



Aboriginal Heritage Assessment

➤ Appendix K

Boral Bricks Aboriginal Heritage Impact Assessment

Prepared for

Boral Bricks

Prepared by

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Executive Summary

This report has been prepared as part of an Environmental Assessment (EA) undertaken to obtain Concept and concurrent Project approval to continue and expand quarrying and brick making operations at Boral Bricks Pty Ltd, Badgerys Creek, NSW. This report describes the Aboriginal heritage values of the proposed pit areas and sets out the assessment process undertaken to identify those values.

Boral Bricks Pty Ltd intends to expand mining into three areas within their current quarry – Pit 3 Extended, Pit 4 and Pit 5. One Aboriginal site consisting of a single stone artefact was identified during this assessment within the Pit 5 area. The scientific archaeological heritage values of the study area relate to this isolated find. No Aboriginal cultural heritage values were identified during consultation.

Conclusion 1

One Aboriginal site (BC-01-09) consisting of a single stone artefact would be impacted by the proposed works.

Conclusion 2

Aboriginal heritage values of the study area pertain to low density artefact scatters or 'background scatter' occurring throughout the study area, which are considered to be of low archaeological (scientific) significance. Potential impact to such sites is not considered to impact the heritage values of the study area.

Conclusion 3

Areas of highest Aboriginal archaeological sensitivity within the region have been identified as occurring adjacent to Badgerys Creek and South Creek. Given the proposed quarry plans do not encroach within 50 m of these creeks, impacts are not considered likely.

Conclusion 4

No ongoing monitoring or mitigation work is warranted.

Conclusion 5

If any human remains are located in, on, or under the land during construction, the responsible party must:

- Contact the local police;
- Not disturb or excavate the remains;
- Immediately cease all work at the particular location;
- Notify the DECCW office as soon as practicable and provide any available details of the remains and their location; and
- Not recommence any work at the particular location until authorised in writing by the DECCW.

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1.0 Introduction

AECOM has been engaged by Boral Bricks Pty Ltd (Boral) to undertake an Aboriginal Heritage Impact Assessment associated with an application for Concept and concurrent Project approval to continue and expand quarrying and brick making operations at their quarry site at Badgerys Creek, South Western Sydney, NSW. This Aboriginal Heritage Impact Assessment has been produced as part of a larger Environmental Assessment (EA).

1.1 Project Background

Boral currently operates brickworks with associated clay and shale extraction activities at Badgerys Creek within the Liverpool Local Government Area (LGA) in western Sydney (**Figure F1**). The Boral Badgerys Creek facility operates under a consent issued by the Local Government Appeals Tribunal on 27 September 1976 to operate for 30 years. This was modified on 7 September 2006 to allow operations to continue until September 2010. It is expected that existing operations on the site would continue for at least another 20 years beyond the expiry of the existing consent on 27 September 2010.

This report describes the results of background research, Aboriginal stakeholder consultation and field survey within the study area. Aboriginal consultation in accordance with the *National Parks & Wildlife Act 1974: Part 6 Approvals – Interim Community Consultation Requirements for Applicants (ICCRs)* was maintained throughout the project.

1.2 Proposed Works

The continued operation of the quarry and brickworks would involve the ongoing extraction of raw materials from the currently active pit (Pit 3, including extension of this pit to the east) in addition to an expansion into two new areas – Pit 4, and Pit 5 (**Figure F2**). Pit 3 Extension includes the lateral expansion of Pit 3 in an eastward direction approximately 200 m. Pit 4 and Pit 5 are locations for two new pits at the eastern and northern areas of the quarry.

Activities on the site would be largely as per current operations comprising quarrying, brick production and packaging for dispatch, however quarrying and brick making activities would be increased generally as follows

- Extraction of onsite reserves in the order of 420,000 tpa; and
- Brick making at the existing Brick Making Facility of some 252,000 tpa.

Works required as part of the Project include:

- Continuation of extraction of raw materials from Pit 3;
- Establishment of new quarry areas commencing with Pit 4 to the north of the existing Pit 3 and Pit 5 in the north of the Project Site;
- Stockpiling of raw and unusable materials; and
- Ancillary activities.

1.3 Objectives and tasks

The overall aim of this assessment was to identify the Aboriginal heritage values of the proposed new pit areas, identify potential development impacts on those values and provide suitable management recommendations. To achieve these aims the following objectives were established:

- to consult with the relevant local Aboriginal community groups regarding the specific social value of land in the study area;
- to understand the regional research context of any Aboriginal sites or objects in the study area;
- to identify documented Aboriginal heritage sites/objects within the study area;

- to identify and record any Aboriginal sites and objects within the study area;
- to assess the cultural significance of Aboriginal sites and objects in the study area in consultation with the Aboriginal stakeholders; and
- to prepare recommendations on the management of Aboriginal heritage values within the study area, when compared with the proposed development footprint.

1.4 Study Area

The Boral quarry is situated within the Liverpool LGA approximately 41 km southwest of the Sydney CBD at Badgerys Creek. Badgerys Creek is a small community comprising rural residences, agricultural activities, quarrying and industry. The quarry site is bound by Badgerys Creek to the west, Inghams chicken to the south and rural residential properties to the east and north, with South Creek running along its eastern boundary. A small tributary of Badgerys Creek is located in the south-western portion of the quarry site.

The study area for this assessment is defined as the new pit areas only i.e. Pit 3 Extended, Pit 4 and Pit 5 (**Figure F2**).

1.5 Project Team

The Project Team consists of archaeologists and other specialists from AECOM. Neville Baker (Associate Director, Archaeology and Heritage) directed the assessment and provided technical and QA review of this report. Geordie Oakes (Archaeologist) managed the assessment and co-wrote this report. Peter Howard (Graduate Archaeologist) conducted background research, conducted administrative tasks associated with the project and co-wrote this report. Lee-Anne Shoobert and Tim Osborne provided administrative and drafting support.

1.6 Report Structure

The report is structured as follows:

- **Section 2.0** provides environmental and archaeological contextual information;
- **Section 3.0** describes the assessment methodology employed;
- **Section 4.0** describes the methodology and results of consultation with the Aboriginal community;
- **Section 5.0** lists the Aboriginal sites and objects and historic heritage sites and items identified in the study area, and discusses the results of the field survey;
- **Section 6.0** discusses the significance values within the study area;
- **Section 7.0** describes the potential impacts to Aboriginal heritage values resulting from the proposed development;
- **Section 8.0** provides succinct management recommendations regarding the Aboriginal and historic heritage values of the study area; and
- **Section 9.0** describes legislation guiding Aboriginal and historic heritage management.

1.7 Limitations

Predictions have been made about the probability of subsurface Aboriginal heritage materials occurring within the study area; however, it is possible that Aboriginal objects may occur in any landscape context.

AECOM has undertaken a search of the Aboriginal Heritage Information Management System (AHIMS) held by Department of Environment, Climate Change and Water (DECCW). The search results are provided in **Section**

2.8.4. Register searches are constrained by the amount of data in the register and the quality of that data (for example grid references can be inaccurate). Large areas of NSW may not have been systematically searched and may contain Aboriginal objects and other heritage values not recorded on AHIMS. Additionally, the AHIMS reports database can only be searched by the title of the report, date or author which may not indicate the geographical location of the area covered. This means that it is possible that some known sites and some reports may have been omitted from this study. Sites and reports are regularly added to AHIMS and therefore the accuracy of information provided from AHIMS is only valid on the day the register is searched.

A summary of the statutory requirements regarding Aboriginal and historic heritage is provided in **Section 9.0**. This is provided based on experience with the heritage system in NSW and does not purport to be legal advice. It should be noted that legislation, regulations and guidelines change over time, and users of the report should satisfy themselves that the statutory requirements have not changed since the report was written.

Further constraints for archaeologists include the extent to which Aboriginal activity is represented by preserved evidence, the degree to which post-depositional processes have affected the archaeological record, the extent to which land-use (e.g. cultivation or development) has altered the archaeological landscape, the time of year and the conditions under which a survey is conducted.

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2.0 Existing Environment

2.1 Environmental Context

Investigations into the distribution of archaeological objects and places require an analysis of information on the natural resources available in that region. This is done in order to develop an understanding of the range of cultural remains that can be expected within the area being studied. An area's available resources are linked to its climate, topography and landform, geology, hydrology and vegetation. A discussion of each of these factors is presented below.

2.1.1 Climate

The prevailing climate in the Badgerys Creek area is warm and temperate with a continental influence. Summers are warm to hot and humid, winters are cool to mild. The maximum mean temperatures occur during the summer months with January being the hottest month (29.7°C). The coolest time of the year with a minimum mean temperature of 4.1°C occurs in July. The average annual rainfall for this area is 638.9 mm (Bureau of Meteorology 2009).

2.1.2 Topography and Landform

The natural topography and landform of the quarry can be summarised as a gently undulating topography between prominent water courses: Badgerys Creek to the west and South Creek to the east. However, much of the quarry's natural landform and topography has been significantly altered from quarrying related activities i.e. large open pits and overburden stockpiles. South Creek and South Creek Valley are the prominent landscape features throughout the region, and link the northern Cumberland Plain to the study area.

2.1.3 Geology and Soil Landscapes

The quarry is located within the Sydney Basin, a large sedimentary basin which dominates the NSW central coast and its fluvial catchments. The underlying geology of the majority of the site comprises of the Blacktown Residual soil landscape, characterised by gently undulating rises on Wianamatta Group shales and Hawkesbury Sandstone. The soils are shallow to moderately deep (<100 cm) hardsetting mottled texture contrast soils, red and brown podzolic soils on crests, upper slopes and well drained areas, grading to yellow podzolic soils and Soloths on lower slopes and in drainage lines. Soil limitations include moderately reactive highly plastic subsoil, low soil fertility, and poor soil drainage.

The eastern and western boundaries of the site are underlain by the South Creek Fluvial soils landscape, which is characterised by floodplains, valley flats and drainage depressions of the channels on the Cumberland Plain. This landscape is usually flat with incised channels. Soils are often very deep layered sediments over bedrock or relict soils. Structured plastic clays or loams in and immediately adjacent to drainage lines are common. Red and yellow podzolic soils are most common on terraces with small areas of structured grey clays, leached clay and yellow solodic soils (Bannerman & Hazelton 1990).

2.1.4 Waterways and Hydrology

The quarry is bordered to the east by South Creek, a 4th order waterway, and to the west by Badgerys Creek, another 4th order waterway. South Creek forms the principal waterway within the quarry site, though located a significant distance from the proposed quarry activities, and runs along the length of its eastern extent. South Creek is located in the western Cumberland Plain and stretches over a length of some 64 km, with a catchment that encompasses around 30% of the Sydney region. Badgerys creek runs along the western extent of the site. Badgerys Creek is a tributary of South Creek and their confluence lies approximately 4km north of the quarry. While the above high order creeklines are not within the proposed construction areas, several 1st order, ephemeral, creeklines are found within the study area.

2.1.5 Vegetation

Urban development and land management practices have impacted considerably on the native vegetation of the study area. Today, the study area is comprised of cleared grazing and cropping land with only isolated patches of native vegetation, mostly occurring along the banks of South Creek east of the study area. Original vegetation in the area would have consisted predominately of Cumberland Plain Woodland i.e. consisting of grey box and ironbark on the rises and forest red gum on the lower hill slopes and depressions (Bensen & Howell 1990). A combination of grasses and shrubs, such as *Bursaria sp.* and *Spinosa sp.*, would have formed the understorey. However, the original combination of shrubs and grasses prior to European arrival is impossible to determine (Benson & Howell 1990: 20).

2.1.6 Disturbance

Land within the study area and surrounds has been subject to varying degrees of disturbance. Intense agricultural farming, including horticulture and animal husbandry has been the primary land use in the area. Light and heavy industry has also been active regionally. The most significant impact to the study area has been from activities associated with quarrying. These include heavy levels of disturbance resulting from the extraction of resources and the erection of a manufacturing plant for brick making. Other recorded land uses specifically in the study area include cattle grazing for which the site has largely been cleared of standing vegetation, and replaced by pasture grasses. Several dams are also present, constructed in conjunction with brick making operations and have resulted in pronounced disturbance of areas associated with watercourses.

2.2 Summary of Environmental Conditions and Implications for Aboriginal Archaeology

The prevailing climate and the availability of permanent water from South Creek and Badgerys Creek indicate that the study area likely had sufficient resources to support medium sized groups of Aboriginal peoples. Evidence of such occupation is usually in the form of flaked stone artefacts, or near aquatic environments, shell middens, which are usually found associated with permanent or semi-permanent water sources. While the current flora and fauna found within the study area are not necessarily representative of the range and quantity present prior to European settlement, the composition of flora and fauna species present in modern times are suggestive of Aboriginal occupation of the area.

The soils found in the study area are not prone to high levels of erosion; however, minor sheet and gully erosion may be found where surface vegetation is not maintained. As a result, there is potential for finding subsurface Aboriginal artefacts within soils, particularly in depositional and aggrading sedimentary environments on level ground.

2.3 Ethno-historical Context

Information about the socio-cultural structure of Aboriginal society prior to European contact largely comes from ethno-historic accounts made by Europeans. These accounts and observations were made after massive social disruption due to disease and displacement. As a result, this information is often contentious, particularly in relation to language area boundaries. Today, Local Aboriginal Land Council boundaries are situated so that study area is within the jurisdiction of the Gundungara Local Aboriginal Land Council, however the exact boundaries which existed in 1788 are impossible to reconstruct due to a lack of reliable data.

An Aboriginal heritage assessment prepared by JMCHM (2007a, b, c) for a development at nearby Oran Park provides a summary of these ethno-historic accounts and academic sources about the identity and boundaries of Aboriginal groups prior to European arrival.

What is apparent from the ethnohistoric and historic records is that the Camden region may have been on the periphery of the core territories of a number of separate Aboriginal groups. It seems that, at European contact, this area was close to the boundary between the Darug, Dharawal and Gandangara language groups...(JMCHM 2007c: 21).

This suggests that the most fitting generalisation is that the Badgerys Creek area is either located at northern extent of the Gundungara speaking peoples or at the southern extent of Darug speaking peoples whose core territory lay in the central Cumberland Plain.

Certain other generalisations can be made from early colonial writings and subsequent research. Aboriginal people moved across the land in small family groups subsisting on plant foods, marine life from South Creek and the Nepean River, and a variety of animal life such as possum, kangaroo, snakes and lizards. Family groups

belonged to clan groups, who were united by language and cultural affinities with ties to specific areas of land. Specific clan group names for the study area were not recorded, with the possible exception of the Cobbitty Barta or Cubbitch Barta in the Cobbitty-Camden area, who were generally known in early historic times as the Cowpastures people (ENSR 2009).

2.4 Archaeological Context

2.4.1 Archaeology of the Cumberland Plain

Since the 19th century, over 4,000 archaeological sites have been recorded across the Sydney region, and hundreds have been excavated (Attenbrow 2002: 48). These sites commonly contain stone artefacts, midden material, engraved or pigmented images, and scarred trees. While these sites occur to varying frequencies in different regions, the archaeology of the Cumberland Plain is characterised by the open stone artefact site. These site types are predominately found in close association with watercourses. The greatest concentration of Aboriginal site records in the AHIMS database occurs north of the Great Western Highway and especially in the North West Growth Centre between Blacktown and Windsor (ENSR 2009: 12). This reflects the greater effort in site recording related to development in that area that has occurred in recent decades.

One of the largest archaeological studies on the Cumberland Plain south of the Great Western Highway was conducted in the Oran Park and Turner Road Precincts within the South West Growth Centre during 2007 and 2008 (HLA ENSR 2008; ENSR 2009), which informs much of the following discussion.

Stone artefact sites in the region are typically comprised of concentrations of stone flakes, cores and retouched implements (mostly backed artefacts). These implements are most commonly manufactured from silcrete derived from the St Marys Formation. The closest available artefact-quality source of this material was identified at the confluence of Cosgrove and South Creeks at Luddenham, approximately 18 km north of the Oran Park Raceway (Steele 2007, cited in ENSR 2009: 12). Another major raw material type used in the Cumberland Plain was indurated mudstone (sometimes referred to as tuff). The test excavations in the Oran Park and Turner Road Precincts show that the vast majority (74%) of stone artefacts are made from silcrete from the St Marys Formation. Interestingly a small proportion of the silcrete shows characteristics similar to another source of silcrete near Marulan, 100km south of the study area, suggesting the material arrived at Oran Park either through trade between neighbouring groups or, more likely, through direct access (ENSR 2009: 36, 64).

Previous models of Aboriginal occupation in the Cumberland Plain have centred on the premise that Aboriginal sites will occur within 50 m of high stream order water courses, particularly in the vicinity of confluences. The Oran Park/Turner Road excavations suggest that clusters of Aboriginal heritage material are more broadly distributed across the landscape than previously estimated. Results show that Aboriginal camp site or activity site artefact clusters occur very occasionally within a continuous very low density background scatter up to 300 m from 4th order creeks, 200 m from 2nd order creeks (ENSR 2009: 65). The artefacts do not occur as a continuous high density concentration, but rather as sporadically occurring clusters strongly associated with areas of suitable elevated outlook within these threshold areas in creek valleys. There is no evidence to support a greater assemblage complexity associated with confluences.

Aboriginal scarred trees are relatively rare while Aboriginal rockshelters and hatchet (axe) grinding groove sites are limited to certain sandstone exposures at the margins of the Cumberland Plain such as at the current Rouse Hill Town Centre on Caddies Creek and at other locations.

Plant materials rarely survive in Sydney region sites aside from small amounts of hafting material, such as resin, small fragments of twine, and some paperback fragments (Attenbrow 2002: 97). Radiocarbon determinations of over a 100 sites in the region have revealed that occupation begins in the early Pleistocene with archaeologically visible occupation beginning in the Holocene (c.10, 000 BP) (McDonald 2008: 36).

2.4.2 Previous Research in the Badgerys Creek District

In order to develop a predictive model of site location, distribution and type that occur in the study area it is necessary to review the archaeological work that has previously been undertaken in that environment. Background research identified several Aboriginal Heritage Assessments within the Badgerys Creek area and a number of assessments south of the study area adjacent to South Creek in the Camden area. These assessments have been summarised below:

- a) **Haglund. L. 1978** (in Navin Officer 1997)¹ *Major Airport Needs of Sydney Study: Survey of Aboriginal Sites and Relics*. SSA Operations. Report to MANS Committee. Haglund undertook a preliminary study of a possible location for a second Sydney Airport at Badgerys Creek. Three sites, consisting of two artefact scatters and one grinding groove site were recorded north of Elizabeth Drive.
- b) **Lance. A. and P.J. Hughes 1984** *Second Sydney Airport Aboriginal Archaeological Study: Badgerys Creek/Wilton*. Report to Kinhill Stearns Pty Ltd. Survey was undertaken in areas where archaeological sites were considered likely to occur. The survey was carried out in 1985, resulting in the location of one artefact scatter consisting of five silcrete flakes and flaked pieces. Lance argued that the low occurrence of sites was due to extensive disturbance from land use practices. However, the banks of Badgerys Creek was a noted exception to this conclusion, as impacts were only considered minor.
- c) **Brayshaw. H. 1995** *Elizabeth Drive Upgrade Environmental Impact Statement Archaeological Survey for Aboriginal Sites*. Report to the Roads and Traffic Authority through Rust PPK Pty Ltd. Brayshaw undertook an assessment of a section of Elizabeth Drive from Luddenham Road to Wallgrove Road. No sites were located south of Elizabeth Drive between Badgerys Creek and Badgerys Creek Road. Two artefact scatters and several PADs were located north of Elizabeth Road, and a site comprising eight artefacts was located neat a small drainage line south of Elizabeth Drive and east of Mamre Road.
- d) **Navin Officer Heritage Consultants 1997** *Aboriginal Cultural Heritage: Proposal for a Second Sydney Airport at Badgerys Creek or Holsworthy Military Area*. The assessment included survey of three possible airport sites at Badgerys Creek. A total of 110 recordings were made, including 58 artefact scatters, eight scarred trees, 44 isolated finds, and one PAD. Artefact scatters were primarily low density having between three and five artefacts. Of the scarred trees, five were interpreted as possible, two as probable, and one as likely being of Aboriginal origin. Secondary and minor fluvial corridors consisting of alluvial flats, valley floors, and adjacent basal slope topographies were identified as the most archaeologically sensitive within the study area.
- e) **HLA ENSR 2008** *Stage 1 Archaeological Excavations GCC Precincts Oran Park and Turner Road, South West Growth Centre, NSW*. This project included a number of test excavation trenches excavated to the surface of the clay B soil horizon located just outside the boundaries of the four conservation areas. A total of 744 stone artefacts were recovered, including knapping floor concentrations at two of the sites. Silcrete from sources located 20-40 km to the north in the central Cumberland Plain was the dominant artefactual material. "Exotic" white silcrete artefacts were found at all four sites. Previously not identified in the study area, this find demonstrates connections across country. The excavations also found consistent density of artefacts throughout the trenches with no discernable decline in artefact frequency as one moves away from the creek. Greater numbers of artefacts were found along relatively minor watercourses at OP-2.
- f) **ENSR AECOM 2009** *Report on Phase 2 Archaeological Excavations GCC Precincts Oran Park and Turner Road, South West Growth Centre, NSW*. This project included test excavation and salvage works, and was conducted as part of the overall assessment of Aboriginal heritage values for the two precincts. A total of 340 test pits were excavated over various landforms resulting in 4,780 artefacts being located. Rare Aboriginal contact material evident in flaked glass artefacts was found. Extensive arrays of pre-contact sites with low intensity Aboriginal activity were located. Artefacts were found within the topsoil up to 300 m from major creeks and 100 m from minor watercourses. Pre-contact artefact manufacturing areas were evident in stone artefact concentrations on areas with good outlook over creek valleys. Aboriginal campsites were found in elevated areas over 150 m

¹ No copies of this report were obtainable by AECOM. Navin Officer reports Haglund's copies as destroyed in a fire (Navin Officer 1997: 4:47).

away from creeks in areas with good outlook over the major creek valleys. Inter-regional cultural connections demonstrated in the presence of small quantities of silcrete artefact raw material from a source 100 km to the south. Scarred trees which, despite some uncertainty due to heavy regrowth, indicate pre-contact Aboriginal implement manufacture. The study provides new insights into regional interaction of groups and campsite patterning.

- g) **JMCHM 2007a** *Archaeological Investigation of the Turner Road and Oran Park Precinct within the South West Growth Centre, Camden, NSW, Report to APP for the Growth Centres Commission and Camden City Council.* This investigation involved preliminary mapping of land use impacts within the Precincts. Land identified as having primarily agricultural historic land use was identified as having the highest potential for containing intact archaeological sites. Recommendations included pedestrian survey and Aboriginal community consultation in order to confirm site location hypothesis.
- h) **JMCHM 2007b** *Archaeological Investigation of the Oran Park Precinct within the South West Growth Centre, Camden, NSW: Stage 2 Report, Report to APP for the Growth Centres Commission and Camden City Council.* This report followed the preliminary mapping investigation (JMCHM 2007a). It involved pedestrian survey with Aboriginal community groups. A total of 44 sites and four areas of PAD were located. Sites consisted of principally open lithic artefact scatters but also a number of isolated finds and several scarred trees. Artefact material was of silcrete, tuff quartz, flaked glass, quartzite and petrified wood. Sites were mostly located along tributaries and some ridge tops.

2.4.3 Sites Registered with DECCW Aboriginal Heritage Information Management System (AHIMS)

A search of DECCW's AHIMS database conducted 22 October 2009 revealed 16 registered Aboriginal sites within a two kilometre radius of the study area (**Appendix A**). Of these 16, two sites (45-5-2704 & 45-5-0213) lie within the Project site. However, no AHIMS sites were located within the proposed areas of Pit 3 Extension, Pit 4 and Pit 5.

A review of the sites identified in the AHIMS search show that seven sites (44%) consist of stone tool artefacts scatters, eight (50%) isolated finds, and one (6%) scarred tree (**Table 1**).

Table 1: AHIMS Registered Sites within the Search Area

Site Type	Site Feature(s)	Number of Sites
Open Camp Site (artefact scatter)	AFT	7
Open Camp Site (isolated find)	AFT	8
Scarred Tree	TRE	1
Total		16

2.5 Study Area Site Prediction

Based on the distribution of Aboriginal archaeological sites described in previous reports and listed on the AHIMS register, predictions can be made about the likelihood of archaeological sites being present in the study area, and what they may constitute. The following predictions can be made of the current study area:

- artefacts are likely to occur in areas adjacent to creeklines and watercourses including flats, footslopes and elevated areas;
- sites are likely to consist of stone artefact scatters and isolated finds comprising of concentrations of stone flakes, cores and retouched implements;
- silcrete from local and regional sources is the most commonly used raw material source; and
- scarred trees may be present where mature native trees remain in the study area.

Several 1st order creeklines are found within the study area however, these are largely ephemeral and have been severely impacted by damming and other activities associated with quarrying.

3.0 Methodology

The following section describes the methodology used for conducting the Aboriginal heritage assessment. The overall aim of the assessment was to identify the Aboriginal heritage values of the Project site, identify potential development impacts on those values and provide suitable management recommendations. To achieve these aims the assessment process was split into desktop survey (pre-fieldwork) and fieldwork components.

The desktop survey included the following tasks:

- Search of the Department of Environment, Climate Change and Water (DECCW) AHIMS database;
- Review and collate any existing documents including previous archaeological reports, scoping studies, heritage studies and local histories as they relate to the study area;
- Identification of the relevant Aboriginal stakeholders through the Registrar of Aboriginal Owners, the National Native Title Tribunal (NNTT), DECCW and newspaper advertisement;
- Identification and assessment of any Aboriginal and non Aboriginal archaeological and cultural heritage values; and
- Consultation with registered Aboriginal stakeholder groups.

3.1 Fieldwork Design

Due to the relatively small study area i.e. Pit 3 Extension, Pit 4 and Pit 5, complete survey coverage (100%) was considered the appropriate field methodology. Pedestrian survey was conducted within the proposed pit areas with archaeologists and Aboriginal stakeholder representatives walking in a line at approximately five metre intervals.

In addition to survey of the Pit 5 location itself, a section of Badgerys Creek located approximately 200 m west of the proposed pit area was surveyed. This was considered prudent given the position of the proposed pit in relation to the creek.

Notes on landform, soils and surface exposure were recorded. Records consisted of descriptive notes, Differential Global Positioning System² (DGPS) positions (MGA format), and photographs. Artefact locations were recorded using a Trimble GEOXM differential GPS.

3.1.1 Fieldwork Timing and Personnel

The fieldwork was conducted in on the 26th of November 2009 over the period of one day. Two AECOM archaeologists, Neville Baker (Associate Director, Archaeology and Heritage) and Geordie Oakes (Archaeologist), and representatives from the Gandangara Local Aboriginal Land Council, Darug Custodial Aboriginal Corporation, Darug Tribal Aboriginal Corporation, Darug Aboriginal Cultural Heritage Assessments, Yarrawalk, and Darug Land Observations conducted the survey.

² Trimble GEO-XM, employing GPS Pathfinder Office software.

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4.0 Aboriginal Stakeholder Consultation

4.1 Aboriginal Stakeholder Consultation

Aboriginal consultation was conducted in accordance with the *National Parks & Wildlife Act 1974: Part 6 Approvals – Interim Community Consultation Requirements for Applicants (ICCRs)*. These guidelines outline a process of inviting Aboriginal groups to register their interest in being party to consultation (including local newspaper advertising), seeking responses on proposed assessment methodology, and seeking comment on the draft assessment report and recommendations. The guidelines require proponents to allow ten working days for Aboriginal groups to respond to invitations to register, and then 21 days for registered Aboriginal parties to respond to a proposed assessment methodology.

4.1.1 Registrations

A newspaper advertisement was placed in the Penrith Press on the 9th of October 2009 seeking registrations of interest (**Appendix B**). The advertisement ran for seven days with registration open for 14 days. In addition, the Registrar of Aboriginal Owners, Local Council, Native Title Services and DECCW were contacted in order to identify Aboriginal communities that may have direct interest in being involved in the assessment process (**Appendix C**)

The following Aboriginal stakeholder groups were identified and registered interest in the assessment:

- Gandangara Local Aboriginal Land Council (GLALC);
- Darug Custodian Aboriginal Corporation (DCAC);
- Darug Tribal Aboriginal Corporation (DTAC);
- Darug Aboriginal Cultural Heritage Assessments (DACHA);
- Darug Land Observations (DLO); and
- Yarrawalk (YA).

4.1.2 Methodology

Groups registered at this stage of the project were sent a draft copy of the field methodology for comment by mail on the 27th of October 2009. No comments were received regarding the proposed methodology.

4.1.3 Fieldwork

Fieldwork was conducted on the 26th of November 2009. The following Aboriginal Stakeholder groups and representatives participated in fieldwork:

- Gandangara Local Aboriginal Land Council (Ian Edwards);
- Darug Custodian Aboriginal Corporation (Justine Copeland);
- Darug Tribal Aboriginal Corporation (John Riley);
- Darug Aboriginal Cultural Heritage Assessments (Tim Owen);
- Darug Land Observations (Gordon Workman); and
- Yarrawalk (Scott Franks).

4.1.4 Draft Report

A hard-copy of the Draft Report was sent to registered Aboriginal stakeholders on the 20th April 2010 allowing 14 days for comment. Two letters of comment were provided by Registered Aboriginal stakeholders (**Appendix D**). These comments are summarised below with AECOM's response to any issues raised.

Darug Land Observation (DLO). Comment received 28th April 2010.

Comment 1

- DLO stated they have no concerns with AECOM's conclusions.

Comment 2

- DLO also stated that they would like to have a representative monitor all top soil removal on the site to preserve all artefacts.
- AECOM do not consider monitoring of top soil warranted given the location of the works. Aboriginal heritage values within the study area pertain to low density artefact surface scatters or 'background scatter' considered of low archaeological (scientific) significance which are unlikely to be associated with archaeological deposit.

Darug Custodian Aboriginal Corporation (DCAC). Comment received 30th April 2010.

Comment 1

- DCAC stated that they support the findings and recommendations within the report.

Comment 2

- DCAC also state that a management plan be put in place for the tree with a scar to ensure that it will not be destroyed by future works.
- The predominant consensus of AECOM and Aboriginal stakeholders who attended the survey was that the tree with a scar was not of Aboriginal origin. DCAC's representative attending the survey, Justine Copeland, stated she did not think it was an Aboriginal scarred tree as it was the wrong shape and too low to the ground. Therefore, AECOM does not find sufficient reason to undertake a management plan for the tree with a scar.

5.0 Results

5.1 Aboriginal Sites Identified

One Aboriginal site was recorded within the proposed quarry areas during the survey. The site consisted of an 'Isolated Find' of one mudstone flaked piece (**Figure F2**).

BC-01-09 (MGA 292062E 6247272N) – Isolated Find

BC-01-09 is located on a flat, behind a derelict dairy complex, approximately 250 m from Badgerys Creek. The site is an isolated find consisting of one indurated mudstone broken flake on a cattle track. The area has been cleared of vegetation and used for grazing (**Plate P1, Plate P2**).

5.2 Other Finds

One tree with a scar was recorded during the survey. The tree was located approximately 40 m north of an artificial dam within a small distributed copse of trees. The scar was north facing, 97 cm in height, 32 cm wide, and 34 cm from the ground (**Plate P3**).

Positive identification of the tree as an Aboriginal scarred tree was not possible as the scar lacked positive evidence indicating Aboriginal origin. Discussion between Aboriginal stakeholder representatives and AECOM archaeologists were had at the time. Ian Edwards (Gandangara LALC) stated that the scar was not an Aboriginal scar as it was the wrong shape, too low to the ground, and was likely due to impact from a car or animals. Gordon Workman (DLO) believed the tree was shield shaped but too irregular to be an Aboriginal scar. He also considered it to be too low on the tree to be of Aboriginal origin. John Riley (DTAC) stated that there was great uncertainty. Justine Copeland (DCAC) said she did not think it was an Aboriginal scarred tree as it was the wrong shape and too low to the ground. Scott Franks (Yarrowalk) stated that there was uncertainty and "positive identification was 50/50".

AECOM's inspection of the tree found that the scar did not positively meet accepted criteria of an Aboriginal scarred tree. A branch scar at the upper end of the scar combined with its irregular shape, location close to the ground and the level of disturbance in the surrounding area were indicators that the scar was not likely of Aboriginal origin.

5.3 Visibility and Effective Coverage

Effective survey coverage is a function of the amount of ground surface visibility available for detecting surface artefacts. The majority of the study area was covered with pasture grasses and various weed species ranging from 10 cm within the Pit 4 area to 100 cm in height within the Pit 3 Extension area. Pit 4 area included a large artificial dam, which obscured visibility to much of pit area. Pit 5 area was largely covered with pasture grasses except along some cattle tracks and one dirt road which offered the only visibility. Exposure in the Pit 3 Extension area was limited to some dirt vehicle tracks; however, the majority of the area was covered in thick vegetation. **Table 2** shows that the effective coverage of the combined pit areas was approximately 5%.

Table 2: Visibility and Effective Coverage

Pit Area	Landform Types	Approx. Pit Area (m ²)	Exposure (%)	Exposure (m ²)	Visibility (%)	Detection Area (m ²)	Effective Coverage (%)
Pit 3 Extended	Lower Slope, Mid Slope, Upper slope	66000	10	6600	40	2640	4
Pit 4	Flat, Dam	72900	10	7290	20	1458	2
Pit 5	Flat	51000	15	7650	30	2295	5
Total		189900		21540		6393	3

5.4 Discussion

One Aboriginal site consisting of an isolated find was located within the Pit 5 area, approximately 250 m from Badgerys Creek. The survey results conform to expected site prediction modelling for the area. Random occurrences of low density stone tool artefacts or 'background scatter' are expected throughout the area, particularly in relation to higher order waterways, with higher densities occurring closer to waterways.

The location of Pit 5 approximately 200 m from Badgerys Creek warranted archaeological survey of a section of the creekline. However, no Aboriginal sites were located within the surveyed area.

6.0 Significance Assessment

This section provides an assessment of the Aboriginal heritage significance of the study area. This section can be divided into three distinct parts:

- i) a scientific (archaeological) assessment, which is usually undertaken by an archaeologist and investigates the scientific importance of the sites identified,
- j) an Aboriginal cultural assessment of social value is provided by discussions and input from the relevant Aboriginal stakeholders; and
- k) an overall assessment based on the combined scientific and cultural heritage values.

The significance assessment presented here is based on criteria and requirements outlined in NPWS (1997) *Cultural Heritage Standards and Guidelines Kit*, which themselves are based on the Burra Charter³.

6.1 Principles of the Assessment

Heritage sites, objects and places hold value for communities in many different ways. Not all sites are equally significant and not all are worthy of equal consideration and management (Pearson and Sullivan 1995: 7). The nature of heritage values is an important consideration when deciding how to manage a heritage site, object or place and balance competing land-use options. The many heritage values are summed up in an assessment of "Cultural Significance".

The primary guide to management of heritage places is the Burra Charter, which defines cultural significance as follows:

Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations.

Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.

Places may have a range of values for different individuals or groups.

This assessment has sought to identify Aboriginal heritage objects and sites within the study area and obtain enough information to allow the values of those objects and sites to be determined.

In summary, high significance is usually attributed to sites, which are so rare or unique that the loss of the site would affect our ability to understand aspects of past Aboriginal use/occupation for an area. Moderate significance can be attributed to sites which provide information on an established research question. Low significance is attributed to sites which cannot contribute new information about past Aboriginal use/occupation of an area. This may be due to sites disturbance of the nature of the site's contents.

6.2 Scientific Value

Scientific value refers to the contribution that the heritage resource (i.e. an Aboriginal site or archaeological distribution) can make to knowledge and understanding of the past. It is assessed according to the rarity, representativeness or research potential of a site. These factors are inter-related. The degree to which the heritage resource can contribute to knowledge is summed up in the notion of significance. Significance increases according to the degree of research potential, rarity of a site or area.

³ The Burra Charter – the Australia ICOMOS (International Council on Monuments and Sites) Charter for Places of Cultural Significance – was developed in South Australia in 1979, and considers an assessment of cultural significance needs to include aesthetic, historic, scientific and/or social values.

6.2.1 Research Potential

This refers to the potential of a particular site or group of sites to answer questions about the past through the use of archaeological methodologies. It concerns the potential to elucidate past behaviour, rather than simply being a route to champion particular methodologies or to facilitate the recovery of large artefact collections.

The NPWS (1997) *Cultural Heritage Standards and Guideline Kits* further suggest that this section needs to consider the integrity of sites, connectivity to other sites, and the potential for providing a chronology.

One isolated find (BC-01-09) was located during the assessment. This site is considered to offer low research potential as this type of site is commonly found throughout the Cumberland Plain, and hence has little potential to provide technological and tool information about the local and regional area. This site has also been subject to levels of disturbance due to past land practices and is unlikely to remain *in-situ*.

6.2.2 Representativeness

This category has primary meaning in the context of conservation objectives. In defining a site as 'representative' of a particular type or class, we are seeking to assess whether it should be conserved in order to ensure that we retain a representative sample of the archaeological record as a whole.

BC-01-09 is an open site consisting of an isolated find. This site type is commonly found within the Cumberland Plain. It is, therefore, well-represented in the local and regional picture and consequently the site is considered to have low significance value based on representativeness.

6.2.3 Rarity

Site types similar to BC-01-09 are commonly found within the Cumberland Plain and consequently are considered to have low significance based on rarity.

6.2.4 Conclusion

To summarise, BC-01-09 identified in this assessment is considered to have low scientific (archaeological) significance.

6.3 Social (Cultural) Value

Representatives from six Aboriginal stakeholder groups were consulted regarding the cultural heritage values of the study area (refer to **Section 4.0**). Preliminary requests for information on cultural heritage values did not elicit any specific response. A copy of this draft report was distributed to the Aboriginal communities who registered in the project. No cultural heritage values were identified during consultation and assessment.

6.4 Statement of Aboriginal Heritage Significance

This section presents the *Aboriginal Heritage Significance* of the study area. This significance assessment can be considered a combination of the scientific and cultural values, or an overview of the importance of a particular area through Aboriginal heritage sites and places. The subsequent retention or manipulation of these values that will be the rationale behind the conclusions presented in **Section 8.0**.

A single stone artefact was located within all three proposed pit areas. All three areas have been subject to varying degrees of disturbance. The site has low scientific significance.

No cultural heritage values were identified during consultation and assessment however, the land contains Aboriginal heritage valued by Aboriginal people as a tangible demonstration of Aboriginal culture in the area.

7.0 Impact Assessment

7.1 Construction Details

Construction works involve the expansion of Pit 3 eastwards, in addition to the establishment of two new pits – Pit 4 and Pit 5. Activities at the site would be largely as per current operations comprising quarrying, brick production and packaging for dispatch; however, the volume of material extracted and bricks produced would be increased.

A detailed description of the succession of quarrying activities planned for the site beyond September 2010 is provided below:

- continued quarrying of the existing Pit 3 including the lateral progression of the pit towards the east. Unusable material extracted from Pit 3 would be trucked to the completed Pit 2 for the rehabilitation of this void. It is anticipated that extraction from Pit 3 would continue until approximately 2016.
- Preparation for quarrying of proposed Pit 4 would commence in approximately 2014. Based on indicative plans and discussions with Boral Bricks, Pit 4 would not extend further east than the fenceline shown in **Figure F2**. Overburden and unusable material from Pit 4 would also be trucked to Pit 2 for rehabilitation of the void. It is anticipated that extraction from Pit 4 would continue until approximately 2022.
- Preparation for quarrying of proposed Pit 5 would commence in approximately 2016. Unusable material from Pit 5 be used to continue the rehabilitation of Pit 2. It is anticipated that extraction from Pit 5 would continue until approximately 2028.

7.2 Construction Impact

Site BC-01-09 would be directly impacted by the establishment of Pit 5. No other impacts to the heritage values of the study area have been identified.

7.3 Cumulative Impacts and Significance

The scientific significance of a heritage site is typically assessed by comparison with other sites. A stone artefact site which might be considered unexceptional in character compared to 100 other similar stone artefact sites in an area soon increases in value if the other 100 sites are destroyed. In this way, the cumulative impact of development on heritage sites in a region can influence significance assessment.

For the present study, reference can be made to the significant number of Aboriginal stone tool sites of similar nature recorded and excavated throughout the Cumberland Plain. Comparisons can also be made to studies undertaken for the development of Oran Park and Turner Road Precincts (ENSR AECOM 2009), 15 km south of the present study area, which calculate that the Oran Park and Turner Road Precincts, which includes areas of South Creek, will provide adequate opportunities for future research, heritage conservation and education. Therefore, the cumulative impact and significance of sites in the study area are not needed to be elevated on the basis of cumulative impact.

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8.0 Conclusions

Conclusion 1

One Aboriginal site (BC-01-09) consisting of a single stone artefact would be impacted by the proposed works.

Conclusion 2

Aboriginal heritage values of the study area pertain to low density artefact scatters or 'background scatter' occurring throughout the study area, which are considered of low archaeological (scientific) significance. Potential impact to such sites is not considered to impact the heritage values of the study area.

Conclusion 3

Areas of highest Aboriginal archaeological sensitivity within the region have been identified as occurring adjacent to Badgerys Creek and South Creek. Given the proposed quarry plans do not encroach within 50 m of these creeks, impacts are not considered likely.

Conclusion 4

No ongoing monitoring or mitigation work is warranted.

Conclusion 5

If any human remains are located in, on, or under the land during construction, the responsible party must:

- Contact the local police;
- Not disturb or excavate the remains;
- Immediately cease all work at the particular location;
- Notify the DECCW office as soon as practicable and provide any available details of the remains and their location; and
- Not recommence any work at the particular location until authorised in writing by the DECCW.

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9.0 Applicable Policy and Legislation

9.1 Commonwealth Legislation

9.1.1 Aboriginal and Torres Strait Islander Heritage Protection Act 1984

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

Under the Heritage Protection Act the responsible Minister can make temporary or long-term declarations to protect areas and objects of significance under threat of injury or desecration. The Act can, in certain circumstances, override state and territory provisions, or it can be implemented in circumstances where state or territory provisions are lacking or are not enforced. The Act must be invoked by or on behalf of an Aboriginal or Torres Strait Islander or organisation.

9.2 New South Wales Legislation

The following New South Wales legislation protects aspects of cultural heritage and is relevant to development activities in the Project Site.

9.2.1 National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act), administered by DECCW, is the primary legislation for the protection of Aboriginal cultural heritage in NSW. One of the objectives of the NPW Act is:

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 significance to Aboriginal people... (s.2A(1)(b))

Part 6 of the NPW Act provides specific protection for Aboriginal objects and places by making it an offence if impacts are not authorised. An Aboriginal Heritage Impact Permit (AHIP) should be obtained if impacts on Aboriginal objects and places are anticipated. AHIPs can be issued under ss.87 and 90 of the NPW Act.

Sections 86 and 87

Under section 86 of the NSW *National Parks and Wildlife Act 1974* (NPW Act) it is an offence to:

- 1) disturb or excavate any land, or causes any land to be disturbed or excavated, for the purpose of discovering an Aboriginal object; or
- 2) disturb or move 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 AHIP issued under s.87 of the NPW Act. In issuing a s.87 AHIP, DECCW will take into account:

- the views of the Aboriginal community about the proposed activity;
- the objectives and justifications for the proposed activity;
- the appropriateness of the methodology to achieve the objectives of the proposed activity;
- and

- the knowledge, skills, and experience of the nominated person (s) to adequately undertake the proposed activity.

Section 90

Under section 90 of the NPW Act it is an offence to:

knowingly destroy, deface or damage, or knowingly cause or permit the destruction or defacement of or damage to, an Aboriginal object or Aboriginal place...

...unless under an AHIP issued by the Director-General under s.90, subject to such conditions and restrictions as are specified in the AHIP. Therefore an AHIP issued under s.90 should be obtained if impacts on Aboriginal objects and places are anticipated. An application for a s.90 AHIP must be submitted and approved by the Director-General of DECCW. In considering whether to issue a s.90 AHIP, DECCW will take into account:

- the significance of the Aboriginal object(s) or place(s) subject to the proposed impacts;
- the effect of the proposed impacts and the mitigation measures proposed;
- the alternatives to the proposed impacts;
- the conservation outcomes that will be achieved if impact is permitted; and
- the outcomes of the Aboriginal community consultation regarding the proposed impact and conservation outcomes.

For the purposes of the Act:

- An *Aboriginal object* is any deposit, object or material evidence (that is not a handicraft made for sale) relating to Aboriginal habitation of NSW, before or during the occupation of that area by persons of non-Aboriginal extraction (and includes Aboriginal remains).
- An *Aboriginal place* is a place declared so by the Minister administering the NPW Act because the place is or was of special significance to Aboriginal culture. It may or may not contain Aboriginal objects.

Under s.75U of the EP&A Act, projects approved under Part 3A do not require a permit under s.87 or a consent under s.90 of the NPW Act. However, for the preparation of an EA, the Director-General will issue environmental assessment requirements under s.75F, in consultation with other relevant public authorities and have regard to the need for the requirement to assess any key issues raised by those public authorities. In practice this usually means that Part 3A still requires assessment of potential impacts to European and Indigenous heritage and such assessment is generally equivalent to the normal assessment process under the NPW Act and Heritage Act.

Consultation with the Aboriginal communities is required under DECCW policy when an application for an approval under Part 6 is considered. The consultation process used in this study is outlined in more detail in **Section 4.0**.

9.2.2 Environmental Planning and Assessment Act 1979

The EP&A Act requires that consideration be given to environmental impacts as part of the land use planning process. In NSW environmental impacts are interpreted as including cultural heritage impact. Three parts of the EP&A Act are most relevant to Heritage. Part 3 relates to planning instruments, including those at local and regional levels; Part 4 controls development assessment processes; and Part 5 refers to approvals by determining authorities.

Part 3A provides an approvals regime applying to major development. Major development is defined under *State Environmental Planning Policy (Major Projects) 2005* (SEPP 2005). It also applies to those projects which the Minister believes are required to deliver particular government plans or programs, known as critical infrastructure projects. The Minister is the approval authority for Part 3A projects. Under Part 3A, the Minister can issue a project approval or a concept approval. Both maintain the requirement for consultation with the community and relevant State Government agencies, however the requirement for certain other permits and licences is removed under Part 3A.

Section 75B(2) of the EP&A Act makes provision for 'major development' to be identified through various means, including by way of declaration as a listed project in SEPP 2005, or by notice in the Gazette.

The proposed Project has been declared by the Minister to be 'major development' to which Part 3A applies.

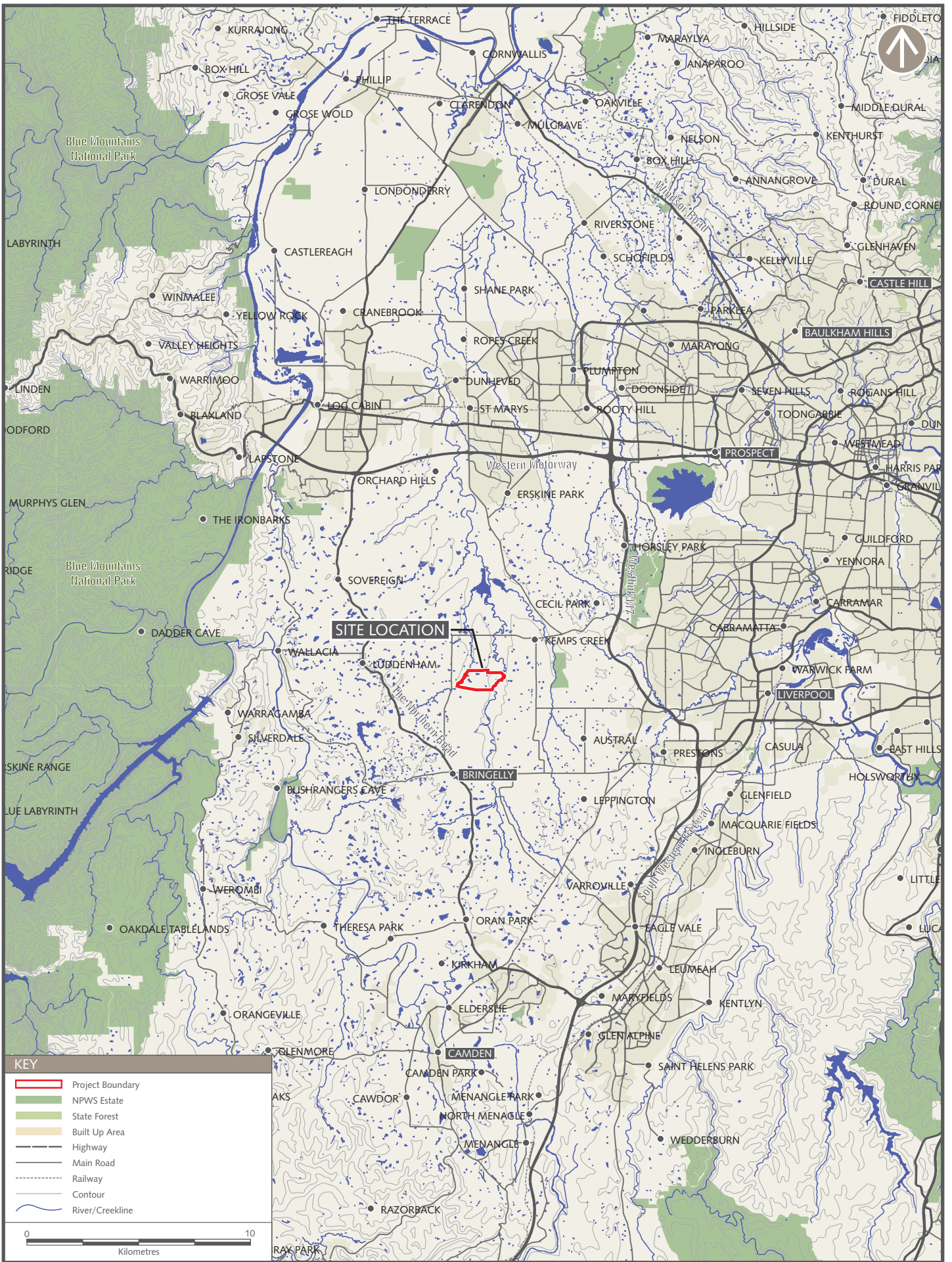
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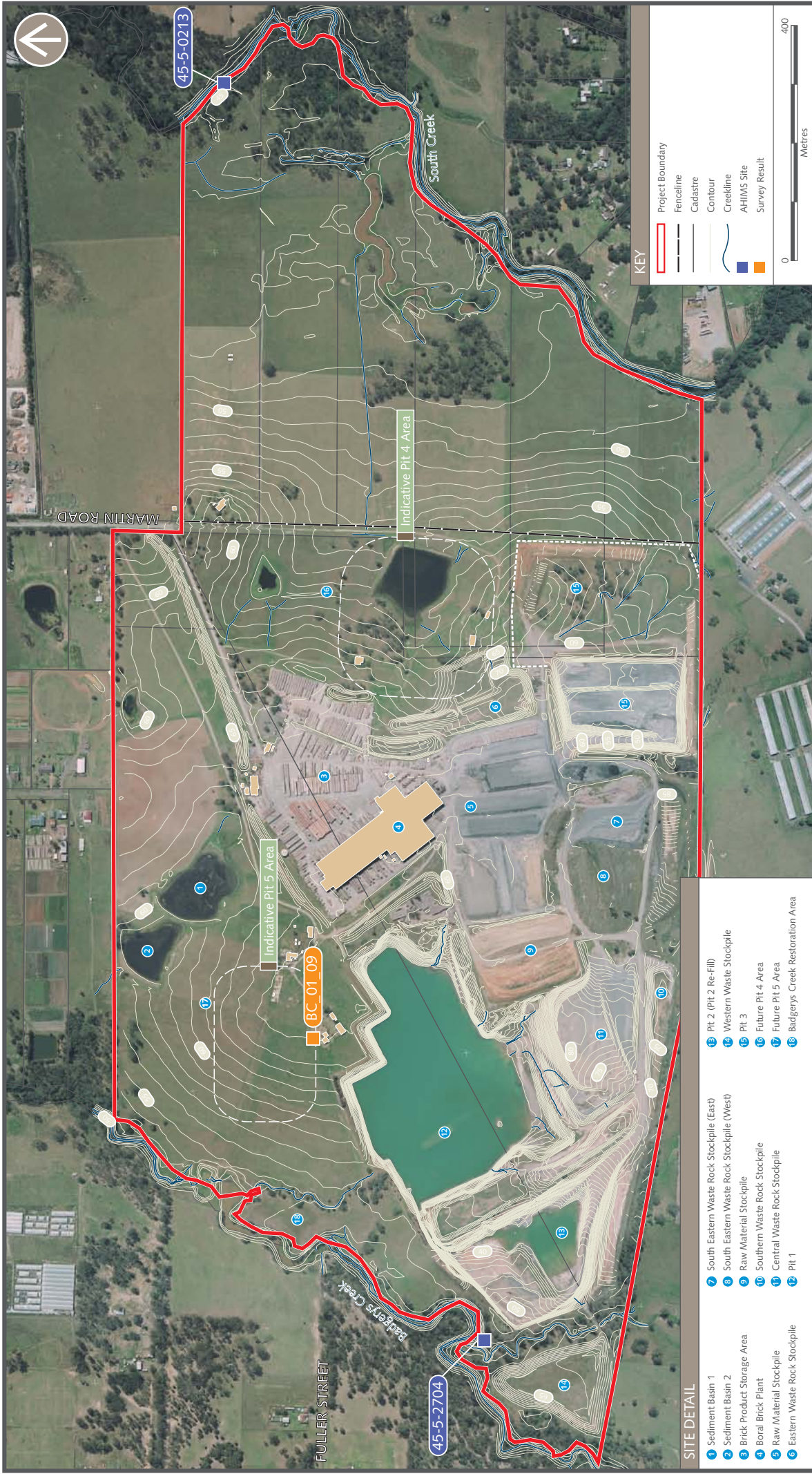
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Figures



REGIONAL CONTEXT
Heritage Report
Boral Badgers Creek

Figure 1



PROPOSED WORKS AND SITE LOCATIONS
Heritage Report
Boral Badgerys Creek

Figure 2

Plates

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Plate P1: Isolated find BC-01-09



Plate P2: View south of BC-01-09



Plate P3: Tree with scar in Pit 3 Extended

Appendix A

AHIMS Search Results

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Your reference : [Unknown]
Our reference : AHIMS #27861

AECOM - Pymble
PO Box 726
Pymble NSW 2073

27 OCT 2009

Thursday, 22 October 2009

Attention: Geordie Oakes

Dear Sir or Madam:

Re: AHIMS Search for the following area at E:291111-294500;N:6246000-6248000

I am writing in response to your recent inquiry in respect to Aboriginal objects and Aboriginal places registered with the NSW Department of Environment, Climate Change and Water (DECCW) at the above location:

A search of the DECCW Aboriginal Heritage Information Management System (AHIMS) has shown that 16 Aboriginal objects and Aboriginal places are recorded in or near the above location. Please refer to the attached report for details.

The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.

The following qualifications apply to an AHIMS search:

- AHIMS only includes information on Aboriginal objects and Aboriginal places that have been provided to DECCW;
- Large areas of New South Wales have not been the subject of systematic survey or recording of Aboriginal history. These areas may contain Aboriginal objects and other heritage values which are not recorded on AHIMS;
- Recordings are provided from a variety of sources and may be variable in their accuracy. When an AHIMS search identifies Aboriginal objects in or near the area it is recommended that the exact location of the Aboriginal object be determined by re-location on the ground; and
- The criteria used to search AHIMS are derived from the information provided by the client and DECCW assumes that this information is accurate.

All Aboriginal places and Aboriginal objects are protected under the *National Parks and Wildlife Act 1974* (NPW Act) and it is an offence to destroy, damage or deface them without the prior consent of the DECCW Director-General. An Aboriginal object is considered to be known if:

- It is registered on AHIMS;
- It is known to the Aboriginal community; or
- It is located during an investigation of the area conducted for a development application.

If you considering undertaking a development activity in the area subject to the AHIMS search, DECCW would recommend that an Aboriginal Heritage Assessment be undertaken. You should consult with the relevant consent authority to determine the necessary assessment to accompany your development application.

Yours Sincerely

A handwritten signature in black ink, appearing to read 'S Freeburn', with a long horizontal flourish extending to the right.

Freeburn, Sharlene
Administrator
Aboriginal Heritage Information Unit
Information Systems and Assessment Section
Aboriginal Heritage Operation Branch
Culture and Heritage Division
Department and Environment, Climate Change and Water (DECCW)
Phone: (02) 9585 6471
Fax: (02) 9585 6094



List of Sites (List - Short)

Grid Reference Type = AGD (Australian Geodetic Datum), Zone = 56, Easting From = 291111, Easting to = 294500, Northing From = 6246000, Northing to = 6248000, Requestor like 551%, Service ID = 27861, Feature Search Type = AHIMS Features

Site ID	Site Name	Datum	Zone	Eastng	Northing	Context	Site Features	Site Types	Recording	Reports	State Arch. Box No
								(recorded prior to June 2001	(Primary)	(Catalogue Number)	(for office use only)
<u>45-5-0213</u>	<u>South Creek;</u>	AGD	56	293700	6247000	Open Site	AFT :-	Open Camp Site	Haglund		NRS/17798/1/388
	Status Valid										
	Primary Contact								Permit(s)		
<u>45-5-0517</u>	<u>Badgery's Creek / Longleys Road Badgery's Creek</u>	AGD	56	291940	6247650	Open Site	AFT :-	Open Camp Site	Lance	1018	NRS/17798/1/372
	Status Valid										
	Primary Contact								Permit(s)		
<u>45-5-2630</u>	<u>B 40</u>	AGD	56	291900	6247660	Open Site	TRE :-	None	Permit(s)		NRS/17798/1/387
	Status Valid								Navin Officer Heritage Consultants Pty Ltd		
	Primary Contact								Permit(s)		
<u>45-5-2660</u>	<u>B 64</u>	AGD	56	291300	6246000	Open Site	AFT :-	None	Permit(s)		NRS/17798/1/387
	Status Valid								Navin Officer Heritage Consultants Pty Ltd		
	Primary Contact								Permit(s)		
<u>45-5-2675</u>	<u>B 99</u>	AGD	56	291950	6246080	Open Site	AFT :-	None	Permit(s)		NRS/17798/1/387
	Status Valid								Navin Officer Heritage Consultants Pty Ltd		
	Primary Contact								Permit(s)		
<u>45-5-2682</u>	<u>B 75</u>	AGD	56	291640	6247700	Open Site	AFT :-	None	Permit(s)		NRS/17798/1/387
	Status Valid								Navin Officer Heritage Consultants Pty Ltd		
	Primary Contact								Permit(s)		
<u>45-5-2683</u>	<u>B 76</u>	AGD	56	291860	6247720	Open Site	AFT :-	None	Permit(s)		NRS/17798/1/387
	Status Valid								Navin Officer Heritage Consultants Pty Ltd		
	Primary Contact								Permit(s)		
<u>45-5-2685</u>	<u>B 74</u>	AGD	56	291520	6247320	Open Site	AFT :-	None	Permit(s)		NRS/17798/1/387
	Status Valid								Navin Officer Heritage Consultants Pty Ltd		
	Primary Contact								Permit(s)		



List of Sites (List - Short)

Grid Reference Type = AGD (Australian Geodetic Datum), Zone = 56, Easting From = 281114, Easting to = 284500, Northing From = 6246000, Northing to = 6248000, Requestor like 551%, Service ID = 27861, Feature Search Type = AHIMS Features

Site ID	Site Name	Datum	Zone	Easting	Northing	Context	Site Features	Site Types	Recording	Reports	State Arch. Box No
							(recorded prior to June 2001)	(Primary)	(Catalogue Number)	(for office use only)	
<u>45-5-2690</u>	<u>B59</u>	AGD	56	291550	6247420	Open Site	AFT :-	None	Navin Officer Heritage Consultants Pty Ltd		NRS/17798/1387
		Status Valid							Permit(s)		
		Primary Contact							Navin Officer Heritage Consultants Pty Ltd		NRS/17798/1388
<u>45-5-2704</u>	<u>B13</u>	AGD	56	291370	6246850	Open Site	AFT :-	None			
		Status Valid							Permit(s)		
		Primary Contact							Navin Officer Heritage Consultants Pty Ltd		NRS/17798/1388
<u>45-5-2766</u>	<u>B108</u>	AGD	56	292300	6246010	Open Site	AFT :-	None			
		Status Valid							Permit(s)		
		Primary Contact							Navin Officer Heritage Consultants Pty Ltd		NRS/17798/1388
<u>45-5-2767</u>	<u>B53</u>	AGD	56	292070	6247620	Open Site	AFT :-	None			
		Status Valid							Permit(s)		
		Primary Contact							Navin Officer Heritage Consultants Pty Ltd		NRS/17798/1388
<u>45-5-2769</u>	<u>B-14</u>	AGD	56	292070	6247700	Open Site	AFT :-	None			
		Status Valid							Permit(s)		
		Primary Contact							Navin Officer Heritage Consultants Pty Ltd		NRS/17798/1388
<u>45-5-2780</u>	<u>B65</u>	AGD	56	291310	6246110	Open Site	AFT :-	None			
		Status Valid							Permit(s)		
		Primary Contact							Navin Officer Heritage Consultants Pty Ltd		NRS/17798/1388
<u>45-5-2786</u>	<u>B 109</u>	AGD	56	291360	6246530	Open Site	AFT :-	None			
		Status Valid							Permit(s)		
		Primary Contact							Navin Officer Heritage Consultants Pty Ltd		NRS/17798/1388
<u>45-5-2787</u>	<u>B 110</u>	AGD	56	291250	6246230	Open Site	AFT :-	None			
		Status Valid							Permit(s)		
		Primary Contact							Navin Officer Heritage Consultants Pty Ltd		NRS/17798/1388
		Primary Contact							Permit(s)		

Site card says artefact scatter not rock art

Appendix B

Newspaper Advertisement

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Reference No: 2163433V1

For Publ:n:FPP FPP

Daily Dates:1x 9oct09

Weekly Dates:

Daily First: 9oct09

Daily Next: 9oct09

Week First:

Week Next:

Adtype: SD

Classification: CPUBNOT

Size: 8.0 Cms X 2 Cols Lines: 21

Price:\$343.20 Weekly:\$ 0.00 Total:\$343.75

Aboriginal Stakeholder Consultation

Badgerys Creek Quarry

AECOM is seeking to identify Aboriginal persons or organisations who wish to be consulted in relation to a proposed archaeology assessment related to continuation and extension of existing quarrying areas at Badgerys Creek, approx.

2 km south of Elizabeth Drive. Interested

Aboriginal persons or stakeholders are requested to register their interest in writing to:

Bradley Cole

AECOM

PO Box 726, PYMBLE NSW 2073

T: 02 8484 8999 F: 02 8484 8989

E: bradly.cole@aecom.com

Expressions of interest should include current contact details. The closing date for registration is COB 23rd October 2009.

**Registration does not guarantee employment during fieldwork.*

Appendix C

Stakeholder Correspondence

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Aboriginal Consultation Process

Project: S3024807: Badgery's Creek Quarry Continuation and Extension

Advisory Requests Sent (Assessment)

Contact	Date Sent	Comment
Local Newspaper Ad	06-Oct-09	Add placed in Penrith Press to run 09 October 2009.
DECC	12-Oct-09	
LALC	N/A	
Registrar Aboriginal Owners	12-Oct-09	
Native Title Services	12-Oct-09	
Local Council	12-Oct-09	

Letters with Methodology sent to groups identified by agencies

Organisation	Contact person	Date	Comments
Gandagarra LALC	Mark Johnson	27-Oct-09	Sent letter and methodology seeking their interest.
Darug Tribal Aboriginal Corporation	Sandra Lee	27-Oct-09	Sent letter and methodology seeking their interest.
Darug Land Observations	Gordon Workman	27-Oct-09	Sent letter and methodology seeking their interest.
Darug Custodian Aboriginal Corporation	Leanne Watson	27-Oct-09	Sent letter and methodology seeking their interest.
Darug Aboriginal Cultural Heritage Assessments	Gordon Morton	27-Oct-09	Sent letter and methodology seeking their interest.
Yarrawalk	Scott Franks		

Registrations of Interest

Organisation	Contact person	Date	Comments
Darug Aboriginal Cultural Heritage Assessments	Celestine Everingham	29-Oct-09	Registered Interest. Tim will attend fieldwork.
Darug Land Observations	Gordon Workman	12-Nov-09	Registered Interest.
Yarrawalk	Scott Franks	12-Nov-09	Registered Interest.
DCAC	Leanne Watson	13-Nov-09	Registered Interest.
Darug Tribal Aboriginal Corporation	Sandra Lee	12-Nov-09	Registered Interest.
Gandagarra LALC	Kiera Edwards	13-Nov-09	Registered Interest.

Badgerys Creek Field Work Confirmation & Communication

Organisation	Contact person	Date	Comments
Darug Aboriginal Cultural Heritage Assessments	Celestine Everingham	23-Nov-09	Letter confirming fieldwork sent.
Darug Land Observations	Gordon Workman	23-Nov-09	Letter confirming fieldwork sent.
Yarrawalk	Scott Franks	23-Nov-09	Letter confirming fieldwork sent.
DCAC	Leanne Watson	23-Nov-09	Letter confirming fieldwork sent.
Darug Tribal Aboriginal Corporation	Sandra Lee	23-Nov-09	Letter confirming fieldwork sent.
Gandagarra LALC	Kiera Edwards	23-Nov-09	Letter confirming fieldwork sent.

Fieldwork Conducted 26th November 2009

Organisation	Contact person	Date Rec'd	Comments

Darug Aboriginal Cultural Heritage Assessments	Tim Owen		26-Nov-09	Attended Fieldwork
Darug Land Observations Yarrawalk	Gordon Workman		26-Nov-09	Attended Fieldwork
DCAC	Scott Franks		26-Nov-09	Attended Fieldwork
Darug Tribal Aboriginal Corporation	Justine Copeland		26-Nov-09	Attended Fieldwork
Gandangarra LALC	John Riley		26-Nov-09	Attended Fieldwork
	Ian Edwards		26-Nov-09	Attended Fieldwork
Draft Report Sent to Stakeholders				
Organisation	Contact person	Date Sent	Comments	
Gandangarra LALC	Mark Johnson	20-Apr-10	No comments received.	
Darug Tribal Aboriginal Corporation	Sandra Lee	20-Apr-10	No comments received.	
Darug Land Observations	Gordon Workman	20-Apr-10	Comments received on 28th April 2010. Supports findings. However wants monitoring.	
Darug Custodian Aboriginal Corporation	Leanne Watson			
Darug Aboriginal Cultural Heritage Assessments	Gordon Morton	20-Apr-10	Comments received on 30th April 2010. Supports findings. However wants management plan for tree with a scar.	
Yarrawalk	Scott Franks	20-Apr-10	No comments received.	
		20-Apr-10	No comments received.	

AECOM
PO Box 726 PYMBLE NSW 2073
T+61 2 8484 8999 F+61 2 8484 8989 www.aecom.com

Liverpool City Council
Cultural Heritage
Locked Bag 7064
Liverpool BC
NSW 1871

14 December 2009

Dear Sir/Madam,

Re: Relevant Aboriginal Stakeholder Information Request: Badgery's Creek Quarry, Badgery's Creek, NSW

As required by DECC's *Interim Community Consultation Requirements for Applicants (2004)* guidelines, AECOM is seeking to obtain information from you regarding relevant Aboriginal stakeholders within the Liverpool region of NSW. The development includes the continuation and expansion of quarrying activities at Badgery's Creek Quarry approximately 2km south of Elizabeth Drive. AECOM is seeking to identify Aboriginal Stakeholders relevant for this area.

Please would you provide information to Bradley Cole (T: 02 8484 8999, F; 02 8484 8989, E: Bradley.cole@aecom.com) on the relevant Aboriginal stakeholders for this project as soon as possible.

Yours faithfully,

AECOM Australia Pty Ltd

Bradley Cole
Environmental Scientist

Enclosures:

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Our Ref: DOC09/49229

Miranda Firman 9995 6836

21 OCT 2009

Attn: Bradley Cole
AECOM
PO Box 726
PYMBLE NSW 2073

Dear Mr Cole,

**RE: DECC INTERIM COMMUNITY CONSULTATION REQUIREMENTS FOR APPLICANTS:
Badgery's Creek Quarry, Badgery's Creek, Liverpool**

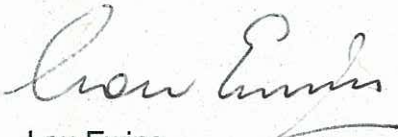
I refer to your letter dated 12/10/2009 to the Department of Environment, Climate Change and Water (DECCW) regarding the above matter.

Please find attached the list of Aboriginal stakeholders known to DECCW that may have an interest in the project.

Further, receipt of this information does not remove the requirement of a proponent/consultant to advertise in local print media and contact other bodies seeking interested Aboriginal parties, in accordance with the Interim Requirements.

If you wish to discuss any of the above matters further please contact Miranda Firman, Aboriginal Heritage Planning Officer, on (02) 9995 6836.

Yours sincerely,

 19/10/09

Lou Ewins
Manager
Planning and Aboriginal Heritage
Environmental Protection & Regulation



Organisation Name	Contact Person	Contact Details
Gandangara Local Aboriginal Land Council	Mark (Jack) Johnson	Address: PO Box 1038 Liverpool NSW 2170 Phone: (02) 96025280
Darug Custodial Aboriginal Corporation	Leanne Watson	Address: PO Box 81, Windsor NSW 2756 Phone: (02) 45775181
Darug Tribal Aboriginal Corporation	Sandra Lee	Address: PO Box 441, Blacktown NSW 2148 Phone: (02) 96224081
Darug Aboriginal Cultural Heritage Assessments	Gordon Morton	Address: 90 Hermitage Rd, Kurrajong Hills NSW 2758 Phone: (02) 45677421
Darug Land Observations	Gordon Workman	Address: PO Box 571, Plumpton, NSW 2761 Phone: 0415663763

AECOM
PO Box 726 PYMBLE NSW 2073
T+61 2 8484 8999 F+61 2 8484 8989 www.aecom.com

Lou Ewins
Manager, Planning & Aboriginal Heritage Section
Environmental Protection and Regulation Group – Metropolitan Branch
Department of Environment, Climate Change and Water
PO Box 668
Parramatta NSW 2124

14 December 2009

Dear Lou,

Re: Relevant Aboriginal Stakeholder Information Request: Badgery's Creek Quarry, Badgery's Creek, NSW

As required by DECC's *Interim Community Consultation Requirements for Applicants (2004)* guidelines, AECOM is seeking to obtain information from you regarding relevant Aboriginal stakeholders within Liverpool region of NSW. The development includes the continuation and expansion of quarrying activities at Badgery's Creek Quarry approximately 2km south of Elizabeth Drive. AECOM is seeking to identify Aboriginal Stakeholders relevant for this area.

Please would you provide information to Bradley Cole (T: 02 8484 8999, F; 02 8484 8989, E: Bradley.cole@aecom.com) on the relevant Aboriginal stakeholders for this project as soon as possible.

Kind Regards,

AECOM Australia Pty Ltd

Bradley Cole
Environmental Scientist

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**DARUG CUSTODIAN ABORIGINAL
CORPORATION**

PO BOX 81 WINDSOR 2756

PH: 45775181 FAX: 45775098 MOB: 0415770163

ABN: 81935722930

mulgokiw@aol.com

12-11-09.

Attention: Geordie Oaks.

SUBJECT: Aboriginal Heritage Impact Assessment- Badgerys Creek.

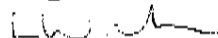
Dear Geordie,

The Darug Custodian Aboriginal Corporation would like to register their interest in the Badgerys Creek area as this is within Darug Boundaries.

We have received and read the methodology for Badgerys Creek Quarry site and support the proposed project.

Please contact us with any further enquiries on the above numbers.

Regards



Leanne Watson

AECOM
PO Box 726 PYMBLE NSW 2073
T+61 2 8484 8999 F+61 2 8484 8989 www.aecom.com

Facsimile

Deliver to:

Name: _____
Firm: Native Title Services
Fax number: 9310 4177
Phone number: _____
Project number: S3020407

From:

Name: Bradley Cole
Direct line: +61 2 8484 8999
Date transmitted: 14 December 2009
Pages (including this one): 1

Subject: Relevant Aboriginal Stakeholder Information Request: Badgerys Creek Quarry, Badgery's Creek, NSW

Dear Sir/Madam,

As required by DECC's *Interim Community Consultation Requirements for Applicants (2004)* guidelines, AECOM is seeking to obtain information from you regarding relevant Aboriginal stakeholders within the Liverpool region of NSW. The development includes the continuation and expansion of quarrying activities at Badgery's Creek Quarry approximately 2km south of Elizabeth Drive. AECOM is seeking to identify Aboriginal Stakeholders relevant for this area.

Please would you provide information to Bradley Cole (T: 02 8484 8999, F: 02 8484 8989, E: Bradley.cole@aecom.com) on the relevant Aboriginal stakeholders for this project as soon as possible.

Yours faithfully,

AECOM Australia Pty Ltd

Bradley Cole
Environmental Scientist

AECOM
PO Box 726 PYMBLE NSW 2073
T+61 2 8484 8999 F+61 2 8484 8989 www.aecom.com

Office of the Registrar of Aboriginal Owners
ALRA Tranby Aboriginal College
11-13 Mansfield St
Glebe NSW 2037

14 December 2009

Dear Sir/Madam,

Re: Relevant Aboriginal Stakeholder Information Request: Badgery's Creek Quarry, Badgery's Creek, NSW

As required by DECC's *Interim Community Consultation Requirements for Applicants* (2004) guidelines, AECOM is seeking to obtain information from you regarding relevant Aboriginal stakeholders within the Liverpool region of NSW. The development includes the continuation and expansion of quarrying activities at Badgery's Creek Quarry approximately 2km south of Elizabeth Drive. AECOM is seeking to identify Aboriginal Stakeholders relevant for this area.

Please would you provide information to Bradley Cole (T: 02 8484 8999, F; 02 8484 8989, E: Bradley.cole@aecom.com) on the relevant Aboriginal stakeholders for this project as soon as possible.

Yours faithfully,

AECOM Australia Pty Ltd

Bradley Cole
Environmental Scientist

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Appendix D

Stakeholder Responses to Draft Report

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DARUG - LAND - OBSERVATIONS



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



28-4-2010

Mr. Neville Baker and Mr. Geordie Oakes
AECOM Australia Pty Ltd
Senior Project Archaeologist

Re: Boral Bricks Aboriginal Heritage Impact Assessment

D.L.O has no concerns with these Conclusion

Conclusion 4

D.L.O to have a rep to monitor all top soil removal on this site to preserve all artefact.

Conclusion 5

If any human remains are located in, on, or under the land during construction, the responsible party must:

- Contact the local police;
- Not disturb or excavate the remains;
- Immediately cease all work at the particular location;
- Notify the DECCW office as soon as practicable and provide any available details of the remains and their location; and
- Not recommence any work at the particular location until authorized in writing by the DECCW.

Yours faithfully

Uncle
Gordon Workman
Darug Elder

Sites Officer

DARUG CUSTODIAN ABORIGINAL
CORPORATION

PO BOX 81 WINDSOR 2756

PH: 45775181 FAX: 45775098 MOB: 0415770163

ABN: 81935722930

mulgokiwi@aol.com

30th April 2010.

ATTENTION: Geordie Oakes.

SUBJECT: Boral Bricks Heritage Impact Assessment.

Dear Geordie,

The Darug Custodian Aboriginal Corporation have received and read the draft report prepared by AECOM for the Boral Bricks at Badgerys Creek.

Our group supports the findings and recommendations set out within this report, we recommend that a management plan be put in place for the scarred tree to ensure that it will not be destroyed by any future works.

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

Regards

Leanne Watson

