important to the identity and culture of the Aboriginal communities of the region; and / or • Existing disturbance and evidence of change does not detract from Aboriginal cultural heritage significance; and / or • Loss or unsympathetic or further disturbance or change <i>is likely to</i> diminish the Aboriginal cultural heritage significance of the Precinct and/or community cultural identity of the Aboriginal communities associated with the Precinct. 	Red 
Moderate	<ul style="list-style-type: none"> • Rare example of its type in the Precinct, but not the region (or Growth Centre); and / or • Expresses in combination with other places or features the Aboriginal cultural heritage, history or stories of the region; and / or • Contributes to the identity and culture of the Aboriginal communities of the region; and / or • Existing disturbance and evidence of change does not detract from Aboriginal cultural heritage significance of the place; and / or • loss or unsympathetic or further disturbance or change <i>may</i> diminish the Aboriginal cultural heritage significance of the Precinct and/or community cultural identity of the Aboriginal communities associated with the Precinct. 	Yellow / orange 
Some	<ul style="list-style-type: none"> • Common example of its type in the Precinct; and / or • Does not express clear community or cultural values of the precinct or only in a minor way; and / or • Substantially modified or impacted; and / or • Loss or change <i>is unlikely</i> to diminish Aboriginal cultural heritage significance of the Precinct and/or applicable Aboriginal community cultural identity. 	Blue / none 

Figure 8. Suggested significance rankings and justification (GCC 2006: Table 2.1)

In addition to the significance ranking criteria outlined in Figure 8, the GCC also provide a series of additional guides for applying significance rankings (GCC 2006: 21):

- *Ranking within context:* Significance rankings must relate to the relative importance of the place within the Precinct, region (or where relevant, state or nation). This includes comparing a place or value with information from other examples from studies in the region or other Precincts, and where this information is not available to use a precautionary ranking until such time as information becomes available.
- *Applying rankings:* Rankings should be determined by identifying the heritage significance each element, place or value embodies in its own right, and the contribution that each element, place or value makes to the heritage value and significance of the Precinct, area, region or community cultural identity as a whole. This means that a specific site may have moderate scientific significance in the local context, but may be one of many similar sites in the region, therefore lowering its overall scientific significance to low. Similarly, the community may feel that the site has low cultural significance compared with other sites in the region.
- *Ranking places, components and attributes:* It is likely that some places will have attributes, features and characteristics that need to be individually ranked and documented to ensure relevant tailored policies and planning can apply to them. This applies to differing significance rankings for different components of a site, such as ecology and cultural heritage.
- *Places of unknown or potential significance:* Places of unknown or potential significance will also need to be identified in the significance assessment. These places will also need to have significance rankings applied, as far as possible. In addition to the ranking, the *likelihood* of places to contain significant heritage should also be assessed. Consideration of places of unknown and potential significance should be made in making recommendations for the Precinct.

10.2 Statement of Significance

Based on the significance ranking criteria and guides for applying significance outlined by the GCC, each of the identified Aboriginal cultural heritage sites and places within the Area 20 Precinct are ranked in Table 4. The significance rankings have been developed in consultation with registered Aboriginal stakeholders. Stakeholders were invited to document specific values (see Table 5) and significance rankings (see Table 4). The significance rankings of identified Aboriginal cultural heritage within the Area 20 Precinct are shown in Figure 9, following the GCC suggested mapping colour guidelines shown in Figure 8.

Registered Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report. Further investigation has been recommended by stakeholders if sites will be impacted by future development.

The sites and places are grouped into their respective significance ranking, keeping the table in a similar layout to the GCC table shown in Figure 8. A summary of Aboriginal cultural heritage values, incorporating an archaeological assessment and cultural values as identified by Aboriginal stakeholders, for each site and PAD is presented in Table 5 following. This also provides a preliminary land use recommendation, based on the significance rankings, for consideration in the development of the Indicative Layout Plan as part of the precinct planning process. Areas of higher Aboriginal cultural heritage value (i.e. ranked high or moderate) which should be considered in the development of the Indicative Layout Plan are shown on Figure 10.

The majority of archaeological material is within the Seconds Ponds Creek corridor, which is not surprising. However, lower numbers of artefacts were also observed away from the drainage line, on raised areas above the creek and along the ridgeline near the western boundary of the study area, as had been expected from the findings of Step 1 of the process.

Archaeologically, the lower slopes and plain associated with Second Ponds Creek has been fairly intensively investigated. However, the higher areas such as hill tops and minor ridges away from the creek have been less intensively investigated and currently exhibit more research potential regarding Cumberland Plain cultural landscape. However, specific recommendations for any future work (mitigation) would be based on an assessment of impact of the future development footprint of the Precinct.

Table 4. Area 20 Precinct Aboriginal cultural heritage statement of significance

Significance Ranking	Site or Place	Justification
High	RH/RP2 (45-5-2415 and 45-5-2439)	<ul style="list-style-type: none"> The site covered a broad area bordering the northern side of Second Ponds Creek that is important for understanding the archaeology of the region. Previous investigations have identified extensive archaeological deposits along the margins of Second Ponds Creek. A large number of artefacts have been identified across all portions of the site, demonstrating an extensive archaeological deposit. The Aboriginal community has expressed the importance of this site, based on its location and the number of artefacts that have been identified on the surface. The site has been impacted by vegetation clearance and some infrastructure development for the park, but overall is in quite good condition. The loss or unsympathetic disturbance of this site <i>is likely</i> to diminish the Aboriginal cultural heritage of the Precinct.
Moderate	RH/A20P 01; RH/A20P 09; RH/A20P 10; RH/A20P 18 45-5-0957; 45-5-2805; 45-5-2807; 45-5-0808; 45-5-3108 RH/A20P PAD 1; RH/A20P PAD 2; RH/A20P PAD 3; RH/A20P PAD 4; RH/A20P PAD 5; RH/A20P PAD 6; RH/A20P PAD 7; PAD 41	<ul style="list-style-type: none"> These sites and PADs represent rare, intact areas of known or potential archaeological deposit within the Area 20 Precinct. In combination, these sites represent the utilisation of varying landforms within the Area 20 Precinct by the original Aboriginal inhabitants of the area. These sites are important to the local Aboriginal community as the sites provide information about site distribution across different landforms within the Precinct, as well as representing the traditional land use activities of the original Aboriginal inhabitants of the area. All of these sites have been impacted to varying degrees by vegetation clearance and some infrastructure development, but overall are in relatively good condition. The loss or unsympathetic disturbance of these sites <i>may</i> diminish the Aboriginal cultural heritage of the Precinct.
Some	RH/A20P 02; RH/A20P 03; RH/A20P 04; RH/A20P 05; RH/A20P 06; RH/A20P 07; RH/A20P 08; RH/A20P 11; RH/A20P 12; RH/A20P 13; RH/A20P 14; RH/A20P 15; RH/A20P 16; RH/A20P 17 RH/A20P 19 45-5-0956; 45-5-2348; 45-5-3355	<ul style="list-style-type: none"> These identified artefact scatters and isolated finds occur frequently across the Area 20 Precinct, the North West Growth Centre and the Cumberland Plain. Every Aboriginal site is important to the local Aboriginal community, however, there are more intact or better examples of these site types within the Area 20 Precinct. All of these sites have experienced some degree of impact / disturbance, including vegetation clearance, erosion, and road / infrastructure development. Any change or loss of these sites <i>is unlikely</i> to diminish the Aboriginal cultural heritage of the Area 20 Precinct.

Site 45-5-0598 could not be assessed as there was no access to Lot 189 DP201260.

Sites 45-5-3392 and 45-5-3517 could not be assessed as there was no access to Lot 15 DP27220.

Sites 45-5-2573, 45-5-2574 and 45-5-2575 could not be assessed as they appear to have been destroyed.

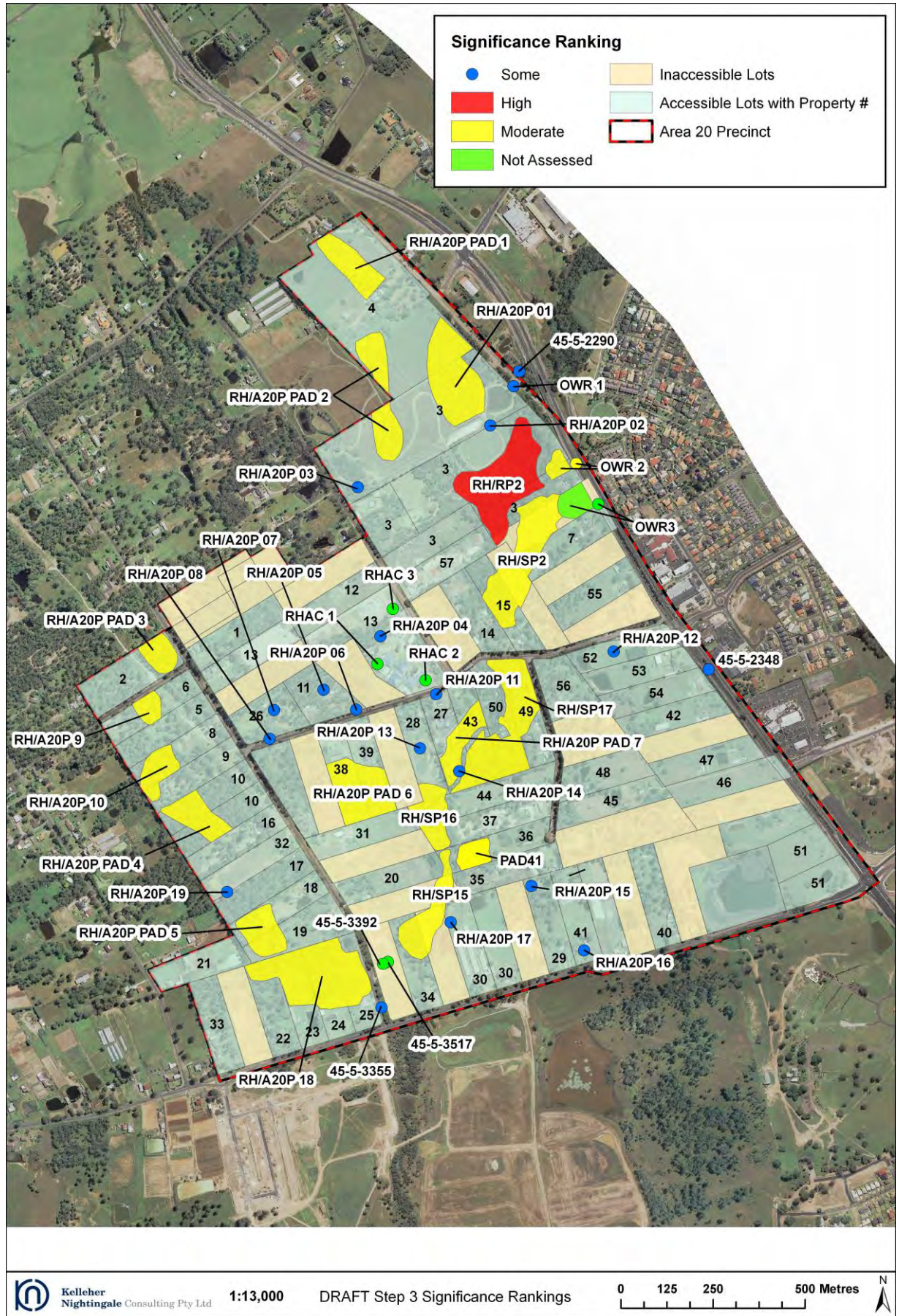


Figure 9. Area 20 Precinct Aboriginal cultural heritage significance

11 Statutory Requirements and Management Principles

11.1 Statutory Requirements

11.1.1 *National Parks and Wildlife Act 1974*

The *National Parks and Wildlife Act 1974* (NPW Act), as amended, is the primary statutory control dealing with Aboriginal heritage in New South Wales.

The Objects of the *National Parks and Wildlife Act* (Part 1, section 2A) include:

the conservation of objects, places, or features (including biological diversity) of cultural value within the landscape, including, but not limited to:

- (i) places, objects and features of significance to Aboriginal people, and
- (ii) places of social value to the people of New South Wales, and
- (iii) places of historic, architectural or scientific significance (section 2A(1)(b)).

Items of Aboriginal heritage (Aboriginal objects) or declared Aboriginal places are protected and regulated under the Act.

Under the Act, an **Aboriginal object** is defined as:

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

As such, "objects" are confined to physical evidence and are commonly referred to as Aboriginal sites.

Part 6 of the Act specifically deals with Aboriginal objects and Aboriginal places, including offences relating to Aboriginal objects which are prescribed under **section 86**.

Section 86 states, among other offences, that:

A person, other than the Director-General or a person authorised by the Director-General in that behalf, who:

- (a) disturbs or excavates any land, or causes any land to be disturbed or excavated, for the purpose of discovering and Aboriginal object,
- (b) disturbs or moves on any land an Aboriginal object that is the property of the Crown, other than an Aboriginal object that is in the custody or under the control of the Australian Museum Trust,

except in accordance with the terms and conditions of an unrevoked permit issued to the person under section 87, being terms and conditions having force and effect at the time the act or thing to which the permit relates is done, is guilty of an offence against this Act.

Under **section 87** of the Act, the Director-General may "issue a permit to do any act or thing referred to in section 86 (a), (b)".

Aboriginal objects and declared Aboriginal places are protected and regulated under **section 90** of the Act.

It is an offence to destroy, deface or damage an Aboriginal site without the prior consent of the Director-General of DECCW. Section 90 consent is required to be issued before an Aboriginal object (site) can be disturbed. Failure to obtain this consent may result in prosecution.

Section 90 Subsection (1) states that:

A person who, without first obtaining the consent of the Director-General, knowingly destroys, defaces or damages, or knowingly causes or permits the destruction, defacement of or damage to, an Aboriginal object or Aboriginal place is guilty of an offence against this Act.

Subsection (1A) states that:

Subsection (1) does not apply with respect to an Aboriginal object that is dealt with in accordance with Aboriginal tradition pursuant to section 85A.

Under Subsection (2), the Director-General may give consent to allow the actions of Subsection (1):

The Director-General may give consent for the purposes of subsection (1) subject to such conditions and restrictions as are specified therein.

Subsection (3) states that:

A person whose application for consent is refused, or who is dissatisfied with any condition or restriction subject to which the consent is given, may appeal to the Minister.

Subsections (4) to (7) outline the process of appeal should an application be refused.

Section 91 requires the DECCW to be notified of the location of Aboriginal objects:

A person who is aware of the location of an Aboriginal object that is the property of the Crown or, not being the property of the Crown, is real property, and does not, in the prescribed manner, notify the Director-General thereof within a reasonable time after the person first becomes aware of that location is guilty of an offence against this Act unless the person believes on reasonable grounds that the Director-General is aware of the location of that Aboriginal object.

11.1.2 Additional Requirements of State Legislation

While the primary legislation for items Aboriginal heritage in New South Wales is the *National Parks and Wildlife Act*, other Acts relate to the assessment and management of Aboriginal culture and heritage in the State.

The *Environmental Planning and Assessment Act 1979* as amended, requires that environmental impacts are assessed and considered in land use planning and the development application process. Environmental impacts include impacts on Aboriginal heritage.

The *Aboriginal Land Rights Act 1983* establishes the role and responsibilities of the NSW Aboriginal Land Council (NSWALC) and Local Aboriginal Land Councils (LALCs). Under the Act, one of the functions of LALCs is in relation to Aboriginal culture and heritage. Specifically, section 52(4) states that:

A Local Aboriginal Land Council has the following functions in relation to Aboriginal culture and heritage:

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

The *Native Title Act (New South Wales) 1994* provides for the recognition and protection of native title. The main objects of the Act are to (a) in accordance with the Commonwealth Native Title Act, validate any past acts, and intermediate period acts, invalidated because of the existence of native title and to confirm certain rights, and (b) ensure that New South Wales law is consistent with standards set by the Commonwealth Native Title Act for future dealings affecting native title.

11.1.3 Requirements of Commonwealth Legislation

Several Acts administered by the Commonwealth also have provisions relating to Aboriginal heritage.

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* provides for the preservation and protection from injury or desecration of areas and objects in Australia and in Australian waters, being areas and objects that are of particular significance to Aboriginal people in accordance with Aboriginal tradition.

The *Environment Protection and Biodiversity Conservation Act 1999* provides for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance, including the protection and conservation of heritage. It also promotes a cooperative approach to the protection and management of the environment involving governments, the community, land-holders and Indigenous peoples.

The *Protection of Movable Cultural Heritage Act 1986* provides for the protection of Indigenous cultural property and regulates the export and import of significant moveable cultural heritage items.

The *Native Title Act 1993* establishes the legislative framework to recognise and protect native title, sets standards for establishing native title and a mechanism for determining native title claims.

11.2 Management Principles

Principles for the assessment and management of Aboriginal cultural heritage are focussed on the conservation of objects, places or features of cultural value within the landscape, including places, objects and features of significance to Aboriginal people and places of scientific (archaeological) significance. While there are statutory controls to ensure that Aboriginal objects (sites) are protected and/or regulated, the Aboriginal cultural heritage assessment process is designed to ensure that places or features of cultural value within the landscape and of significance to Aboriginal people are conserved in addition to the sites and objects.

Sites of high significance should be conserved where possible. Where these sites cannot be conserved, a section 90 consent with associated section 87 permit for salvage excavation would be required prior to their destruction.

Sites of moderate significance should be conserved where possible. Where these sites cannot be conserved, salvage excavation should be undertaken at some of the impacted sites under a section 87 permit with associated section 90 consent. The excavation strategy would depend upon the layout of the final Indicative Layout Plan. The section 90 consent and any associated excavation would be required prior to any impact to sites.

Sites of some significance should be conserved where possible. Where these sites cannot be conserved a section 90 consent would be required prior to any impact to the site.

Where applicable, test/salvage excavation will allow for the collection of information and the curation of a representative selection of artefacts prior to their destruction. The information collected can be used to interpret not only those sites being destroyed but more importantly to interpret the locality, thus providing a more detailed appreciation and recognition of the region's Aboriginal heritage. It will also provide more detailed information for the long-term management of remaining identified Aboriginal cultural heritage.

Any decisions regarding the long-term management of conserved sites should be made in consultation with the local Aboriginal community.

12 Indicative Layout Plan Assessment

As part of the Precinct planning process, a Final Draft Indicative Layout Plan (ILP) has been developed by the NSW Department of Planning (Draft ILP 8 20100616). The ILP divides the Precinct into different zonings (see Figure 10). The current planning controls within Rouse Hill House and Estate and Rouse Hill Regional Park would be maintained. Sites within those areas would be conserved within existing management measures.

The location of recorded Aboriginal sites and areas of Potential Archaeological Deposit (PAD) in relation to Draft ILP 8 is shown in Figure 11.

Based on the assessment of Draft ILP 8 in relation to Aboriginal sites and areas of archaeological potential recorded within the precinct, potential impacts are outlined in Table 5.

Aboriginal stakeholders have been invited to review and comment on the Draft ILP, impacts and management strategies. Darug Custodian Aboriginal Corporation and Darug Aboriginal Cultural Heritage Assessments have provided written comments that support the findings and recommendations as presented in this report (refer Appendix B).

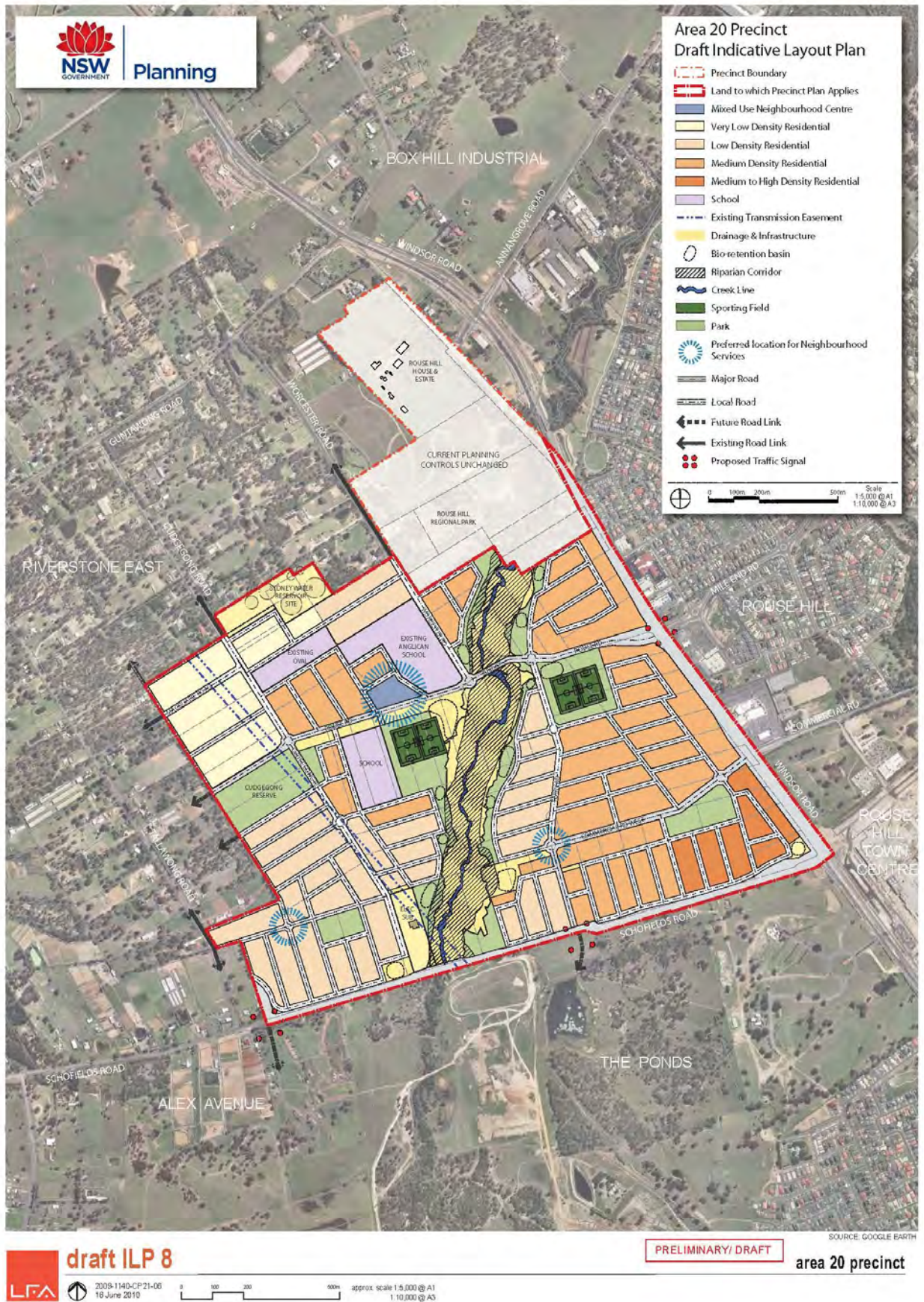


Figure 10. Final Draft Indicative Layout Plan (Draft ILP 8)

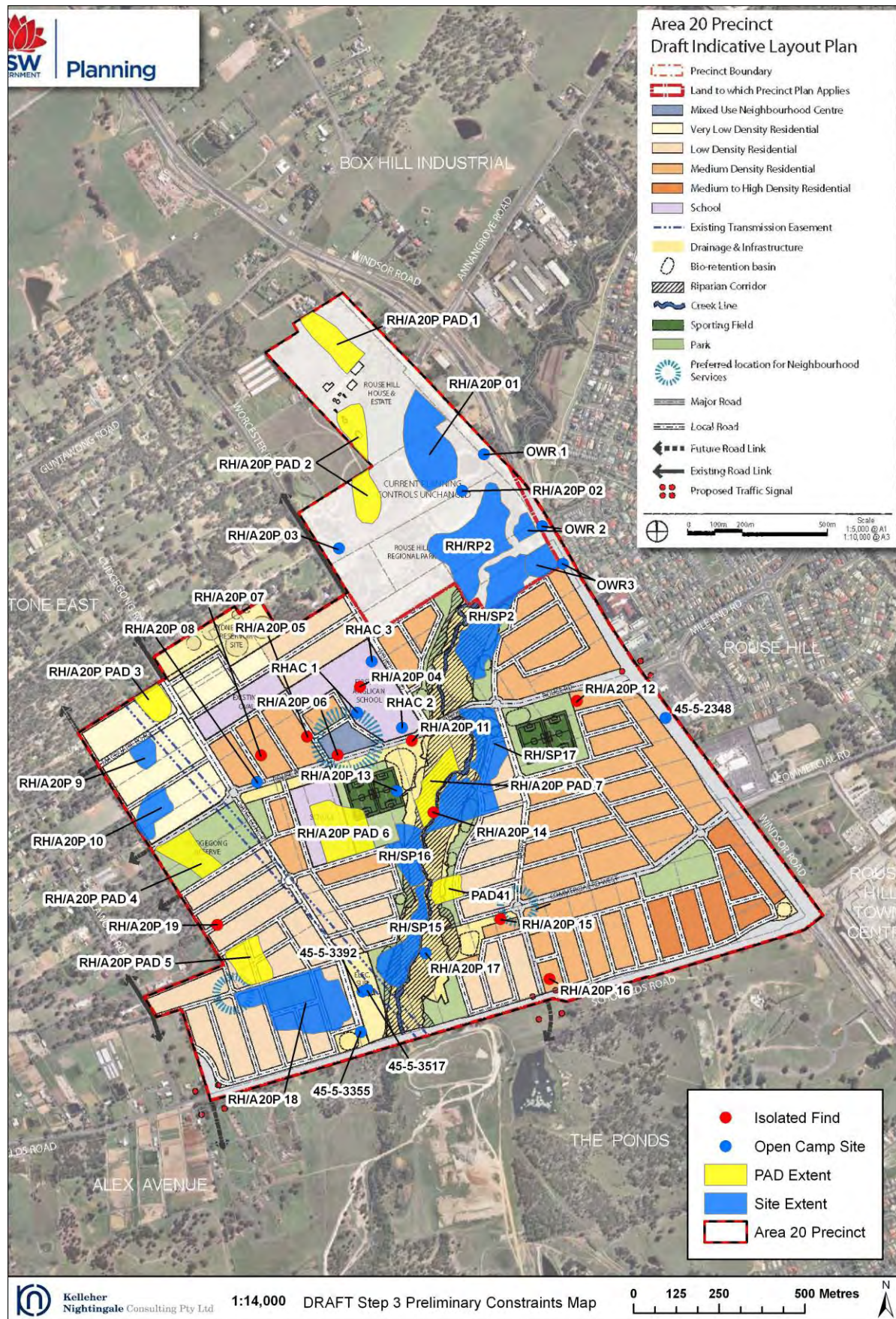


Figure 11. Aboriginal cultural heritage in relation to Final Draft Indicative Layout Plan (Draft ILP 8)

Table 5. Impacts, mitigation and management based on Final Draft Area 20 Precinct Indicative Layout Plan (Draft ILP 8)

Site	Type	Aboriginal Cultural Heritage Values	Significance Ranking	Impact Assessment	ILP Proposed Zoning	Further Works / Approval Required	Management / Other Recommendations
Archaeological Sites							
RH/A20P 01	Artefact scatter	Lower landform setting overlooking Second Ponds Creek. Twelve artefacts recorded at site during field survey. High potential for extensive archaeological deposit across remainder of site. Conservation of site would be archaeologically justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Moderate	Not impacted	Rouse Hill House and Estate Rouse Hill Regional Park Current Planning Controls Unchanged		Any future works or use of the Rouse Hill House and Estate and Rouse Hill Regional Park should ensure the site is not directly or indirectly impacted. This includes but is not limited to recreational uses of facilities, landscaping or bushland maintenance, rehabilitation or revegetation works.
RH/A20P 02	Artefact scatter	Lower landform setting in close proximity to Second Ponds Creek. Highly disturbed context, further investigation not archaeologically justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Some	Not impacted	Rouse Hill Regional Park Current Planning Controls Unchanged		Any future works or use of the Rouse Hill Regional Park should ensure the site is not directly or indirectly impacted. This includes but is not limited to recreational uses of facilities, landscaping or bushland maintenance, rehabilitation or revegetation works.
RH/A20P 03	Artefact scatter	Ridge crest landform setting within. Some regrowth vegetation. Generally intact with some areas of disturbance from vehicle traffic, picnic tables and formed walking tracks. Further investigation not archaeologically justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Some	Not impacted	Rouse Hill Regional Park Current Planning Controls Unchanged		Any future works or use of the Rouse Hill Regional Park should ensure the site is not directly or indirectly impacted. This includes but is not limited to recreational uses of facilities, landscaping or bushland maintenance, rehabilitation or revegetation works.
RH/A20P 04	Isolated artefact	Mid slope landform setting. Site consisted of one artefact identified in drainage / erosion scour. No further investigation is archaeologically justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Some	Impacted	School (Existing Anglican School)	Section 90 consent prior to commencement of works affecting the site. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	
RH/A20P 05	Isolated artefact	Lower slope landform setting. Site consisted of one artefact identified on a sheet wash exposure bordered by other surface disturbances. No further archaeological investigation justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Some	Impacted	Medium Density Residential	Section 90 consent prior to commencement of works affecting the site. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	

Site	Type	Aboriginal Cultural Heritage Values	Significance Ranking	Impact Assessment	ILP Proposed Zoning	Further Works / Approval Required	Management / Other Recommendations
RH/A20P 06	Isolated artefact	Lower slope landform setting. Site consisted of a single artefact identified in a disturbed context. Likely location of underground services trench, recent surface ripping and adjacent road margin. No further archaeological investigation justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Some	Impacted	Mixed Use Neighbourhood Centre	Section 90 consent prior to commencement of works affecting the site. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	
RH/A20P 07	Isolated artefact	Lower slope landform setting. Site consisted of a single artefact identified in an area of extensive surface disturbance. No further archaeological investigation justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Some	Impacted	Medium Density Residential	Section 90 consent prior to commencement of works affecting the site. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	
RH/A20P 08	Artefact scatter	Lower slope landform setting. Two artefacts identified on road verge. Extensive surface disturbance from road construction, underground utilities trench and introduced materials. No further archaeological investigation justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Some	Impacted	Medium Density Residential Major Road	Section 90 consent prior to commencement of works affecting the site. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	
RH/A20P 09	Artefact scatter	Three artefacts identified on a ridge crest landform setting. Some surface disturbance bordered by more intact areas. High potential for further archaeological deposit across remainder of site. Conservation of site would be archaeologically justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Moderate	Impacted	Very Low Density Residential	Targeted archaeological salvage excavation under section 87(1) permit. Section 90 consent prior to commencement of works affecting the site. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	
RH/A20P 10	Isolated artefact	Single artefact identified in a ridge crest landform setting. Extensive regrowth vegetation across relatively intact area. High potential for further archaeological deposit across remainder of site. Conservation of site would be archaeologically justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Moderate	Impacted	Very Low Density Residential Local Road	Targeted archaeological salvage excavation under section 87(1) permit. Section 90 consent prior to commencement of works affecting the site. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	
RH/A20P 11	Isolated artefact	Single artefact identified in a disturbed, road verge context. No further archaeological investigation is justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Some	Impacted	Drainage and Infrastructure Major Road	Section 90 consent prior to commencement of works affecting the site. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	

Site	Type	Aboriginal Cultural Heritage Values	Significance Ranking	Impact Assessment	ILP Proposed Zoning	Further Works / Approval Required	Management / Other Recommendations
RH/A20P 12	Isolated artefact	Single artefact identified in a mid slope context. Some surface disturbance and introduced materials also observed. No further archaeological investigation is justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Some	Impacted	Medium Density Residential	Section 90 consent prior to commencement of works affecting the site. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	
RH/A20P 13	Artefact scatter	Scatter of artefacts identified in a lower slope landform setting. High levels of surface disturbance. No further archaeological investigation is justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Some	Impacted	Sporting Field	Section 90 consent prior to commencement of works affecting the site. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	
RH/A20P 14	Isolated artefact	Single artefact identified in a creek flat setting. Artefact was identified amongst introduced spoil – provenance of the artefact unknown. No further archaeological investigation of the site is justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Some	Impacted	Riparian Corridor Drainage and Infrastructure	Section 90 consent prior to commencement of works affecting the site. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	
RH/A20P 15	Isolated artefact	Single artefact identified in a mid slope landform setting adjacent to a large dam. No further archaeological investigation is justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Some	Impacted	Drainage and Infrastructure	Section 90 consent prior to commencement of works affecting the site. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	
RH/A20P 16	Isolated artefact	Single artefact identified amongst gravels on driveway. Highly disturbed context, provenance of artefact unknown. No further archaeological investigation is justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Some	Impacted	Medium Density Residential	Section 90 consent prior to commencement of works affecting the site. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	
RH/A20P 17	Artefact scatter	Scatter of artefacts identified on the western margin of a large in-filled dam bordering Second Ponds Creek. Highly disturbed context. No further archaeological investigation is justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Some	Impacted	Riparian Corridor Drainage and Infrastructure	Section 90 consent prior to commencement of works affecting the site. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	

Site	Type	Aboriginal Cultural Heritage Values	Significance Ranking	Impact Assessment	ILP Proposed Zoning	Further Works / Approval Required	Management / Other Recommendations
RH/A20P 18	Artefact scatter	Scatter of artefacts identified across a lower slope landform setting. Moderate to dense regrowth, relatively intact context. Conservation of site would be archaeologically justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Moderate	Impacted	Low Density Residential Local Road	Archaeological salvage excavation under section 87(1) permit. Section 90 consent prior to commencement of works affecting the site. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	
RH/A20P 19	Isolated artefact	Single artefact identified in a mid slope landform setting. High levels of surface disturbance observed across surrounding area. No further archaeological investigation is justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Some	Impacted	Local Road	Section 90 consent prior to commencement of works affecting the site. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	
OWR 1 (45-5-0956)	Artefact scatter	Artefacts originally recorded in a disturbed context bordering Windsor Road. Further disturbance in vicinity of site since original recording. No further archaeological investigation is justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Some	Not impacted	Rouse Hill Regional Park Current Planning Controls Unchanged		Any future works or use of the Rouse Hill Regional Park should ensure the site is not directly or indirectly impacted. This includes but is not limited to recreational uses of facilities, landscaping or bushland maintenance, rehabilitation or revegetation works.
OWR 2 (45-5-0957)	Artefact scatter	Site was located across lower slope / creek flat landform setting. Two previous archaeological excavations undertaken at the site. Portion of site appeared to have been destroyed by widening of Windsor Road. Remaining portion of the site bordering Second Ponds Creek. Conservation of site would be archaeologically justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Moderate	Not impacted	Portion within existing Major Road (previously disturbed) Remainder within Rouse Hill Regional Park. Current Planning Controls Unchanged		Any future works or use of the Rouse Hill Regional Park should ensure the site is not directly or indirectly impacted. This includes but is not limited to drainage, recreational uses or facilities, landscaping or bushland maintenance, rehabilitation or revegetation works.
OWR 3 (45-5-0958)	Artefact scatter	The site was inaccessible for the field survey. Archaeological excavation previously conducted at the site. Similar landform setting to OWR 2. Portion of site appeared to have been destroyed by widening of Windsor Road. Conservation of the site would be archaeologically justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Not Assessed	Not impacted	Portion within existing Major Road (previously disturbed) Remainder within Rouse Hill Regional Park. Current Planning Controls Unchanged		Any future works or use of the Rouse Hill Regional Park should ensure the site is not directly or indirectly impacted. This includes but is not limited to drainage, recreational uses or facilities, landscaping or bushland maintenance, rehabilitation or revegetation works.

Site	Type	Aboriginal Cultural Heritage Values	Significance Ranking	Impact Assessment	ILP Proposed Zoning	Further Works / Approval Required	Management / Other Recommendations
RH/RP 2 (45-5-2415 and 45-5-2439)	Artefact scatter	Site was located across lower slope / creek flat landform setting. Archaeological surveys have demonstrated the presence of an extensive artefact scatter across the site. Conservation of the site would be archaeologically justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	High	Not impacted	Rouse Hill Regional Park Current Planning Controls Unchanged		Any future works or use of the Rouse Hill Regional Park should ensure the site is not directly or indirectly impacted. This includes but is not limited to recreational uses of facilities, landscaping or bushland maintenance, rehabilitation or revegetation works.
RH/SP2 (45-5-0808)	Artefact scatter	Site was located across lower slope / creek flat landform setting. Large portions of the site were inaccessible for the field survey. Artefacts identified across site by three separate archaeological surveys – site appeared to be relatively intact. Conservation of the site would be archaeologically justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Moderate	Partially impacted	Local Road Drainage and Infrastructure Park Riparian Corridor	The majority of the site is being conserved. For the remainder of the site, Section 90 consent for those portions of the site that will be impacted will be required prior to commencement of works. Archaeological salvage excavation under section 87(1) permit may be required depending on final development design. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	Any future works or use of the park and riparian zone should ensure the site is not directly or indirectly impacted. This includes but is not limited to drainage, recreational uses or facilities, landscaping or bushland maintenance, rehabilitation or revegetation works.
RHAC 1 (45-5-2575)	Artefact scatter	Site appears to be destroyed	Not Assessed	Impacted	School (Existing Anglican School)		
RHAC 2 (45-5-2573)	Artefact scatter	Site appears to be destroyed	Not Assessed	Impacted	School (Existing Anglican School)		
RHAC 3 (45-5-2574)	Artefact scatter	Site appears to be destroyed	Not Assessed	Impacted	School (Existing Anglican School)		
RH/SP17 (45-5-3108)	Artefact scatter	Site located across a creek flat landform setting. Large sections of regrowth vegetation with occasional large eucalypts. Some surface disturbance in places, otherwise appeared relatively intact. Conservation of the site would be archaeologically justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Moderate	Partially impacted	Low Density Residential Major Road Local Road Drainage and Infrastructure Park Riparian Corridor	The majority of the site is being conserved. For the remainder of the site, Section 90 consent for those portions of the site that will be impacted will be required prior to commencement of works. Archaeological salvage excavation under section 87(1) permit may be required depending on final development design. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	Any future works or use of the park and riparian zone should ensure the site is not directly or indirectly impacted. This includes but is not limited to drainage, recreational uses or facilities, landscaping or bushland maintenance, rehabilitation or revegetation works.

Site	Type	Aboriginal Cultural Heritage Values	Significance Ranking	Impact Assessment	ILP Proposed Zoning	Further Works / Approval Required	Management / Other Recommendations
RH/SP16 (45-5-2807)	Artefact scatter	Site was located across creek flat / lower slope landform bordering Second Ponds Creek. Regrowth vegetation and dense grass cover across site. Conservation of the site would be archaeologically justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Moderate	Partially impacted	Local Road Drainage and Infrastructure Conservation Area Park Riparian Corridor	The majority of the site is being conserved. For the remainder of the site, Section 90 consent for those portions of the site that will be impacted will be required prior to commencement of works. Archaeological salvage excavation under section 87(1) permit may be required depending on final development design. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	Any future works or use of the park and riparian zone should ensure the site is not directly or indirectly impacted. This includes but is not limited to drainage, recreational uses or facilities, landscaping or bushland maintenance, rehabilitation or revegetation works.
RH/SP15 (45-5-2805)	Artefact scatter	Site was located across creek flat / lower slope landform bordering Second Ponds Creek. Some portions of the site were inaccessible for the field survey. Artefacts identified by previous and current surveys. Conservation of the site would be archaeologically justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Moderate	Partially impacted	Drainage and Infrastructure Park Riparian Corridor	The majority of the site is being conserved. For the remainder of the site, Section 90 consent for those portions of the site that will be impacted will be required prior to commencement of works. Archaeological salvage excavation under section 87(1) permit may be required depending on final development design. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	Any future works or use of the park and riparian zone should ensure the site is not directly or indirectly impacted. This includes but is not limited to drainage, recreational uses or facilities, landscaping or bushland maintenance, rehabilitation or revegetation works.
45-5-3392	Artefact scatter	Could not be assessed as there was no access to Lot 15 DP27220. Site likely to have been destroyed.	Not Assessed	Impacted	Electrical Substation		
45-5-3517	Artefact scatter	Could not be assessed as there was no access to Lot 15 DP27220. Site likely to have been destroyed.	Not Assessed	Impacted	Electrical Substation		
45-5-3355	Isolated artefact	Artefact was located in a lower slope landform setting on a road verge. Surface disturbance evident along road verge. No further archaeological investigation is justified. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.	Some	Impacted	Drainage and Infrastructure	Section 90 consent prior to commencement of works affecting the site. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	
45-5-2348	Artefact scatter	Site appears to be destroyed	Some	Impacted	Major Road		

Site	Type	Aboriginal Cultural Heritage Values	Significance Ranking	Impact Assessment	ILP Proposed Zoning	Further Works / Approval Required	Management / Other Recommendations
Potential Archaeological Deposit (PAD)							
RH/A20P PAD 1	PAD	PAD was located across a spur crest landform. Vegetation coverage consisted of dense grass. No major surface disturbance observed besides vegetation clearance. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.		Not impacted	Rouse Hill House and Estate Rouse Hill Regional Park Current Planning Controls Unchanged		Any future works or use of the Rouse Hill House and Estate should ensure the PAD is not directly or indirectly impacted. This includes but is not limited to recreational uses of facilities, landscaping or bushland maintenance, rehabilitation or revegetation works.
RH/A20P PAD 2	PAD	PAD was located across a ridge crest landform. Vegetation coverage consisted of dense grass. Formed walking track and vegetation clearance appeared to be the main surface disturbance across the PAD. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.		Not impacted	Rouse Hill House and Estate Rouse Hill Regional Park Current Planning Controls Unchanged		Any future works or use of the Rouse Hill House and Estate, and Rouse Hill Regional Park should ensure the PAD is not directly or indirectly impacted. This includes but is not limited to recreational uses of facilities, landscaping or bushland maintenance, rehabilitation or revegetation works.
RH/A20P PAD 3	PAD	PAD was located across a ridge crest landform. Bordered by a transmission line to the west, and road easements to the south and east. Vegetation consisted of sparse regrowth. Some surface disturbance from vegetation clearance and sheet wash erosion. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.		Impacted	Very Low Density Residential	Archaeological test excavation under section 87(1) permit. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	
RH/A20P PAD 4	PAD	PAD was located across a saddle formation on a ridge crest. Extensive regrowth vegetation. Relatively intact, an unformed vehicle track and vegetation clearance appeared to be the main surface impacts. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.		Not impacted	Park (Cudgegong Reserve)		PAD is situated in a park. The location of the PAD should be identified in the conservation management plan for the parks. Any future works or use of the park should ensure the PAD is not directly or indirectly impacted. This includes but is not limited to recreational uses or facilities, landscaping or bushland maintenance, rehabilitation or revegetation works.
RH/A20P PAD 5	PAD	PAD was located across upper to mid slope landform contexts. Dense grass coverage across PAD. Unformed walking tracks and vegetation clearance appeared to be the main surface impacts. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.		Impacted	Low Density Residential Local Road	Archaeological test excavation under section 87(1) permit. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	

Site	Type	Aboriginal Cultural Heritage Values	Significance Ranking	Impact Assessment	ILP Proposed Zoning	Further Works / Approval Required	Management / Other Recommendations
RH/A20P PAD 6	PAD	PAD was located in a mid slope context. Dense grass coverage across the PAD. Vegetation clearance appeared to be the main surface impact. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.		Impacted	School Sporting Field Park	Archaeological test excavation under section 87(1) permit. Ongoing consultation with registered Aboriginal stakeholders in accordance with DECCW Consultation Requirements.	
RH/A20P PAD 7	PAD	PAD was located in a creek flat context bordering the northern side of Second Ponds Creek. PAD appeared relatively intact, with vegetation clearance and occasional isolated surface disturbances the main impacts. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.		Impacted	Drainage and Infrastructure Riparian Corridor	The majority of the PAD is being conserved. Archaeological investigation of the impacted portion of the PAD is not considered to be justified.	Any future works or use of the park and riparian zone should ensure the PAD is not directly or indirectly impacted. This includes but is not limited to drainage, recreational uses or facilities, landscaping or bushland maintenance, rehabilitation or revegetation works.
PAD41	PAD	PAD was located in a creek flat context bordering the eastern side of Second Ponds Creek. Dense grass coverage across the PAD. Vegetation clearance appeared to be the main surface impact. Aboriginal stakeholders have identified the high value of Aboriginal cultural heritage sites and support the significance rankings as presented in this report and recommended further investigation if sites will be impacted by future development.		Partially impacted	Low Density Residential Local Road Drainage and Infrastructure Park Riparian Corridor	A portion of the PAD is being conserved. Archaeological investigation of the impacted portion of the PAD is not considered to be justified.	Any future works or use of the park and riparian zone should ensure the PAD is not directly or indirectly impacted. This includes but is not limited to drainage, recreational uses or facilities, landscaping or bushland maintenance, rehabilitation or revegetation works.

13 Recommendations

The following recommendations result from the Aboriginal cultural heritage assessment of the Area 20 Precinct:

- Conservation of Aboriginal cultural heritage sites where possible.
- Avoid impact to identified Aboriginal sites where possible.
- Maintain connections between sites and landscape elements as this retains key elements of a holistic Aboriginal cultural heritage landscape. Such complete cultural landscapes are of higher significance than their individual parts.
- Sites ranked as being of **high** significance are conserved.
This applies to site RH/RP2 (45-5-2415 and 45-5-2439) situated within the Rouse Hill Regional Park. Under the current ILP the current planning controls for Rouse Hill Regional Park and Rouse Hill House and Estate remain unchanged. Any future works or use of these areas should ensure against impacts to Aboriginal heritage.
- Aboriginal cultural heritage sites identified as **moderate** significance should be conserved where possible.
- Given the spread of recorded Aboriginal sites across the precinct, it is also likely that there will be some impact to Aboriginal objects as a result of the proposed future development layout.
- For any impacted site, the legislative process is required to be followed to allow development to proceed which would impact on sites (directly or indirectly) by future development.
- A section 90 Aboriginal Heritage Impact Permit under the *National Parks and Wildlife Act 1974* would be required for impacted archaeological sites. Section 90 consent should be obtained prior to any works affecting these sites.

Under the current ILP this applies to sites:

RH/A20P 04	RH/A20P 11	RH/A20P 18
RH/A20P 05	RH/A20P 12	RH/A20P 19
RH/A20P 06	RH/A20P 13	RH/SP 2 (45-5-0808) (partial)
RH/A20P 07	RH/A20P 14	RH/SP 17 (45-5-3108) (partial)
RH/A20P 08	RH/A20P 15	RH/SP 15 (45-5-2805) (partial)
RH/A20P 09	RH/A20P 16	RH/SP 16 (45-5-2807) (partial)
RH/A20P 10	RH/A20P 17	45-5-3355

- Salvage excavation is warranted for some Aboriginal sites of **moderate** significance, the scope of which should be dependent on the final development layout and assessed impacts. A section 87 Aboriginal Heritage Impact Permit should be obtained for these sites.

Under the current ILP this applies to sites:

RH/A20P 09	RH/SP 2 (45-5-0808) (partial)	RH/SP 15 (45-5-2805) (partial)
RH/A20P 10	RH/SP 17 (45-5-3108) (partial)	
RH/A20P 18	RH/SP 16 (45-5-2807) (partial)	

- No further archaeological investigation of sites of **some** significance, if impacted, is archaeologically justified. Section 90 consent should be obtained prior to any works affecting these sites.

Under the current ILP this applies to sites:

RH/A20P 04	RH/A20P 07	RH/A20P 12	RH/A20P 15	RH/A20P 19
RH/A20P 05	RH/A20P 08	RH/A20P 13	RH/A20P 16	45-5-3355
RH/A20P 06	RH/A20P 11	RH/A20P 14	RH/A20P 17	

- Test excavation is warranted for areas of Potential Archaeological Deposit (PADs). The scope of test excavation would be dependent on the final development layout and assessed impacts. A section 87 Aboriginal Heritage Impact Permit should be obtained for these PADs.

Under the current ILP this applies to PADs:

RH/A20P PAD 3	RH/A20P PAD 5	RH/A20P PAD 6
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- Continued consultation with Aboriginal stakeholders is recommended. Stakeholder concerns include consultation regarding signage, education, promotion and participation in any ongoing works. DECCW requirements for any approvals (AHIPs) would be required to be implemented.

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Appendix A Advertisement Details

DEPARTMENT OF PLANNING

Notice of Commencement of Aboriginal Heritage Studies for the Area 20 Precinct of the North West Growth Centre

Precinct Planning for the Area 20 Precinct has commenced in the North West Growth Centre. Following the Precinct Boundary Review process the Minister has declared a part release of the Riverstone East Precinct to allow Precinct Planning to commence on this land in conjunction with the current Area 20 Precinct.

This notice is to inform Aboriginal stakeholders that Aboriginal heritage studies will be commencing in the near future and to request that Aboriginal stakeholders register their interest in participating in the planning process for Area 20.

The studies to be undertaken will be based on the Protocol for Aboriginal Stakeholder Involvement in the Assessment of Aboriginal Heritage in the Sydney Growth Centres. Groups and individuals already listed in the Protocol will be consulted throughout the process and other groups and individuals are now invited to register their interest in participating in the process.

The purpose of this notice is to highlight that Aboriginal cultural heritage studies and consultation with Aboriginal stakeholders will:

- inform the precinct planning process and the assessment of any Section 87 and Section 90 applications made pursuant to the National Parks and Wildlife Act to destroy and/or salvage Aboriginal objects within the project area;
- acknowledge that the groups and individuals specified in the protocol will be consulted with; and
- invite any other interested parties to register their interest in writing to the Department of Planning, providing their name, address, phone number and information on their connection to the area and the skills and experience they would bring to the process.

Any group or individual wishing to participate in the Aboriginal Heritage Study process for the Area 20 Precinct should register their interest by writing to the Department of Planning at PO Box 1457, Parramatta NSW 2124 by 11 March 2009, providing the information requested above.

Copies of maps identifying the Area 20 Precinct can be obtained from www.gcc.nsw.gov.au or by contacting the project management administration team on (02) 9860 1519.



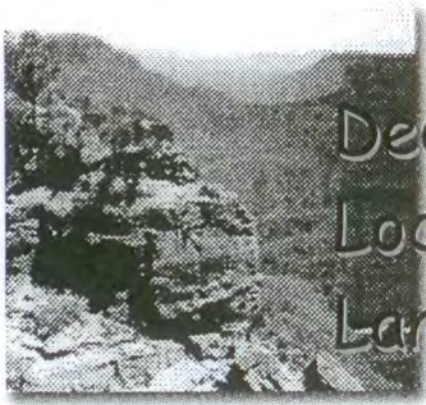
NSW GOVERNMENT
Department of Planning

778623v3

Advertisement placed in:

Publication	Appearance date
Blacktown City Sun	17 Feb 2009
Northern News Kellyville	17 Feb 2009
Blacktown Advocate	18 Feb 2009
Rouse Hill Times	18 Feb 2009
National Indigenous Times	19 Feb 2009
Koori Mail	25 Feb 2009

Appendix B Registered Aboriginal Stakeholder Comments



Deerubbin Local Aboriginal Land Council

5/271 Beames Avenue
PO Box 3184
Mt Druitt Village
NSW 2770 Australia

Ph: (02) 9832 2457
Fax: (02) 9832 2496
Email: Staff@Deerubbin.org.au
Web: <http://www.deerubbin.org.au>

Elizabeth Kinkade
Acting Deputy General Manager, Land Release
Department of Planning
P O Box 1457
PARRAMATTA NSW 2124

Our Reference: 2008

18 August 2009

SUBJECT: PROTECTION OF ABORIGINAL CULTURAL HERITAGE

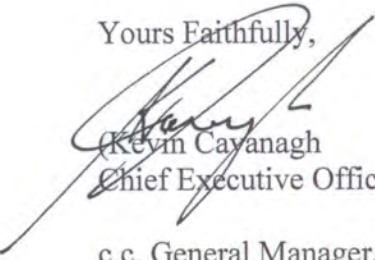
Area 20 Precinct of the North West Growth Centre
Second Ponds Creek, Rouse Hill

Dear Ms Kinkade,

A representative of Deerubbin Local Aboriginal Land Council inspected various properties (step 2) within the Area 20 Precinct on the 19th, 20th & 21st May 2009. An Aboriginal cultural heritage assessment was undertaken to evaluate the likely impact of any development on the cultural heritage of the land. Consulting archaeologist Josh Symons of Kelleher Nightingale Consulting Pty Ltd conducted a scientific study at the same time.

Our representative reports, that due to the high number of Aboriginal cultural heritage sites, namely 20, (being Isolated Finds, Open Camp Sites & Potential Archaeological Deposits) located within Area 20 Precinct of the North West Growth Centre, Second Ponds Creek, Rouse Hill. Deerubbin LALC requires further investigations before developmental impacts occur.

Yours Faithfully,


(Kevin Cayanagh
Chief Executive Officer)

c.c. General Manager, Blacktown City Council

c.c. Lou Ewins, Manager, Planning & Aboriginal Heritage Section, Dept. of Environment,
Climate Change & Water

c.c. Josh Symon, Kelleher Nightingale Consulting Pty Ltd

COPY

**DARUG CUSTODIAN ABORIGINAL
CORPORATION**

PO BOX 81 WINDSOR 2756
PH: 45775181 FAX: 45775098 MOB: 0415770163
ABN: 81935722930
mulgukiwi@aol.com

6th October 2009.

Attention: Alison Nightingale.

**SUBJECT: Area 20 Precinct : Aboriginal Cultural Heritage Assessment Draft
Step 3 Report – Develop Land Use and Management Options.**

Dear Alison,

The Darug Custodian Aboriginal Corporation have received and read the Area 20 Precinct: Aboriginal Cultural Heritage Assessment Draft Step 3 Report prepared by Kelleher Nightingale Consulting Pty Ltd.

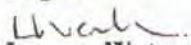
The consultation process for this project has been very thorough and inclusive for this project.

Our group supports the findings and recommendations within this report and agree with the significance ratings set out within this draft report. Much of Area 20 has had disturbance to the natural soil profiles and landforms, the draft report has accurately shown the areas of significance and the areas that have previously been disturbed.

This area is of great importance to the Darug, it is within close proximity to many Darug sites and close to Plumpton ridge, these areas need to be researched before all of our important Darug sites are destroyed by development, Area 20 is in between first ponds creek and Second Ponds Creek, evidence already shows from these two areas that this was an area used and revisited by many Darug for thousands of years. We support the area set out in the draft report for conservation, all areas with high significance ratings should have conservation outcomes.

We look forward to working with you for this project, please contact us with any further enquiries.

Regards


Leanne Watson

Darug Aboriginal Cultural Heritage Assessments

ABN 51734106483

Gordon Morton & Associates

Mob: 0422 865 831
Fax: 45 677 421

Celestine Everingham
90 Hermitage Rd., Kurrajong Hills, 2758
Ph/Fax: 45677 421
Mob: 0432 528 896

13. 7. 10

Attention:

Josh Symons
Kellehen Nightingale Consulting

re Area 20 Precinct - Darug Aboriginal Cultural
Heritage Assessment

DACHA have reviewed your report and we support your recommendations. We also wish for all sites of high significance to be preserved where feasible and where applicable test/salvage excavation will give more knowledge about these very important Darug sites and more recognition of the area's Darug heritage. DACHA wish to be involved in all stages of this project and wish to be consulted at all times.

Yours Sincerely,
G W Morton

C. Everingham

DARUG CUSTODIAN ABORIGINAL
CORPORATION

PO BOX 81 WINDSOR 2756

PH: 45775181 FAX: 45775098 MOB: 0415770163

ABN: 81935722930

mulgokiwi@bigpond.com

14th July 2010.

Attention: Josh Symons.

Subject: Area 20 Precinct: Aboriginal Cultural Heritage Assessment Finalisation of Report.

Dear Josh,

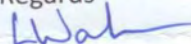
The Darug Custodian Aboriginal Corporation have received and reviewed the final Draft Report for Area 21 Precinct.

Our group supports the recommendations and findings set out within this report we would ask for additional recommendations for this project. Signage erected at appropriate places to promote Darug land and people, Darug names used where appropriate within this development. One of our groups main aims is promotion and education on Darug culture our people have lived in this area for thousands of years and this is still not a well known fact.

We are pleased with the consultation and the work carried out on this project and support this final draft report.

Please contact us with any further enquiries on 0245775181 or 0415770163.

Regards



Leanne Watson

Leanne Watson

Appendix C Summary Table of Site Contents

Table 6. Contents of recorded sites in Area 20 Precinct

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 01	Medial flake fragment	Silcrete	15	10	5	Reddish pink, good quality, slight gloss, zero cortex
RH/A20P 01	Distal flake fragment	Silicified tuff	20	12	3	Yellowish brown, patinated, zero cortex, transverse snap
RH/A20P 01	Core	Silicified tuff	34	21	11	Distal flake fragment reused as a core, 1 asymmetrical alternating platform, zero cortex
RH/A20P 01	Distal flake fragment	Silcrete	15	11	5	Purple colour, broken in two fragments, zero cortex, dull
RH/A20P 01	Broken flake / retouched flake	Silcrete	33	20	11	Glossy red, faceted platform, zero cortex, distal end retouched? heat altered, used as core?
RH/A20P 01	Cone split broken flake	Silcrete	23	19	5	Red, slight gloss, longitudinal split, plain platform, zero cortex
RH/A20P 01	Heat shatter	Silcrete	20	16	5	Red, slight gloss, zero cortex, pot lidded
RH/A20P 01	Proximal flake fragment	Silcrete	15	12	2	Red, zero cortex, glossy
RH/A20P 01	Cone split broken flake	Silcrete	26	12	8	Red, zero cortex
RH/A20P 01	Flake (blade)	Silcrete	50	22	8	Pink, zero cortex, elongate shape – blade, plain platform, slight gloss, three parallel scars
RH/A20P 01	Heat shatter? Angular fragment	Silcrete	25	22	12	Pinkish red, 100% cortex, slight gloss
RH/A20P 01	Heat shatter	Silcrete	11	7	2	Pinkish red, zero cortex
RH/A20P 02	Heat shatter	Silcrete	34	15	12	Purplish red, pot lidded fragment, zero cortex
RH/A20P 02	Angular fragment	Silcrete	20	16	6	Not glossy, zero cortex
RH/A20P 03	Retouched flake	Silcrete	22	23	9	Pinkish red, slight lustre, zero cortex, scarred platform, retouched distal and one margin
RH/A20P 03	Proximal flake fragment	Silcrete	14	9	5	Pinkish red, slight lustre, zero cortex
RH/A20P 03	Cone split broken flake	Silicified tuff	12	8	4	Reddish brown, glossy, longitudinal split, less than 30% cortex, distal break

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 04	Flake	Silcrete	30	22	6	Reddish orange, less than 30% bleached cortex, platform concave / plain, glossy
RH/A20P 05	Proximal flake fragment	Silcrete	8	8	3	Red, glossy, zero cortex, crushed platform, one dorsal scar (micro blade fragment?)
RH/A20P 06	Medial flake fragment	Silicified tuff	28	15	12	Patinated yellow brown, crazed, 40 – 60% cortex, one fresh break, blocky fragment, ventral undulations, off broken thick flake
RH/A20P 07	Angular fragment	Petrified wood	39	28	12	Dark greyish black with thin (less than 1mm) reddish brown bands
RH/A20P 08	Flake	Silcrete	10	15	4	Red, width greater than length, plain platform, zero cortex, slight lustre
RH/A20P 08	Medial flake fragment	Silcrete	10	5	2	Red, glossy, zero cortex
RH/A20P 09	Heat shatter	Silcrete	26	18	10	Pinkish red, pot lid scars, zero cortex, dull lustre
RH/A20P 09	Proximal flake fragment	Silcrete	14	10	3	Red, glossy, good quality, zero cortex, one margin edge fractured
RH/A20P 09	Flake	Silcrete	24	14	3	Purplish red, glossy, good quality, zero cortex, faceted platform, step termination, length greater than width
RH/A20P 10	Medial flake fragment	Silcrete	24	16	5	Purplish pink, slight gloss, three parallel dorsal scars, transverse break both ends, zero cortex
RH/A20P 11	Flake	Silcrete	28	15	13	Purplish red, less than 30% cortex, two dorsal scars, scarred platform, feather – plunge termination, distal edge damage (not use-wear), slightly lustrous
RH/A20P 12	Heat shatter	Silcrete	25	18	13	Pinkish grey, glossy, zero cortex, mottled, dorsal flake scars, ventral also two broken surfaces – heat fractured, possibly fragment off a core
RH/A20P 13	Core	Silcrete	40	26	17	Pink, no cortex, at least three platforms, rotated, at least seven negative scars, glossy, longest scar 2 cm, expanding scars
RH/A20P 13	Proximal flake fragment	Silcrete	11	21	4	Pink, glossy, no cortex, one dorsal scar, plain platform, transverse snap
RH/A20P 14	Medial flake fragment	Quartz	23	8	2	Good quality, translucent, zero cortex, elongate, two parallel dorsal ridges, one margin usewear, two transverse breaks
RH/A20P 15	Core	Silcrete	31	26	16	Pink, good quality, glossy, zero cortex, one alternating platform with faceting, five scars
RH/A20P 16	Flake	Silcrete	21	34	9	Purplish red, hinge termination, slight gloss, scarred platform, pot lid scar on ventral, possible minor cortex on platform – less than 30%, right ventral fresh break

Site ID	Artefact Type	Raw Material	Length (mm)	Width (mm)	Thickness (mm)	Notes
RH/A20P 17	Flake	Silcrete	24	12	4	Orangey red, elongate – blade, slight gloss, zero cortex, feather termination, faceted platform, two dorsal parallel scars
RH/A20P 17	Distal flake fragment	Silcrete	10	15	4	Purplish red, no cortex, slight lustre, feather termination
RH/A20P 17	Proximal flake fragment	Silcrete	14	14	4	Purplish red, faceted platform, slight lustre, zero cortex, good quality, central ridge transverse snap
RH/A20P 17	Flake	Silcrete	16	13	5	Purplish red, glossy, platform ridged / scarred, zero cortex
RH/A20P 17	Cobble fragment	Silcrete	260	170	70	Yellow, half of large silcrete cobble, 100% bleached cortex on dorsal, some marginal scars – probably broken by machine
RH/A20P 18	Distal flake fragment	Silcrete	13	17	4	Red, distal hinge termination, zero cortex, slight lustre, fresh dorsal break
RH/A20P 18	Angular fragment	Silcrete	24	20	7	Red, glossy, zero cortex
RH/A20P 18	Proximal flake fragment	Silcrete	19	25	8	Pink, glossy, zero cortex, mottles, one scar on platform, distal break
RH/A20P 18	Medial flake fragment	Silcrete	16	15	10	Purplish grey, glossy, 40 – 60 % cobble cortex, one heat shatter surface – crenate
RH/A20P 18	Medial flake fragment	Silcrete	18	12	9	Grey, glossy, zero cortex, longitudinal split and distal break
RH/A20P 18	Heat shatter	Silcrete	18	14	6	Purple, slight heat shatter off cortical piece, 40 – 60% cobble cortex
RH/A20P 18	Distal flake fragment	Silcrete	10	7	1	Purplish red, feather termination, glossy dark red, zero cortex
RH/A20P 19	Flake	Silcrete	28	22	12	Purplish red, less than 30% cortex, possible usewear left ventral margin, length greater than width, scarred platform, feather termination, slightly edge rounded