

APPENDIX 13

Bango Wind Farm Archaeological and Cultural Heritage Assessment

New South Wales Archaeology Pty Ltd

UPDATES TO THE ENVIRONMENTAL IMPACT STATEMENT

During the preparation of this Environmental Impact Statement, a number of changes occurred.

Please consider these changes while reviewing this Appendix.

- The Assessment Type of the Bango Wind Farm has transitioned from Part 3A, after its repeal, and is now being assessed as a State Significant Development under Part 4 of the EP&A Act. Any reference to a Part 3A assessment in attached technical assessments may be disregarded, and considered as State Significant Development;
- Rugby Wind Farm, a wind farm that was proposed to the north of the Project has been withdrawn. Where references are made to cumulative impacts with the Rugby Wind Farm, please disregard these;
- Slight changes have occurred to the Rye Park Wind Farm layout, a wind farm under development to the east of the Project. The changes made to the layout are not significant and therefore sit within the cumulative impact assessment undertaken for this EIS. The revised layout has been considered in the Environmental Noise Assessment and Landscape Visual Impact Assessment. Where further references are made to the Rye Park Wind Farm layout, these will be incorporated into future documentation where required;
- Four turbines at the south east extent of the Project, situated in the Mt Buffalo cluster have been removed through consultation with landowners. This change has been highlighted in maps and a review of all technical assessments has deemed that the removal of the four turbines has resulted in a reduced. This change will be incorporated into future documentation. These wind turbines are identified as “removed wind turbines” in the Project maps in Volume 2; and
- A number of changes were made to the residence information for the Project, as a result of construction of houses and change in occupancy status of existing buildings. These changes have been incorporated into the EIS.

**Bango Wind Farm
Aboriginal Cultural Heritage Assessment Report**

A report to Wind Prospect CWP Pty Ltd

May 2013

Proponent: Bango Wind Farm Pty Ltd
Local Government Areas: Yass Valley and Boorowa



Dr Julie Dibden
New South Wales Archaeology Pty Limited
PO Box 2135 Central Tilba NSW 2546 Ph 02 44737947 Fax 02 61002701 Mob 0427074901
www.nswarchaeology.com.au

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SUMMARY

New South Wales Archaeology Pty Ltd has been commissioned by Wind Prospect CWP Pty Ltd to undertake an Aboriginal cultural and archaeological heritage assessment in relation to the proposed Bango Wind Farm. This report documents the proposed impact areas, the assessment process, findings, interpretation of results and recommendations.

The assessment has been conducted in accordance with the *Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (NSW DEC 2005), the NSW Office of Environment and Heritage's *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011) and the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (NSW DECCW 2010a).

A process of Aboriginal community consultation has been undertaken in accordance with the *Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (NSW DEC 2005) and the NSW OEH's *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW DECCW 2010b).

The study has sought to identify and record Aboriginal cultural areas, objects or places, assess the archaeological potential of the subject areas, and to formulate management recommendations based on the results of the community consultation, background research, field survey and significance assessment.

The Bango Wind Farm is defined as a State Significant Development. This Aboriginal Cultural Heritage Assessment Report (ACHAR) has been prepared to form a component of an Environmental Impact Statement (EIS) which addresses the NSW Planning & Infrastructure, Director General's, environmental assessment requirements (DGRs).

The proposed impacts are discrete in nature and will occupy a relatively small footprint within the overall area. Accordingly impacts to the archaeological resource across the landscape can be considered to be partial in nature, rather than comprehensive.

A total of 93.4 kilometres of linear impact areas has been inspected during a pedestrian survey. Fourteen Aboriginal object locales were recorded during the field survey. Undetected or subsurface stone artefacts are predicted to be present in extremely low density. Based on the relevant predictive model of site distribution and the results of the field survey, the subject area is assessed to be of generally low cultural and archaeological potential and significance. This assessment forms the basis for the formulation of recommendations relating to the proposal.

Given the small development footprint, the nature and density of the artefact locales recorded and the low cultural and scientific significance rating they have been accorded, unmitigated impacts is considered appropriate.

Three European heritage items have been recorded, all of which are outside the development area and would not be impacted by the proposal (see Appendix 3).

The following recommendations are provided in summary form (see Section 9):

- The proposal area does not warrant further archaeological investigation such as subsurface test excavation. The Effective Survey Coverage achieved during the field survey is considered to have been adequate for the purposes of determining the archaeological status of the proposal area.
- The recorded Aboriginal object locales and the predicted very low density subsurface artefact distribution in the proposal area does not surpass archaeological significance thresholds which would act to preclude the proposed impacts.
- The recorded Aboriginal object locales are assessed to be representative of an extremely low density distribution of stone artefacts. The archaeological and cultural heritage significance of these locales is assessed to be low. Accordingly unmitigated impact is considered to be appropriate.
- There are no identified archaeological and cultural heritage constraints relating to the proposal.

Acknowledgments

Julie Dibden, NSW Archaeology Pty Ltd, acknowledges the participation and assistance in this project provided by:

Adrian Maddocks and Naiomi Finlayson, Wind Prospect CWP Pty Ltd

Tyrone Bell, Buru Ngunawal Aboriginal Corporation and Graeme Dobson, Ngunawal Heritage Aboriginal Corporation, for assistance with field work

The many property owners who assisted in various ways with information and access

Archaeological evidence confirms that Aboriginal people have had a long and continuous association with the Yass region for thousands of years. We would in particular like to acknowledge and pay our respects to the traditional owners of the country which is encompassed by the proposal.

1. INTRODUCTION

1.1 Introduction

Wind Prospect CWP Pty Ltd is a joint venture between Wind Prospect Group (WP) and Continental Wind Partners, both international wind farm development companies. The joint venture combines the strengths of the two groups that undertake all aspects of wind energy development, including design, construction and operation of wind farms across 11 countries. Wind Prospect has been involved in the commissioning of over 50 wind farms and involved in the delivery of 2,500 MW of wind energy.

NSW Archaeology Pty Ltd has been commissioned by Wind Prospect CWP Pty Ltd to conduct an Aboriginal and European heritage assessment in relation to the proposed Bango Wind Farm between Boorowa and Rye Park, north of Yass.

The project site is located in the Yass Valley, Boorowa, and Upper Lachlan Shire Councils. The area in which impacts are proposed is shown on Figures 1 and 2. The Bango Wind Farm would involve the construction and operation of upward of 100 wind turbine generators. The turbines would be placed along a series of elevated ridgelines on agricultural properties.

The wind farm would produce approximately 200 Megawatts (MW) of clean renewable energy. This is equivalent to the needs of 101,184 households and the reduction of some 588,672 tonnes per annum of carbon dioxide emissions.

The project would be assessed under Part 3A of the EP&A Act (MP11_0039). It would be classed as State Significant Development (SSD) under State Environmental Planning Policy (State and Regional Development) 2011.

This report addresses the Director-General's Requirements (DGRs) relating to archaeology and cultural heritage for the preparation of the Environmental Assessment for the project. The DGRs require:

- Sufficient information to demonstrate the likely impacts of the project on Aboriginal heritage values/items (archaeological and cultural) and outline proposed mitigation measures (including consideration of the effectiveness and reliability of the measures);
- It must demonstrate effective consultation with Aboriginal communities in determining and assessing impacts, developing options and selecting options and mitigation measures (including the final proposed measures); *and*
- Provide sufficient information to demonstrate the likely impact of the project on historic heritage values (including heritage vistas) and, where impacts to State or local historic heritage items are proposed, a statement of heritage significance must be included.

The proposal is comprised of the installation and construction, operation and decommissioning of the following infrastructure:

- Upward of 100 wind turbine generators (wtg's);

- Electrical connections between wind turbines using a combination of underground cabling and overhead power lines;
- Underground communications cabling;
- Substation and transmission connections linking the wind turbines to an existing transmission system;
- Temporary construction facilities, site compounds, storage areas and batching plants;
- Access roads for installation and maintenance of wind turbines; *and*
- Onsite control rooms and equipment storage facilities.

The content and format of this report is set out in accordance with the NSW OEH (2011) *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* document. The report aims to document:

- The Aboriginal objects and declared Aboriginal places (as relevant) located within the area of the proposed activity;
- The cultural heritage values, including the significance of the Aboriginal objects and declared Aboriginal places that exist across the whole area that will be affected by the proposed activity, and the significance of these values for the Aboriginal people who have a cultural association with the land;
- How the requirements for consultation with Aboriginal people have been met (as specified in clause 80C of the NPW Regulation);
- The views of those Aboriginal people regarding the likely impact of the proposed activity on their cultural heritage (if any submissions have been received as a part of the consultation requirements, these are included and our response outlined);
- The actual or likely harm posed to the Aboriginal objects or declared Aboriginal places from the proposed activity, with reference to the cultural heritage values identified;
- Any practical measures that may be taken to protect and conserve those Aboriginal objects or declared Aboriginal places; *and*
- Any practical measures that may be taken to avoid or mitigate any actual or likely harm, alternatives to harm, or, if this is not possible, to manage (minimise) harm.

The cultural heritage assessment has been managed by Dr Julie Dibden, NSW Archaeology Pty Ltd. Julie has 17 years experience working in archaeological and heritage management. The field work component has been conducted by Julie Dibden and Andrew Pearce, NSW Archaeology Pty Ltd, and Tyrone Bell, Buru Ngunawal Aboriginal Corporation, and Graeme Dobson, Ngunawal Heritage Aboriginal Corporation.

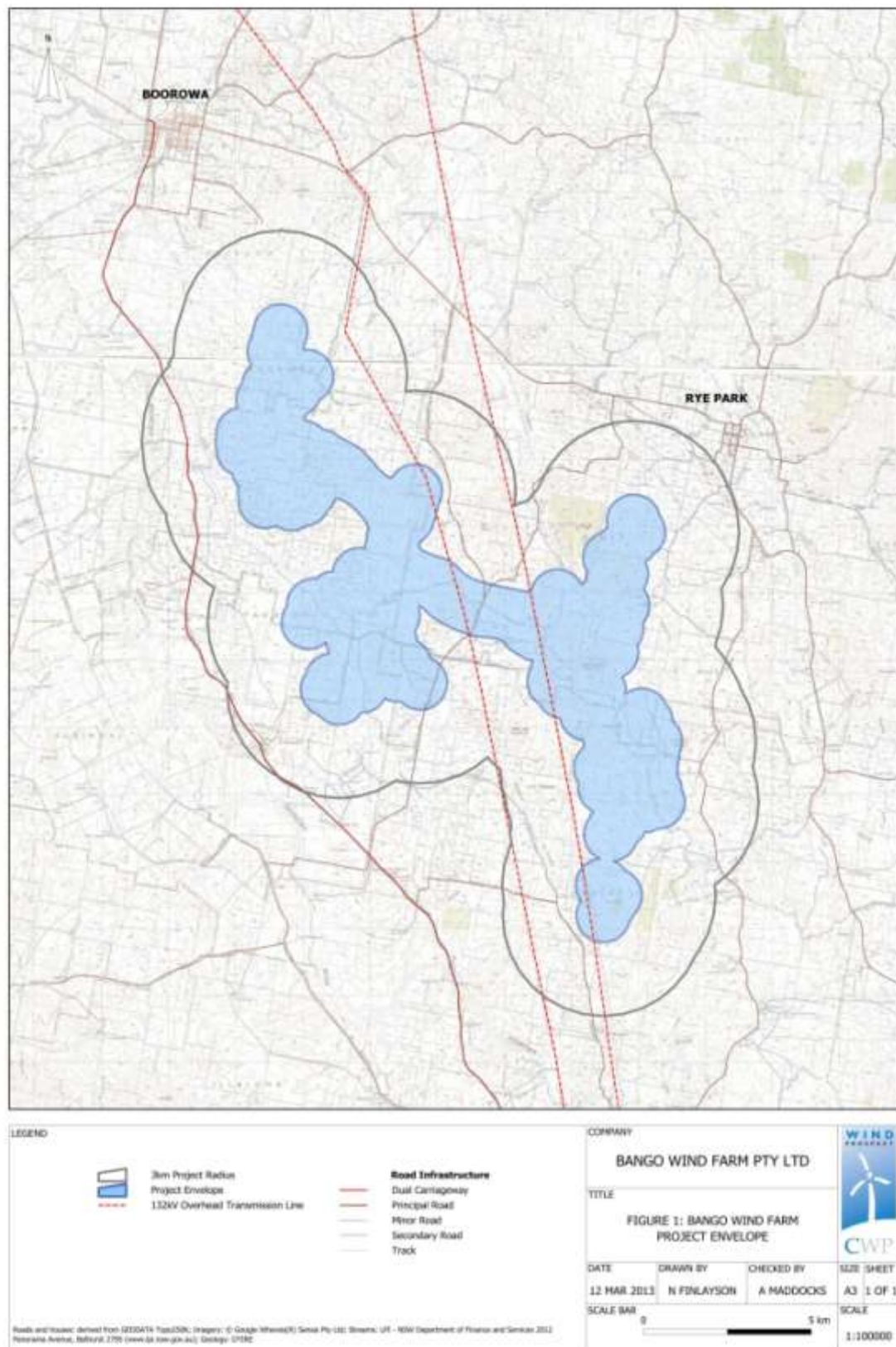


Figure 1 The location of the proposed Wind Farm (map supplied by the proponent).

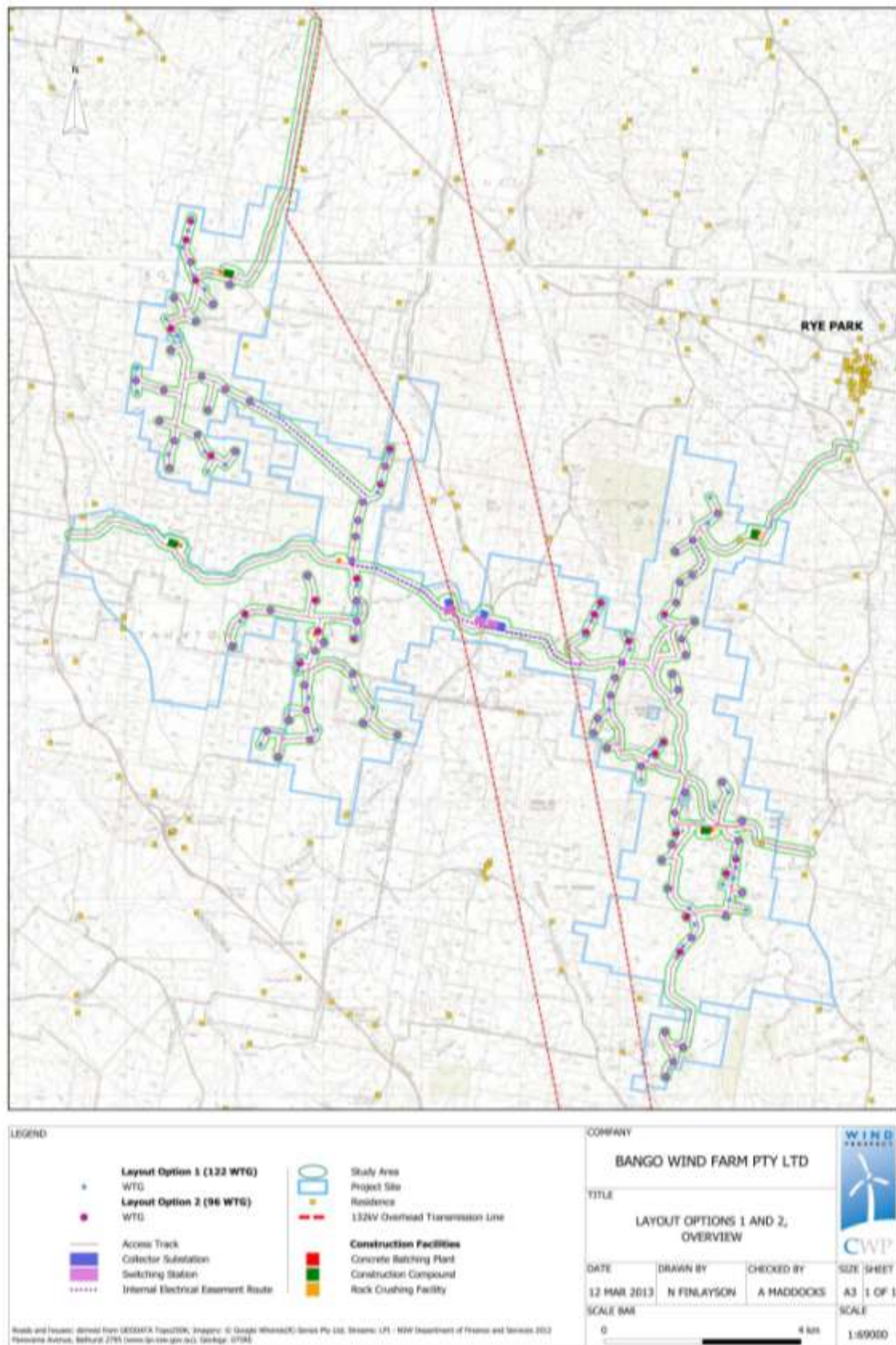


Figure 2 Layout of the proposed Bango Wind Farm (supplied by proponent).

2. DESCRIPTION OF THE AREA – BACKGROUND INFORMATION

In this section, background and relevant contextual information is compiled, analysed and synthesised. The purpose of presenting this material is to gain an initial understanding of the cultural landscape. The following topics are addressed (*cf.* OEH 2011: 5):

- The physical setting or landscape;
- History of peoples living on that land; *and*
- Material evidence of Aboriginal land use.

2.1 The Physical Setting or Landscape

Aboriginal people have occupied NSW for more than 42,000 years (Bowler *et al.* 2003); evidence and cultural meanings relating to occupation are present throughout the landscape (OEH 2011: iii).

A consideration of landscape is particularly valuable in archaeological modelling for the purposes of characterising and predicting the nature of Aboriginal occupation across the land. In Aboriginal society, landscape could be both the embodiment of Ancestral Beings and the basis of a social geography, and economic and technological endeavour. The various features and elements of the landscape are/were physical places that are known and understood within the context of social and cultural practice.

Given that the natural resources that Aboriginal people harvested and utilised were not evenly distributed across landscapes, Aboriginal occupation and the archaeological manifestations of that occupation will not be uniform across space. Therefore, examination of the environmental context is valuable for predicting the type and nature of archaeological sites which might be expected to occur. Factors which typically inform the archaeological potential of a landform include the presence or absence of water, animal and plant foods, stone and other resources, the nature of the terrain and the cultural meaning associated with a place.

Additionally, geomorphological and humanly activated processes need to be defined as these will influence the degree to which archaeological sites may be visible and/or conserved. Land which is heavily grassed and geomorphologically stable will prevent the detection of archaeological material, while places which have suffered disturbance may no longer retain artefacts or stratified deposits. A consideration of such factors is necessary in assessing site significance and formulating mitigation and management recommendations.

The following information describes the geographic, environmental and landscape context of the study area.

The proposed Bango Wind Farm would be located between Boorowa and Rye Park, north of Yass. The area is on the Binnalong and Boorowa 1:50,000 topographic maps. For mapping purposes it is located in Zone 55.

The wind farm site extends in a northwest/southeast alignment measuring approximately 25 by 15 kilometres along a series of gently to moderately undulating ridgelines and hilltops. The site has been selected for its windy ridges, cleared land (for example, see Plate 1) and proximity to a transmission grid. It would involve approximately 15 properties that are currently used for cropping and sheep and cattle grazing.



Plate 1 Typical landscape vista in which the wind farm is proposed.

The proposed wind farm site is situated in the Southern Tablelands of New South Wales and is part of the Eastern Uplands of south-eastern Australia (Jennings and Mabbutt 1977). The site is of moderate elevation (430 to 830 m above sea level, AHD). The Eastern Uplands consists of a wide plateau which extends from the coastal escarpment on the east, to the slopes of its western side. The landscape has low relative relief, lies generally below 600m altitude and possesses slopes generally less than 5° with about 20% of the area containing steeper hills and ranges. The area has a strongly seasonal thermal climate (Jennings and Mabbutt 1977).

The geology across the majority of the site is Ordovician sedimentary sequences which outcrop variously as shale or slate (Branagan and Packham 2000). The landforms in the wind farm area are frequently very rocky.

The dominant soils are red and yellow podzolic lithosols on crests and hillslopes, and red and yellow earths in valleys (Wasson *et al.* 1998). Soils on ridgelines are highly eroded lithosols. Over-grazing and wind is the likely to have been the primary agents of soil removal. Previous erosion has significant ramifications in regard to the stability and integrity, or otherwise, of artefact bearing soil formations, both on crests and within valleys.

Soils within valleys are both alluvial and colluvial and, while undoubtedly disturbed, are of reasonable depth. In areas adjacent to drainage lines, Post Settlement Alluvium is likely to be present above the original land surface.

Land clearance commenced in the region with its occupation by early settlers during the early to mid 1800s. Following clearance, the arable land was utilised for both grazing and various cultivation endeavours including pasture improvement and cropping, while hilly land has been used almost exclusively for grazing. While the majority of the subject area, including the ridges, hill slopes and valleys, is cleared, there are occasional areas comprised of regenerating treed country which is generally young regrowth.

As a result of the long history of grazing and cultivation, the proposal is located within a generally degraded landscape, where vegetation, soils and geomorphological processes have been dramatically altered by clearing, cropping and grazing (Wasson *et al.* 1998). Tree clearance, the grazing of sheep and cultivation in the Southern Tablelands, has resulted in increased runoff and erosion, both on hill slopes and valley floors, much of which commenced very soon after initial European occupation (Wasson *et al.* 1998). These erosional processes have led to significant changes to landscape processes.

Prior to European settlement, the vegetation on hill slopes was open forest dominated by Eucalyptus species; valley floors contained extensive grasslands and swamps (Wasson *et al.* 1998). The botanist and explorer Allan Cunningham visited the region in 1824 and described the vegetation structure and stream character he observed at that time. From descriptions by Cunningham and others, Wasson *et al.* (1998) have concluded that streams in the region with a catchment of greater than 1000 km² possessed a continuous channel, while streams with smaller catchments had less distinct channels often described by early commentators as chains of ponds. The naturalist Lhotsky, in 1834 described the ponds as follows: 'They are commonly round or oval basins of from 20 – 200 feet in diameter or length, excavated or sunk in the superficies of an alluvial soil, which is commonly of a rich kind ...' (cited in Wasson *et al.* 1998). The creeks located within the proposal area would all fall within the smaller catchment category as described above and, accordingly, are likely to have similarly possessed indistinct channels and chains of ponds. Now, however, these features are absent and instead channel incision has frequently created eroded channels. The upper reaches of first order streams are usually highly eroded.

No major rivers flow through the proposal area, however, there are numerous lower order creeks which are likely to have been discontinuous channels or chains of ponds and possibly minor swamp features prior to European impacts. They are likely to have provided Aboriginal land users with a limited water source. The elevated hill landforms (crests and slopes), by and large, are unlikely to have provided any potable water.

The proposal area can be characterised as a woodland resource zone. The ridge crests would have possessed limited biodiversity and a general lack of water. Accordingly, they are likely to have been utilised by Aboriginal people for a limited range of activities which may have included hunting and gathering and travel through country. Such activities are likely to have resulted in very low/negligible levels of artefact discard. The

nature of stone artefacts discarded can be expected to have been correspondingly limited in terms of artefact diversity and complexity.

By comparison, the valleys between the ridge lines and hills may have possessed greater levels of biodiversity given the possible presence of chains of ponds. Such areas are likely to have been utilised more frequently and possibly by greater numbers of individuals at any one time; certainly the valleys are likely to have been the favoured camp locations while people occupied the broader local area. Accordingly, the levels of artefact discard in valleys can be predicted to be correspondingly higher; artefact diversity and complexity is also likely to be greater. Nevertheless, all valley contexts in the proposal area are predicted to have been utilised infrequently and by small groups only. As such, drainage lines and valley contexts are predicted to contain artefacts in low or very low density only.

2.2 History of Peoples Living on the Land

Aboriginal people have occupied Australia for at least 40,000 years and possibly as long as 60,000 (Mulvaney and Kamminga 1999: 2). By 35,000 years before present (BP), all major environmental zones in Australia, including periglacial environments of Tasmania, were occupied (Mulvaney and Kamminga 1999: 114). At the time of early occupation, Australia experienced moderate temperatures. However, between 25,000 and 12,000 years BP (the Last Glacial Maximum), dry and either intensely hot or cold temperatures prevailed over the continent (Mulvaney and Kamminga 1999: 114). At this time, the mean monthly temperatures on land were 6 - 10°C lower than now. In southern Australia, coldness, drought and winds acted to change the vegetation structure from forests to grass and shrublands (Mulvaney and Kamminga 1999: 115-116).

During the Last Glacial Maximum at about 24 - 22,000 years ago, sea levels fell to about 130 metres below present and, accordingly, the continent was correspondingly larger. With the cessation of glacial conditions, temperatures rose with a concomitant rise in sea levels. By c. 6,000 BP, sea levels had more or less stabilised to their current position. With the changes in climate during the Holocene, Aboriginal occupants had to deal not only with reduced landmass, but changing hydrological systems and vegetation; forests again inhabited the grass and shrublands of the Late Glacial Maximum. As Mulvaney and Kamminga (1999: 120) have remarked:

When humans arrived on Sahul's¹ shores and dispersed across the continent, they faced a continual series of environmental challenges that persisted throughout the Pleistocene. The adaptability and endurance in colonising Sahul is one of humankind's inspiring epics.

In the late Pleistocene much of the land in the region was covered in snow, with glaciers in the mountains and the lower plains being treeless. Over time, the Aboriginal people experienced and adapted to steady and considerable changes in conditions associated with gradual climatic warming, including the alteration of vegetation and variation in the distribution of wildlife (Young 2000).

¹ Sahul is the name given to the single Pleistocene era continent which combined Australia with New Guinea and Tasmania.

Human occupation of south-east NSW dates from at least 20,000 years ago as evidenced by dated sites including the Burrill Lake rock shelter (Lampert 1971), Cloggs Cave (Flood 1980) and New Guinea 2 Cave (Ossa *et al.* 1995). The Bulee Brook 2 shelter in the south coast hinterland ranges, excavated by Boot (1994), provides evidence that occupation of this zone had occurred by at least 18,000 years ago. In the south-eastern highlands, excavation of the Birrigai rock-shelter has provided dates of occupation from 21,000±200 years BP (Flood *et al.* 1987: 16). Pleistocene occupation sites are rare, however, and the majority of recorded sites date from the mid to late Holocene. It is nevertheless reasonable to assume that the Yass/Boorowa area was occupied and utilised by Aboriginal people from the late Pleistocene onwards.

As far as possible, an ethnographic and historical review of Aboriginal life in the region will be outlined below. However, our ethnographic understanding of Aboriginal people in this area, and the historical dimension of the colonial encounter has been reconstructed from scant historical records produced during a context of death and dispossession (Swain 1993: 115), and is sketchy and severely limited. Stanner (1977) has described the colonial and post-colonial past as a ‘history of indifference’, and this portrays both the substantive situation which prevailed at that time, and the subsequent lack of regard for this history. For a considerable period of time after Europeans arrived in Australia, no concerted ethnographic investigations were undertaken to learn about the culture and society of Aboriginal peoples. As a result, in trying to reconstruct the complex traditional cultures of varying Aboriginal groups, investigators of today are necessarily required to piece together, as best as possible, fragmentary information derived from the incidental annotations of disparate early observers.

It is understood that the region was occupied by Aboriginal speakers of at least two languages, Wiradjuri and Ngunawal. G.A. Robinson noted that the people of Yass were called Onerwal [Ngunawal] (White and Cane 1986). According to Jackson-Nakano (2002), the Aboriginal group who occupied the Yass and Boorowa districts in the early years of European settlement were the Wallabalooa tribe. Jackson-Nakano (2002) also indicates that, according to Bayley (who wrote a brief history of Yass), *Warrambalulah* was the Aboriginal name for the area on which the first township of Yass was settled in 1836.

Following European occupation, Aboriginal society changed from autonomy and economic independence to both economic dependence on, and enforced settlement, by Europeans (White and Cane 1986). It is possibly the latter situation which is now most recalled by Aboriginal people who were either directly affected, or now remembered on behalf of earlier generations. It is the local camps and reserves in Yass, and elsewhere, which are now focal places in the memory of these times.

White and Cane (1986) have defined three phases of the colonial and post colonial history. When Europeans began to occupy the district, Aboriginal people moved seasonally between an autonomous economic practice based on hunting, fishing and so on, and engagement with the settler society whereby European foodstuffs were obtained. It is probable that during that time Europeans and Aborigines forged a mutually beneficial relationship, entailing amongst other things, the exchange of labour, foods and protection. Jackson-Nakano (2002) suggests that prominent members of the Wallabalooa

group such as Jacky King, Billy the Bull and his brother Andy Lane, forged very good relations with the earliest European settlers on their lands, in particular, the Humes, Broughtons, Kennedys, Walkers and Howells. While engaging with settler society, this practice by Aboriginal people, was done so on their own terms. From 1851, reserves of land were set aside for Aboriginal people, however, generally they were avoided and not used. Instead, people preferred living on stations located in their own country or the outskirts of towns such as Yass (White and Cane 1986). White and Cane (1986) note that reports in the Yass Courier of 1857 and 1858 refer to the Blacks Camp, which may refer to the same Yass River Camp used later in the 19th and early 20th century.

In the period from the 1830s through until the 1860s, the 'Yass Blacks' were a dominant group and allegedly terrorised and conducted raiding parties on other groups as far afield as Bega and Eden. King Andy frequently went on raids in the Goulburn, Cowra, Molong and Wellington districts (Jackson-Nakano 2002). The territorial expansion conducted by the local Aboriginal people was facilitated, at least in part, by the strong ties which they established with the European settlers and their vast properties.

With the passing of the Robertson Land Acts in 1861, closer settlement by small-scale free selectors reduced the capacity for Aboriginal people to maintain occupation of country. However, from this time Aboriginal people began to acquire their own parcels of land by purchase or gazettal, and to farm it. Of particular relevance to the current study, several of these properties were located immediately to the east of the subject area, at Brickey's Creek, Blakeney Creek and Flakeney Creek (Kaibala 1998). Between 1850s and the 1950s, Aboriginal families lived on farmlets and reserve land and did odd jobs for farmers or seasonal work on stations in the local area (Kaibala 1998).

By the 1880s, the European community at Yass began to demand that Aboriginal people around the town be controlled. A parcel of land measuring 6 ½ acres at Oak Hill near the water works at Yass was set aside. With timber and iron provided by the Aborigines Protection Board, 13 houses were built in 1888. One year later the land area of Oak Hill was reduced to 2 ½ acres (White and Cane 1986). By 1890, 78 people were recorded as living at this site in 12 houses and four bark huts. Similarly to earlier times, the occupation of the Oak Hill site was mutually beneficial to both Aborigines and Europeans. Aboriginal people were able to have ready access to the town economy, continue to live in family groups while being separate from whites, and to work within the local economy. On the other hand, Europeans were happy to have Aborigines away from town but close enough to have access to their labour (White and Cane 1986).

However, in 1899 pressure mounted to remove the Aboriginal people from Yass. Inducements to encourage people to move to other reserves failed and by 1909 the Edgerton site, located 20 kilometres from Yass, was selected by the Aborigines Protection Board. While some people moved to Edgerton, others petitioned to remain at Oak Hill. This request was refused and the North Yass site was revoked. By 1916, however, Edgerton was abandoned with the people having moved back into Yass and camped at Yass Junction with the men working on railway works (White and Cane 1986). People moved back to Oak Hill to a location at the bottom of the hill called The Rocks on the Yass River (White and Cane 1986).

This period until 1930, continued to be one of great difficulty for Aboriginal people, both elsewhere in the state, but specifically at Yass (White and Cane 1986). It was during this time that children were removed from their families. Between 1900 and 1915, fifteen children were removed from Aboriginal families in Yass. With the proposal to construct the water works at Oak Hill at around 1925, Aboriginal people were again asked to leave the site. A new reserve was established. This site known as Hollywood is located south of Yass near the cemetery; in 1934 people were moved to the new site, although one or two families remained at Oak Hill.

The Hollywood site was a failure from many points of view, and by 1940 Aborigines had begun to return to North Yass; this was objected to by whites. However, the situation for the remaining families at Hollywood was becoming untenable (White and Cane 1986). Thereafter a period of resettlement including placing people in a limited number of houses in the town and movement to other reserves located well away from Yass began.

Aboriginal people continue to live in Yass and the surroundings areas and to maintain strong links and concern for the sites of their ancestors. For the Ngunawal of today, there continues to exist a strong connection with their past, their cultural inheritance and their country. Cultural knowledge has been passed on and arising from this is the desire to conserve Ngunawal heritage, especially given all that has been lost since the arrival of Europeans. Because of this there is often a variance between the cultural significance and the scientific significance of Aboriginal objects. Scientific significance places higher values on an Aboriginal object or suite of objects from which new information can potentially be derived and is, accordingly, linked with considerations of rarity or the number of associated objects. However, Aboriginal cultural significance places value on each individual object, irrespective of its nature, as a physical connection to their cultural past and current identity.

2.3 Material Evidence

A search of the NSW OEH Aboriginal Heritage Management Information System (AHIMS) has been conducted for this project on the 9 July 2012 (Client Service ID: 74521). The search area measured 475 km² and encompassed the area between eastings 655000 – 674000, and northings 6158000 – 6183000.

Two Aboriginal object sites, neither of which are in the subject area, are recorded on AHIMS as present in the search area (see Appendix 1). The AHIMS register only includes sites which have been reported to NSW OEH. Generally, sites are only recorded during targeted surveys undertaken in either development or research contexts. Accordingly, this search cannot be considered to be an actual or exhaustive inventory of Aboriginal objects situated within the local area or indeed within the subject area itself.

The most common Aboriginal object recordings in the region are distributions of stone artefacts. Rare site types include rock shelters, scarred trees, quarry and procurement sites, burials, stone arrangements, contact sites and traditional story or other ceremonial places. The distribution of each site type is related, at least in part, to variance in topography and ground surface geology.

Searches have been conducted of the NSW State Heritage Inventory and the Australian Heritage database. No Aboriginal heritage sites are listed on these as being in the subject area. The following discussion in Section 2.3.1 will present a review of previous archaeological work in the region for the purposes of producing a predictive model of site type and location relevant to the study area.

2.3.1 Previous Archaeological Assessment

The primary focus of archaeological research in Australia throughout the 1960s, 1970s and 1980s was the examination of the relationship between Aboriginal people and their environment, and the mechanisms of adaptation in what was apparently a land of harsh conditions and scanty, or at best, seasonal resources. The bulk of archaeological research that has been undertaken in the region has been focused on examining these issues.

However, prior to the 1960s, most archaeological research was aimed at defining change in the archaeological record. This was before direct dating techniques became available and, accordingly, the issue of time was handled by identifying differences in archaeological materials in archaeological deposit; – specific artefacts in different layers of deposits were used to define different cultural periods.

With the application of direct dating techniques in the 1960s, research shifted away from the use of artefacts for defining different time periods, towards seeking to explain the nature of different artefacts and assemblages of artefacts and food remains in terms of adaptation to the environment. The 1960s also saw a shift towards the use of explicit scientific methods of reasoning in archaeological practice. This impetus influenced archaeologists to focus on research topics which were believed to be answerable within a scientific methodology. Topics dealing with site locational models, subsistence, technology and environmental adaptation were addressed. The following section outlines research conducted within the region.

Witter (1980) constructed a model of site distribution for the area situated between Canberra and Dalton. He argued that large lowland camps were found exclusively in river valleys or gently sloping land, while medium sized lowland camps were found mainly on escarpments and saddles. Witter (1980) suggested that mid to late Holocene occupation of the area was focused around both tributary and major stream valleys. He argued that seasonal movement entailed occupation of the tributary valleys and lower slopes during winter in order to be above cold air drainage but below cooler elevations. Additionally, these locations would have provided reliable water and the exploitation of a diversity of resource zones. During summer the larger valley bottoms and higher elevated zones were predicted to have been used.

Witter (1980) constructed two models of Holocene adaptation which he termed Riverine Oriented and Plateau Oriented. The Riverine model was defined as a subsistence regime based on the semi-arid plains which was focused on the exploitation of aquatic plants such as *Typha* and *Triglochia* and animals such as fish and crustacea. This economy was focused on the plains woodlands close to major rivers with seasonal usage of semi-arid and dry temperate uplands. The Plateau subsistence regime was considered to be based

on *Acacia* as a vegetable staple. This economy was focused on ridges slopes and flats, however, with camp sites tethered to water.

Pearson (1981) completed a regionally based investigation of Aboriginal and early European settlement patterns in the Upper Macquarie River region. He excavated three rock shelters which revealed Aboriginal occupation of the area dating from 7,000 years BP. Pearson characterised Aboriginal site patterning as follows:

- Aboriginal sites were strongly related to water sources. Distance to water varied from 10 to 500 m and generally the average distance to water decreased as site size increased;
- Sites were located on hilly and undulating landforms rather than on river flats or the banks of waterways. However, the regional incidence of landform variation biased this sample;
- Site location was influenced by good drainage and views over water courses and river flats;
- Most sites were located in open woodland contexts with smaller numbers being present in grassland or forest contexts;
- Burial sites and grinding grooves were situated close to habitation areas;
- Ceremonial sites were located away from habitation areas;
- Stone arrangements were located away from campsites in isolated places; they are associated with small hills and knolls or flat land;
- Quarry sites were located where suitable sources were present and reasonably accessible.

Based on an examination of early historical material, Pearson (1981) argued that the region was inhabited by a small number of clan groups each of which were comprised of 80 to 150 people. These groups were divided into smaller 'daily' units of up to 20 people. Pearson (1981) suggests that the 'daily' units made short moves between camp sites which resulted in elongated site formation such as continuous artefact scatters along creeks. Pearson presented ethnographic evidence which suggested that camp sites were not used for longer than three nights and that large sites therefore probably represented accumulations of short term visits.

Pearson (1981) also considered the issue of the reliance upon food staples. He argued that rather than a reliance on a singular food type, a wider based economy was practised with the implication that such a non-specialised economy would probably not have been affected by periodic shortfalls in certain foods and that human movement would have been similarly unaffected.

According to Witter and Hughes (1983), the low hill areas of the Lachlan catchment contained sites which are generally situated on valley flanks. They noted that sites are widely distributed with a higher frequency situated along water courses than in less well drained areas away from creeks and rivers. They posited a model suggesting that the economic focus was within major streams and valleys, with occasional usage of the dryer inland zones. Witter and Hughes (1983) suggested that during dry periods occupation was confined to major stream valleys and that in wetter times people would have moved along temporarily watered headwater streams and onto plateau areas.

White (1986) conducted a general study of the Wiradjuru in which the Witter model (as outlined above) was applied. White (1986) however, explored the basic notions of Riverine and Plateau further, emphasizing the regional division by stressing the comparative importance of less seasonally influenced terrestrial hunting in the east. In the Western Slopes region riverine plains ‘... interfinger (sic) with the higher land’, and White argued that the economy in such country probably consisted of an annual regime which was dependant on the use of both riverine and plateau environments.

There have been no previous archaeological studies conducted within the study area itself and few have been undertaken within the immediate local area. However, a number have been undertaken in the broader region in response to statutory requirements for environmental impact assessment. The following discussion includes a review of archaeological work and its results conducted within the regional area.

Clark (1977) excavated three open artefact scatter sites at Waterhole Flat Creek, situated nine kilometres east of Boorowa. A variety of artefact types were recovered including backed blades, scrapers, adze flakes, bipolar flakes and cores. Smaller artefacts were made primarily on quartz, with chert, silcrete and rhyodacite also used. Larger artefacts including hatchets, unifacially and bifacially flaked choppers, anvils, hammerstones and grinding stones were also recovered.

Silcox (1991) recorded five open artefact scatters near the confluence of Castles Creek and Boorowa River, one kilometre upstream from Boorowa. These sites were located in exposures on the surfaces of river terraces. The number of artefacts recorded was low and no distinctive artefact types were present. Raw materials, however, were similar to those noted by Clark (1977).

Witter (1980) surveyed a proposed natural gas pipeline route from Dalton to Canberra. The survey crossed the Yass River and hilly country in the centre of the Upper Yass River catchment. Witter recorded 11 open campsites and 32 isolated finds. The majority of artefacts were comprised of quartz. Witter (1981) subsequently excavated one site and collected a total of 400 artefacts from six others. Backed blades were a prominent element in these collections. Silcrete was the principal raw material. Other materials included felsite, volcanics and quartz. Witter (1981: 46) concluded that quartz was probably the predominant stone type utilised in the region.

Koettig and Silcox (1983) surveyed the route of the proposed freeway bypass north and east of Yass. Eight artefact scatters and 50 isolated finds were found within the 14 km x 200 m survey area. Seven of the sites were located on low ridges and slopes and one on a creek flat. All of the sites were found within 200 metres of a watercourse.

Witter and Hughes (1983) began a survey of transmission lines from Wagga Wagga to Yass which was completed by Packard and Hughes (1983). Two 'land systems' were identified: the plateau consisting of gently rolling hills, which were largely cleared of timber and major stream valleys. Archaeological sites were rare in the hills and occurred mainly in areas close to major valleys. Witter and Hughes (1983) argued that this association probably reflects more than simply access to drinking water, noting that the valleys have the greatest vegetation diversity and contain a variety of aquatic food

plants in streams. The initial survey located four Aboriginal sites, 13 isolated finds and a possible Aboriginal scarred tree. Packard and Hughes (1983) recorded five small artefact scatters, eight isolated finds and two possible Aboriginal scarred trees. Artefactual material was principally debitage. Quartz was the most common lithic material, with negligible percentages of acid volcanics and chert. Sites were located mainly in ploughed paddocks near creeks.

Packard (1984) conducted an investigation of the association of Aboriginal archaeological sites with modern areas of salinisation and salt scalding in the Yass River Basin. Of the 61 known salting sites, 35 were included in the analysis. Site location was found to range in elevation from 560 m-755 m asl, slope gradient was less than 5° and most of the sites had northwest, north or easterly aspects (Packard 1984: 50). A wide range of artefact and stone types was found at most of the sites, suggesting that a range of activities had been carried out (Packard 1984: 54).

In 1985, Silcox and Koettig surveyed the route of the proposed alternate Yass bypass. The survey located three surface and two subsurface artefact scatters and six isolated finds. Eighty per cent of the sites were situated on ridgeline slopes or crests within 200 metres of creeks. This site locational pattern was noted to reflect in part the fact that creek or river valleys were not usually flat and that spurs and slopes usually terminated immediately adjacent to creeks. Surface artefact densities ranged from 1/30m² to 1/40m². Subsurface densities averaged 18/m². Ninety per cent of the artefacts were unmodified flakes and flaked pieces; quartz was the dominant raw material. Silcox and Koettig concluded from the Yass By-pass studies that the pattern of distribution of sites in the Southern Tablelands was a predominance of small sites (less than 50 artefacts and often less than 10) interspersed with occasional medium sites of up to 300 artefacts, and on occasion, very large sites.

Koettig (1986a) investigated a proposed water pipeline route between Bowning and Yass and located two small artefact scatters and two Aboriginal scarred trees near Derringullen Creek, a permanent water course. The two artefact scatters consisted of three artefacts each. Subsequent subsurface testing was carried out at an area identified to be of high potential near Derringullen Creek. The area was relatively flat ground consisting of a series of three main spurs separated by shallow drainage channels and extending c. 700m adjacent to the creek. The testing located a consistent, however, very low density artefact distribution (Koettig 1986b).

Silcox and Koettig (1988) carried out a survey and test excavation within a six kilometre proposed alternative route for the Barton Highway extension at Yass. Five isolated finds and a surface scatter of >150 artefacts were recorded during the survey, with two additional sites located during subsurface testing. Average artefact density of excavated sites was found to vary between very low and low; density varied between 2.3/m² to 12/m². No artefacts were retrieved from one of the test locations, a broad end of a spur overlooking a wide valley of an ephemeral creek. Artefacts comprised flakes, flaked pieces, cores and a backed blade. Fifty seven per cent of the artefacts were of silcrete. Other raw materials recorded were quartz, indurated mudstone, volcanic and chert.

Dean-Jones (1990) conducted an assessment of a proposed hard rock quarry near Gunning. The study area included a crest and upper slopes of a hill north of the Lachlan River. No sites were recorded and this result was seen to be consistent with the predictive model of site location relevant to the area.

During a survey of a proposed fibre optic cable route between Cootamundra and Hall, ACT, Kuskie (1992) located a small artefact scatter on a broad elevated terrace on the southern side of the Yass River. The site comprised a retouched chert flake, a chert flaked piece and a broken acid volcanic flake.

Paton (1993) surveyed a proposed optical fibre cable route from Gunning to Dalton and Dalton to Flacknell Creek Road. The route traversed 21 kilometres of undulating hills in the Upper Lachlan River catchment. No Aboriginal sites were recorded and this result was deemed to be consistent with the predictive model of site location relevant to the area.

Robert Paton Archaeological Studies (1993) conducted a linear survey in relation to a proposed optical fibre cable route between Canberra and Orange. A section of this route extended from Boorowa to Cowra. Four open sites were recorded. Sites were found to be small and in disturbed contexts. All were found in association with permanent or semi permanent water. All artefacts, except one, were made of quartz.

Klaver (1993) recorded seven artefact scatters near Bookham in respect of the proposed Hume Highway Bypass. The sites were all low density artefact scatters consisting of mostly chert and quartzite flakes.

Navin and Officer (1995) conducted a survey of the Bogo Quarry situated on Black Range. The study area consisted of a low hill. One artefact scatter and two isolated finds were recorded. The scatter was found on low gradient basal slopes 400-500 m south of Stony Creek.

Oakley (1995) surveyed a number of proposed Optus towers in the region, one of which was at Mt Bowning. No sites were found; the site was highly eroded and found to be of low potential.

Saunders (2000) recorded an Aboriginal open campsite of eight stone artefacts located by Ngunawal ACT and District Aboriginal Council of Elders Association monitors in the Powertel fibre optic cable easement approximately 20m south of the Yass River and 200m north of Yass River Road, northwest of Gundaroo. Saunders also recorded an Aboriginal artefact scatter located by Ngunawal ACT and District Aboriginal Council of Elders Association monitors 50m north of Dalton Open Camp Site (NPWS Site 51-5-003). The monitors collected 50 stone artefacts from the site.

Navin Officer Heritage Consultants (2001) investigated the site of the Yass substation located in an area of low gradient slopes, drainage lines and alluvial flats along the middle reaches of Booroo Ponds Creek. A small low density artefact scatter was found on a spur crest. The scatter comprised three flakes and a flaked piece. Raw materials were volcanic,

silcrete and chert. The spur crest in the vicinity of the exposed artefacts was considered to have archaeological potential.

Jo McDonald Cultural Heritage Management Pty Ltd (JMcCHM 2003) undertook a survey of the Gunning Wind Farm, situated on the Cullerin Range. The Gunning Wind Farm proposal area consists of range crest and valley topography, elevated at 840 meters (asl). Four sites containing stone artefact scatters and three isolated artefacts were recorded across the proposal area (JMcCHM 2003). One of the scatters was identified as a quartz quarry; blocky quartz was found to outcrop at the site. The majority of recorded artefacts were identified as quartz, however, quartzite, silcrete and red agate was also recorded. Steep hill tops were considered to be of low archaeological potential, while elevated contexts close to water were considered to be of higher sensitivity.

Austral Archaeology Pty Ltd (2005) conducted a program of subsurface test excavation at the proposed Gunning Wind Farm site. The works entailed grader scrapes. No artefacts were recovered.

Reeves and Thomson (2004) undertook a survey in relation to the proposed Woodlawn Wind Farm at Tarago. The Woodlawn proposal area is situated at the site of the former Woodlawn open cut mine, nine kilometres west of Tarago. The majority of the proposed impact zones were situated on the spine of a steep ridge of the Turallo Range. Fifteen stone artefact sites, eight of which were isolated finds, were recorded and the low density distribution was determined to be representative of background scatter calculated to be six artefacts per hectare. Artefacts were recorded across a wide range on landform elements including crest, slopes, and drainage depressions; the results indicated no strong patterning of artefact location in relation to landform. Stone materials recording included rhyolite, quartz and silcrete, volcanics and tuff. The impact zone was assessed to be of low archaeological potential. The results indicated that the range was utilised for low levels of Aboriginal exploitation and may have functioned as a transit route between larger resource zones.

Dibden (2006a) recorded nine locales containing stone artefacts during an assessment of the proposed Conroys Gap Wind Farm. Artefact density calculations based on surface indicators indicate that all artefact locales contain low density artefact distributions. The Survey Units present in the study area were each assessed to be of low or very low archaeological potential based on various factors including nature of the topography, steep gradients and the distance from reliable water.

Dibden (2006b) recorded four locales containing stone artefacts during the study of the proposed Cullerin Wind Farm, situated north of Yass. Artefact density calculations based on a consideration of effective survey coverage indicate that all artefact locales, and the Survey Units in which they are situated, contain low density artefact distributions.

OzArk Environmental and Heritage Management (2007) conducted a survey of the Wagga Wagga – Yass 132kV transmission line. The proposal related to pole replacement works in an existing easement. Four Aboriginal artefact scatters only were recorded during the field survey of the entire route.

Austral Archaeology Pty Ltd (2007) undertook a survey in relation to the proposed Capital Wind Farm, located on the eastern side of Lake George. Five Aboriginal archaeological surface sites were recorded during the survey, consisting of two small artefact scatters and three isolated finds. Four sites, HH 1, 2 & 3 and WC 1, were located on gently sloping topography adjacent to creek tributaries while site HH 4 was located on a moderate sloping ridge top. In addition, six areas of potential archaeological deposit (PAD) were also identified; one associated with the recorded surface site WC 1. The remaining five areas of PAD were identified sensitive on the basis of topographic features, location and/or their estimated research potential.

Austral Archaeology Pty Ltd (2007) characterised the Capital Wind Farm study area as having distinct areas of high, moderate and low archaeological and cultural sensitivity, with areas of high and moderate archaeological sensitivity located on slightly elevated, gently sloping topography associated with local resource bases and/or reliable watercourses, and areas of low archaeological sensitivity on high, steep and rocky ridgelines at a distance to resources and freshwater. Accordingly, the eastern edge of Lake George was deemed to be a zone of high archaeological and cultural sensitivity.

Thereafter, six distinct areas were subjected to subsurface investigation and a total of 348 artefacts were retrieved from 83 test pits (Austral Archaeology Pty Ltd 2009). The majority of artefacts were found to be of quartz (66%), with remainder being silcrete (22%), chert (11%) and quartzite (1%). All artefact densities from the six excavation sites were found to be uniformly low, calculated to range from 0.32 artefacts per square metre to 13.46 artefacts per square metre. The overall artefact assemblages of four of the six test areas were described as being suggestive of little more than background artefact scatter, while the densities at the two other areas were assessed to be particularly low so as to indicate that those areas were not used frequently or extensively.

Austral Archaeology Pty Ltd (2008) surveyed a transmission line and a number of other small discrete impact proposals associated with the Gunning Wind Farm. Twenty five sites were recorded, defined as 13 open artefacts scatters, nine isolated finds, two areas of PAD and a scarred tree. The majority of finds were located on ridgetops, which Austral Archaeology Pty Ltd (2008) suggest reflects the use of these landforms for vantage points and movement through country. Austral Archaeology Pty Ltd (2008) argued that the diversity of the raw materials, lack of conjoined artefacts and related materials suggested sporadic use over a long time rather than focused activities which might be expected to have taken place in more permanent habitation sites.

Dibden (2008) surveyed the proposed Yass Valley Wind Farm and recorded 116 Aboriginal sites, most of which were low density stone artefact scatters. Artefact locales were frequently recorded on knolls and saddles of ridge crests and within valley bottom contexts. The majority of sites contained either single or otherwise very few artefacts. The majority of sites on crests were situated in deflated and eroded soil profiles. Given the relatively large areas of exposure encountered (in drought conditions), and the very few artefacts recorded, it was concluded that artefact density, generally was very low. This result was consistent with the relevant predictive model of Aboriginal land use.

Navin Officer Heritage Consultants (2009) conducted a cultural heritage assessment in relation to the proposed Dalton Peaking Power Plant, located some four kilometres north of the township of Dalton. Areas of proposed impact included a 15 hectare power plant site, a three kilometre long (corridor width 25 – 50 metres) gas pipeline, as well as an access road and communications tower. In total the survey area measured some 36 hectares of which 29.88 hectares was surveyed, over basal, upper and simple slopes, as well as spur crests and drainage lines. In the area of the proposed power plant, in conditions of moderate ground surface visibility, ten Aboriginal sites were located and two areas with potential archaeological deposit. The ten sites were comprised of six isolated finds, three low density artefacts scatters and one low density artefact scatter with potential archaeological deposit. Almost all sites were located on slopes and comprised of stone artefacts predominantly derived from silcrete, with some quartz and fine grained volcanic.

Thereafter, a second survey was conducted in relation to the Dalton Peaking Power Plant (Navin Officer Heritage Consultants 2011) as the result of a rerouting of the proposed pipeline alignment. The survey area was 3.4 kilometres long, covering 15.3 hectares. Three low density artefact scatters were recorded on crests and adjoining slopes, and comprised of stone artefacts predominantly derived from silcrete, with some chert, and minor representations of quartz and quartzite. Sites were described as being representative of ‘background scatter and/or low density artefact distributions ... a common site type across the South East Highlands’.

Dibden (2012) conducted the assessment for the Rye Park Wind Farm located immediately to the east of the subject area. Thirteen Aboriginal object locales were recorded, the majority of which were very low density stone artefact distributions. The project area was assessed to contain very low density stone artefact abundance and hence to be of low cultural and archaeological sensitivity.

Based on the above review and a consideration of the topography, geomorphology and hydrology of the study area the type of sites known to occur in the region and the potential for their presence within the study area are described in Section 2.3.2 below.

2.3.2 Predictive Model of Aboriginal Site Distribution

The type of sites known to occur in the region and the potential for their presence within the study area are listed as follows:

Stone Artefacts

Stone artefacts will be widely distributed across the landscape in a virtual continuum, with significant variations in density in relation to different environmental contexts. Artefact density and site complexity is expected to be greatest near reliable water and the confluence of a number of different resource zones.

The detection of artefact scatters depends on ground surface factors and whether or not the potential archaeological bearing soil profile is visible. Prior ground disturbance, vegetation cover and surface wash can act to obscure artefact scatter presence.

Given the environmental context of the proposed wind farm, stone artefacts are predicted to be present in variable density across the landscape. On ridge, hill crests and slopes, artefacts are likely to be present a patchy and very low density. In open valleys it is predicted that artefact density is likely to be higher and, also, artefacts can be expected to be distributed as continuous occurrences (albeit in low density) across discrete landforms, especially close to streams.

Grinding Grooves

Grinding groove sites contain grooves in rock surfaces that are produced through the shaping and/or sharpening of ground-edge stone hatchet heads or other tools (Attenbrow 2004). Groove size and morphology can be variable which suggests that they can result from the sharpening of a variety of different tools and the preparation of food (cf. Attenbrow 2004: 43). Most frequently, groove dimensions indicate that grinding grooves result for the sharpening of stone hatchet heads.

A broad temporal framework for the age of grinding groove sites can be inferred on the basis of the age of ground-edge hatchet heads found within archaeological deposits. Across Australia, there is significant variation in the timing of the introduction of ground-edge hatchet technology, and in the south-east, the earliest hatchet heads date to the fourth millennium BP (Dibden 1996: 35; Attenbrow 2004: 241), and no earlier than 3,500 years ago (Hiscock 2008: 155). Therefore, grinding groove sites in the region can be no older than 3,500 years. Given that hatchets were used at the time of European occupation, the use of some grinding groove sites may have spanned this temporal range.

Grinding hatchet heads on stone creates indelible marks on the rock surface and land. Sites containing high groove counts are now visually significant marked locales and they may have become significant and meaningful locales over time given their reference to an important item of material culture and their strong material presence in the landscape. While the original motivation which led people to choose to grind hatchet heads at a specific place is now not well understood, it is possible that over time and as a place became increasingly embellished with grooves, the meaning and significance of that locale was changed correspondingly. Grinding groove sites may have provided a physical and conceptual reference to the ancestral past and activities of previous generations (Dibden 2011). Because of the enduring materiality of grinding groove sites they may have been meaningfully constituted expressions of place and mnemonic of past events and personal and group history (cf. Peterson 1972: 16).

Grinding grooves are only found on abrasive sedimentary rocks such as sandstone. Given the expected absence of suitable rock exposures in the wind farm subject area, grinding groove sites are unlikely to be present.

Burials Sites

In the Yass district, traditionally Aboriginal people buried their dead in graves dug in rocky soils, usually on the tops of stony hills (White and Cane 1986). Other practices included the disposal of dead in caves (such as that on the Murrumbidgee near Burrinjuck as described by Bennett in 1834), hollow trees and in graves dug into antbeds. White and Cane (1986) note that traditional burial practices continued throughout the early period of European occupation into the 1870s.

The potential for burials to be present is always possible. Given the nature of this site type they are rarely located during field survey. However, given that burials in the local area were reportedly on stony hills it is unlikely they have survived given the high erosional contexts of these landforms.

Rock Shelter Sites

Rock shelters sites are unlikely to be present in the study area given the absence of large vertical stone outcrops.

Scarred and Carved Trees

Scarred and Carved trees result from either domestic or ceremonial bark removal. Carved trees associated with burial grounds and other ceremonial places have been recorded in the wider region. In an Aboriginal land use context this site type would most likely have been situated on flat or low gradient landform units in areas suitable for either habitation and/or ceremonial purposes.

Bark removal by European people through the entire historic period and by natural processes such as fire blistering and branch fall make the identification of scarring from a causal point of view very difficult. Accordingly, given the propensity for trees to bear scarring from natural causes their positive identification is impossible unless culturally specific variables such as stone hatchet cut marks or incised designs are evident and rigorous criteria in regard to tree species/age/size and its specific characteristics in regard to regrowth is adopted.

Nevertheless, the likelihood of trees bearing cultural scarring remaining extant and *in situ* is low given events such as land clearance and bushfires. Generally scarred trees will only survive if they have been carefully protected (such as the trees associated with Yuranigh's grave at Molong where successive generations of European landholders have actively cared for them).

The study area has been extensively cleared and the vast majority of live trees are young. While not impossible, this site type is unlikely to have survived and therefore be present.

Stone Quarry and Procurement Sites

A lithic quarry is the location of an exploited stone source (Hiscock & Mitchell 1993: 32). Sites will only be located where exposures of a stone type suitable for use in artefact manufacture occur. Quarries are rare site types in the region. One has been recorded near Galong north of the proposal area. This site is an intrusive dike of a dacite-like material which was extracted for flaked stone (Witter and Hughes 1983). A possible quartz quarry was recorded during the survey of the proposed Gunning Wind Farm (JMcCHM 2003). However, caution is required in regard to determining the natural or artefactual status of quartz outcrops which may be fractured by farming practices (*cf.* National Heritage Consultants 2010) or prospecting.

Ceremonial Places and Sacred Geography

Burbung and ceremonial sites are places which were used for ritual and ceremonial purposes. Possibly the most significant ceremonial practices known were those which were concerned with initiation and other rites of passage such as those associated with

death. Sites associated with these ceremonies are burbung grounds and burial sites. Additionally, secret rituals were undertaken by individuals such as clever men. These rituals were commonly undertaken in ‘natural’ locations such as water holes. Pearson (1981) made the following predictions in regard to ceremonial site patterning in the region:

- Burial sites were situated close to habitation areas;
- Ceremonial sites were located away from habitation areas; *and*
- Stone arrangements were located away from campsites in isolated places; they are associated with small hills and knolls or flat land.

In addition to site specific types and locales, Aboriginal people invested the landscape with meaning and significance; this is commonly referred to as a sacred geography. Natural features are those physical places which are intimately associated with spirits or the dwelling/activity places of certain mythical beings (*cf.* Knight 2001; Boot 2002). Boot (2002) refers to the sacred and secular meaning of landscape to Aboriginal people which has ‘... legitimated their occupation as the guardians of the places created by their spiritual ancestors’.

Knight’s (2001) Masters research conducted in the area of the Weddin Mountains examined the cultural construction and social practice of inhabiting a sacred landscape. This approach is a departure from a consideration of the land and its resources as being a determinant of behaviour, to one in which land is regarded as a *text* – within this conception, land and its individual features, are redolent with meanings and significances which are religiously and ritually centred, rather than economically based.

Knight’s (*cf.* 2001:1) work was possible in great measure by the historical record which explicitly defines Weddin as a site of ritual significance. However, the research was additionally driven by a theoretical approach to ‘cultural landscapes’. Landscape is redefined away from considerations of its material features which provide a backdrop to human activity, towards a view that a landscape *is rather*, a conceptual entity. According to this view the natural world does not exist outside of its conceptual or cognitive apprehension. The landscape becomes known within a naming process or narrative; thus the landscape is brought into being and understanding – within this process: - ‘... explanatory parables...’ such as legends and mythology are the embodiment of the landscape narrative (Knight 2001: 6).

These narratives are relative to a particular culture, and it is this, which makes an archaeological investigation of the cultural landscape such a thorny one. At distance in time and cultural geography, and especially in the absence of specific ethnographic information, how can the archaeologist attempt to investigate and know these narratives? Knight (2001: 11) employed the concept of the landscape as *mentifact*, whereby archaeological interpretation is concerned with the reconstruction of the landscape as a reflection of prehistoric cosmologies. He argued that this can be reconstructed by exploring the systematic relationships between sites and their topographic setting. This is defined as an *inherent* approach as it is concerned with the role of landscape in both everyday and sacred life. This view is concerned with an integration of the sacred and profane rather than their existence as separate categories of social life: - where “Cult activity may have existed as an inextricably ‘embedded’

component of daily life, where significant locations and ritual aspects of material culture were thoroughly incorporated into secular ranges and uses” (Knight 2001:13). In this regard Knight (2001: 14) correctly points out that no dichotomy between the material and ideational world existed within Aboriginal life.

Knight (2001: 15) argued that the notion of sacred space is of central concern within an inherent perspective on interpreting cultural landscape. Within human cosmologies locales within the landscape are constructed as being sacred space; this process of the construction of sacred space has been termed *hierophany* by Eliade (1961 in Knight 2001: 15). However, while Knight (2001: 15) suggests that physical entities such as stones, trees, or topographic features such as mountains, caves and rocky outcrops may be subject to such processes of transformation or construction, in reality in Aboriginal society any natural feature of less obvious significance can and should be included within this listing. Aboriginal constructions of hierophany can include the most insignificant landscape feature and objects of less fixed temporal existence such as animals and plants. While the outside observer readily ‘sees’ and apprehends mountains and rocky features, more subtle elements of the natural world are easily passed ‘unseen’. This point is one which suggests that the personal cultural geography of the archaeologist can severely impact upon the interpretation of the sacred landscape. Knight (2001) does acknowledge this to some extent illustrating the issue by referring to the example of “Jump Up Rock” situated north of Weddin. This place is only understood to have been an important landscape feature by recourse to prior knowledge regarding the meaning of the site name; the hill itself is insignificant and therefore not readily apprehended through an outsiders gaze as being of special significance.

Knight (2001: 16) refers to the issue of peculiarities of form (eg shape, colour, size or texture) and natural distinctiveness (e.g. isolated mountains or rocky features within a plains context) as being an important distinguishing feature of sacred locales. Knight (2001: 16) argues that the construction of sacred space in such a manner is particularly relevant to people for whom the natural domain is the dwelling place of/or the manifestation of their deities. Knight (2001: 16) again draws from Eliade (1964) to suggest that it is at the sacred place that the three fundamental cosmological worlds, the everyday, the upper and underworld may converge; typically the upper world will be associated as a point of ‘access’ with tall things such as trees while the underworld will be associated with pools and caves. Eliade contends that places where all three worlds can possibly connect, the *axis mundi*, are of a heightened order of sacredness. Hierophanies are therefore natural features which are ascribed sacredness. Additionally, Knight (2001: 17) refers to their ability to provide a landscape based opportunity for people to commune with other worldly deities and associated power because they may constitute spatial access between worlds via ritual.

Guided by these theoretical considerations Knight (2001: 20) engaged with Bradley’s (cited in Knight 2001) model of the ‘archaeology of natural places’ in order to provide guidance for investigating the cultural landscape of the Weddin Mountains and its environs. Bradley (2000) has argued that natural places can be explored archaeologically in order to determine the nature of their role in human cosmologies by attending to four archaeological categories: - Votive offerings, rock art, production sites and monuments. This model was developed within a European context, with its attendant biases of

concepts and archaeological categories; clearly not all concepts, some of which are clearly Eurocentric, will be applicable in Australia. Nor will all these data sets be found within the Australian context.

Knight (2001) gives consideration to the types of natural places which might be ascribed sacred significance. These include mountains, woodlands and groves, springs pools and lagoons, rock outcrops and caves and sinkholes. He argues that Aboriginal cosmology is expressed via the natural landscape and sacred places were those which were directly related to the Dreaming. He says that these sacred sites typically are those which are remarkable or important physiographically such as caves, rocks and so on.

Given the potential for natural features to have been important places within an Aboriginal cosmological frame of reference, the survey has sought to identify outstanding natural features present in the study area. It is, however, noted that the landscape of the entire proposal area is expressed as an abundance of hills and ridges and that, therefore, high places are unlikely to stand out as unusual or significant.

Contact Sites

These sites are those which contain evidence of Aboriginal occupation during the period of early European occupation in a local area. Evidence of this period of ‘contact’ could potentially be Aboriginal flaked glass, burials with historic grave goods or markers, and debris from ‘fringe camps’ where Aborigines who were employed by, or traded with, the white community may have lived or camped. The most likely location for contact period occupation sites would be camp sites adjacent to permanent water, and located in relative proximity to centres of European occupation such as towns and homesteads. The potential for such sites to be present in the proposal area is possible, however, considered to be unlikely given the location of impacts away from towns or homesteads.

2.3.3 Field Inspection – Methodology

The methodological approach adopted in this assessment attends particularly to location and relationality as a means of contextualising the material evidence of cultural practice across space. Given the nature of the physiography, different places within the region are likely to have been utilised for different purposes, and also by different categories of people. Landscape is more than a set of ‘objective’ topographic features. Landscapes are constructed out of cultural and social engagement; they are ‘... topographies of the social and cultural as much as they are physical contours’ (David & Thomas 2008: 35). The conceptual approach to understanding landscape in this assessment is based on a concern with experience, occupation and bodily practice (*cf.* Thomas 2008: 305). The location of material evidence in different environmental and topographic contexts across the study area has the potential to be informative of different activities and social contexts. Landform and environmental elements, as measurable empirical space, will be employed methodologically to explore landuse, occupation and the nature of both recorded and unseen (ie subsurface) material evidence. Given the vast space encompassed by the study area, this methodology allows for the identification, at a fine level of spatial resolution, of elements representative of the patterns of social life and how these may vary over space.

The practical methodology for the field survey entailed a pedestrian traverse of the majority of the proposed activity areas. The field survey was aimed at locating Aboriginal objects. An assessment was also made of prior land disturbance, survey coverage variables (ground exposure and archaeological visibility) and the potential archaeological sensitivity of the land.

The approach to recording in the current study has been a ‘nonsite’ methodology (*cf.* Dunnell 1993; Shott 1995). The density and nature of the artefact distribution will vary across the landscape in accordance with a number of behavioural factors which resulted in artefact discard. While cultural factors will have informed the nature of land use, and the resultant artefact discard, environmental variables are those which can be utilised archaeologically in order to analyse the variability in artefact density and nature across the landscape. Accordingly, in this study, while the artefact is the elementary unit recorded, Survey Units are utilised as a framework of recording, analysis (*cf.* Wandsnider and Camilli 1992) and ultimately, the formulation of recommendations.

Survey Unit Variables

Landscape variables utilised are conventional categories taken from the *Australian Soil and Land Survey Field Handbook* (McDonald *et al.* 1998):

Landforms form the primary basis for defining Survey Unit boundaries. The following landform variables were recorded:

Morphological type:

- Crest: - element that stands above all or almost all points in the adjacent terrain – smoothly convex upwards in downslope profile. The margin is at the limit of observed curvature.
- Simple slope: - element adjacent below crest or flat and adjacent above a flat or depression.
- Flat: - planar element, neither crest or depression and is level or very gently inclined.
- Open depression: - extends at same elevation or lower beyond locality where it is observed.

Slope class and value:

- Level: 0 - 1%.
- Very gentle: 1 - 3%.
- Gentle: 3 - 10%.

Geology

The type of geology was recorded and as well the abundance of rock outcrop – *as defined below*. The level of visual interference from background quartz shatter was noted.

- No rock outcrop: - no bedrock exposed.
- Very slightly rocky: - <2% bedrock exposed.
- Slightly rocky: - 2-10% bedrock exposed.

- Rocky : - 10-20 % bedrock exposed.
- Very rocky: - 20-50% bedrock exposed.
- Rockland: - >50% bedrock exposed.

Soil

Soil type and depth was recorded. The potential for soil to contain subsurface archaeological deposit (based on depth) was recorded as Low, Moderate or High. This observation is based solely on the potential for soil to contain artefacts; it does not imply that artefacts will be present or absent.

Geomorphological processes

The following gradational categories were recorded:

- eroded
- eroded or aggraded
- aggraded

Geomorphological agents

The following geomorphological agents were recorded:

- gravity: *collapse or particle fall*
- precipitation: *creep; landslide; sheet flow*
- stream flow: *channelled or unchannelled*
- wind
- biological: *human; nonhuman*

Survey Coverage Variables

Survey Coverage Variables are a measure of ground surveyed during the study and the type of archaeological visibility present within that surveyed area. Survey coverage variables provide a measure with which to assess the effectiveness of the survey so as to provide an informed basis for the formulation of management strategies. Specifically, an analysis of survey coverage is necessary in order to determine whether or not the opportunity to observe stone artefacts in or on the ground was achieved during the survey. In the event that it is determined that ground exposures provided a minimal opportunity to record stone artefacts, it may be necessary to undertake archaeological test excavation for determining whether or not stone artefacts are present. Conversely, if ground exposures encountered provided an ideal opportunity to record the presence of stone artefacts, the survey results may be considered to be adequate and, accordingly, no further archaeological work may be required.

Two variables were used to measure ground surface visibility during the study; the area of ground exposure encountered, and the quality and type of ground visibility (archaeological visibility) within those exposures. The survey coverage variables estimated during the survey are defined as follows:

Ground Exposure (GE) – an estimate of the area of exposures of bare ground; and

Archaeology Visibility (AV) – an estimate of the average levels of potential archaeological surface visibility within those exposures of bare ground. Archaeological visibility is generally less than ground exposure as it is dependent on adequate breaching of the bare ground surface which provides a view of the subsurface soil context. Based on subsurface test excavation results conducted in a range of different soil types across New South Wales it is understood that artefacts are primarily situated within 10 - 30 cm of the ground profile; reasonable archaeological visibility therefore requires breaching of the ground surface to at least a depth of 10 cm.

Based on the two visibility variables as defined above, an estimate (Net Effective Exposure – NEE) of the archaeological potential of exposure area within a survey unit has been calculated. The Effective Survey Coverage (ESC) calculation is a percentage estimate of the proportion of the Survey Unit which provided the potential to view archaeological material.

Aboriginal Object Recording

For the purposes of defining the artefact distribution in space it has been labelled as a locale (eg. Survey Unit 1/Locale 1).

The measurable area in which artefacts are observed has been noted and if relevant, a broader area encompassing both visible and predicted subsurface artefacts has been defined. In addition, locale specific assessments of survey coverage variables have been made. The prior disturbance to the locale has been noted. Artefact numbers in each locale have been recorded and a prediction of artefact density noted, based on observed density taking into consideration Effective Survey Coverage, and a consideration of environmental context.

The data collected forms the basis for the documentation of survey results outlined in the section below.

2.3.4 Field Inspection – Results

The survey results are described below. The location of Survey Unit areas and Aboriginal and European site recordings are shown on Figures in Appendix 2.

Survey Coverage

The area has undergone relatively high levels of prior disturbance associated with agriculture. Original land clearance and subsequent farming practices have impacted the entire proposal area. These impacts include, amongst others, cultivation, fencing, dam construction and grazing by hard hoofed animals. Previous farming practices are assessed to have caused reasonably high levels of impact to ground surfaces and to any Aboriginal objects which may once have been present. Ground surfaces were found to be generally highly eroded and very rocky. In most instances turbine ridges did not possess adequate soil cover so as to possess archaeological deposit. Valley and open depression contexts do contain deeper soils, but these too are highly eroded and in many areas serious soil conservation measures are in place in order to avert continued gully erosion.

The trees in the area and its surrounds are predominately regrowth, estimated to be around 50 years old (or less). All trees located within areas of direct impact were inspected during the survey and no evidence of Aboriginal scarring is evident.

Archaeological visibility within many areas of ground exposure was moderate as the result of the ground surface being penetrated by ploughing, vehicle traffic, weathering and stock treadage.

A total of 93.4 kilometres of linear impact area was surveyed during the field work; the assessment area measures c. 466 hectares (Table 1). Ground exposures inspected included bare earth, erosion scalds, animal tracks and roads and measured approximately 6.8 hectares in area. Of that ground exposure area, archaeological visibility inspected (the potential artefact bearing soil profile) is estimated to have been c. 4.9 hectares (NEE). Effective Survey Coverage is calculated to have been less than 1% of the proposal area. While low, the ESC result is normal for grassed country.

While ESC is low, nevertheless, large aerial expanses of exposure were frequently encountered and these did provide an adequate window into the potential artefact bearing soil profiles. Given the general absence (or at best, extremely low incidence) of artefacts recorded in such exposures, it is concluded that artefact density is patchy in distribution and present in very low density overall.

Since undertaking the survey, some very minor changes to the layout have been made. Accordingly, some areas remain unsurveyed, while other surveyed areas would now be located outside of the proposal. However, the survey results can be reasonably confidently extrapolated to any unsurveyed areas, and it is concluded that the proposed wind farm area is of low archaeological potential and sensitivity.

Table 1 Survey coverage variables.

ID	Length m	Area sq m	GE %	GE sq m	AV %	NEE	ESC
SU1	4429	221450	2	4429	60	2657.4	1.2
SU2	570	28500	1	285	80	228	0.8
SU3	263	13150	2	263	30	78.9	0.6
SU4	2934	146700	1	1467	80	1173.6	0.8
SU5	204	10200	1	102	80	81.6	0.8
SU6	6144	307200	2	6144	80	4915.2	1.6
SU7	570	28500	1	285	80	228	0.8
SU8	2024	101200	1	1012	70	708.4	0.7
SU9	2573	128650	3	3859.5	80	3087.6	2.4
SU10	4784	239200	1	2392	80	1913.6	0.8
SU11	1076	53800	1	538	80	430.4	0.8
SU12	2783	139150	1	1391.5	80	1113.2	0.8
SU13	611	30550	3	916.5	90	824.85	2.7
SU14	5222	261100	2	5222	80	4177.6	1.6
SU15	487	24350	0	0	0	0	0
SU16	6004	300200	1	3002	30	900.6	0.3
SU17	670	33500	1	335	80	268	0.8
SU18	488	24400	1	244	80	195.2	0.8
SU19	193	9650	2	193	60	115.8	1.2
SU20	1407	70350	1	703.5	80	562.8	0.8

ID	Length m	Area sq m	GE %	GE sq m	AV %	NEE	ESC
SU21	2648	132400	1	1324	80	1059.2	0.8
SU22	1747	87350	1	873.5	80	698.8	0.8
SU23	5742	287100	2	5742	60	3445.2	1.2
SU24	1387	69350	1	693.5	80	554.8	0.8
SU25	1101	55050	1	550.5	70	385.35	0.7
SU26	1323	66150	1	661.5	80	529.2	0.8
SU27	3834	191700	1	1917	80	1533.6	0.8
SU28	4310	215500	1	2155	80	1724	0.8
SU29	1069	53450	1	534.5	80	427.6	0.8
SU30	890	44500	0	0	0	0	0
SU31	2996	149800	1	1498	50	749	0.5
SU32	1140	57000	1	570	80	456	0.8
SU33	2154	107700	2	2154	70	1507.8	1.4
SU34	2247	112350	5	5617.5	90	5055.75	4.5
SU35	2339	116950	1	1169.5	60	701.7	0.6
SU36	1385	69250	1	692.5	80	554	0.8
SU37	427	21350	0	0	0	0	0
SU38	3394	169700	1	1697	80	1357.6	0.8
SU39	1085	54250	5	2712.5	80	2170	4
SU40	2422	121100	1	1211	80	968.8	0.8
SU41	1347	67350	1	673.5	40	269.4	0.4
SU42	1209	60450	1	604.5	70	423.15	0.7
SU43	3743	187150	1	1871.5	80	1497.2	0.8
Total	93375	4668750		67707		49728.9	1.1

Table 2 Description of Survey Units

SU	Comments	Predicted landuse and artefact distribution	Proposed impacts
SU1	SU1 is a broad, amorphous (plateau like), very gently undulating ridge crest (Plate 2). It is cleared and used for grazing livestock or cultivation. An elevated 'knoll' feature is rocky with cobbles and low bedrock outcrops. Elsewhere sparse outcrops and cobbles occur. Prior impacts would include original clearance and cultivation. The ground was covered with dead or dying grass at time of survey. Exposures were primarily bare earth and animal tracks. Soils are a gravelly loam. A recently ploughed paddock afforded good exposure and archaeological visibility (ge: 40%; av: 60%); elsewhere however, exposure was low. Background quartz is very sparse.	Predicted infrequent occupation: travel, hunting and gathering by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Wind turbine generators, access track and underground electrical connections
SU2	SU2 is a narrow (c. 40m) elevated knoll landform (Plate 3). It is rockland with bedrock outcrops, cobbles and pavement. It has no, or at best negligible soil cover.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution	Wind turbine generators, access track and underground electrical connections
SU3	SU3 is a 2nd stream order open depression measuring c. 50 m wide (Plate 4). It is grassed and soils are a silty loam. It is likely to be prone to dampness.	Nil occupation predicted due to dampness. Predicted negligible artefact distribution.	Access track and underground electrical connections
SU4	SU4 is a broad, amorphous, very gently undulating ridge crest (Plate 5). It is cleared and used for grazing livestock or cultivation. Prior impacts would include original clearance and cultivation. Rock exposures are sparse, although at southwest end, cobbles have been graded into a pile. The ground was covered with dead or dying grass at time of survey. Exposures were primarily bare earth and animal tracks, also, a vehicle track traverses a part of the crest. A recently ploughed paddock afforded good exposure and archaeological visibility (ge: 10%; av: 60%). Soils are a gravelly loam. Background quartz is very sparse.	Predicted infrequent occupation: travel, hunting and gathering by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Wind turbine generators, access track and underground electrical connections
SU5	SU5 is a narrow, 1st stream order open depression measuring c. 30 m wide. It is grassed and soils are a silty loam and highly eroded. Rocky outcrops are present. Bare earth exposures are frequent due to erosion.	Predicted infrequent occupation: travel, hunting and gathering by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Access track and underground electrical connections
SU6	SU6 is a broad, amorphous, very gently undulating ridge crest (Plate 6). It is cleared and used for grazing livestock or cultivation. Prior impacts would include original clearance and cultivation. Recent tree planting are present in the north end. Rock exposures are generally sparse, although there are piles of rocks indicating rock management. The ground was covered with dead or dying grass and/or pasture at time of survey. Exposures included bare earth, animal tracks, vehicle tracks and ploughed areas. Soils are a gravelly loam. Background quartz is very sparse.	Predicted infrequent occupation: travel, hunting and gathering by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Access track and underground electrical connections
SU7	SU7 is an elevated knoll landform (Plate 7). It is rocky with low bedrock outcrops and cobbles. It is treed. Exposures included bare earth under trees and animal tracks. Soils are a gravelly loam.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution	Wind turbine generators, access track and underground electrical connections
SU8	SU8 is a broad, amorphous, very gently undulating ridge crest. It is cleared and used for grazing livestock or cultivation. Sparse outcrops and cobbles occur. Prior impacts would include original clearance and cultivation. The ground was covered with thick dead or dying grass at time of survey. Exposures were generally negligible, but where present were bare earth and animal tracks. Soils are a	Predicted infrequent occupation: travel, hunting and gathering by small groups. Predicted very low density artefact distribution as a result of discard as	Wind turbine generators, access track and underground electrical connections

SU	Comments	Predicted landuse and artefact distribution	Proposed impacts
	gravelly loam. Background quartz is very low.	isolated events which could occur anywhere.	
SU9	SU9 is a series of simple slope landforms which are generally of gentle gradient (Plate 8). The survey unit traverses both cultivated paddocks and pasture. Bedrock outcrops and cobbles occur infrequently. Soils are a silty loam. Background quartz is negligible. The drainage lines are highly eroded.	Predicted infrequent occupation: travel, hunting and gathering by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Overhead electrical connections
SU10	SU10 is a broad, amorphous (plateau like), very gently undulating ridge crest (Plate 9). It is cleared and used for grazing livestock. Elevated features, particularly at north end are very rocky with cobbles and low bedrock outcrops. Elsewhere sparse outcrops and cobbles occur. Prior impacts would include original clearance and in parts, cultivation. The ground was covered with dead or dying grass at time of survey. Exposures were primarily bare earth and animal tracks and occur infrequently. Soils are a gravelly loam. Background quartz is very sparse.	Predicted infrequent occupation: travel, hunting and gathering by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Wind turbine generators, access track and underground electrical connections
SU11	SU11 is a series of simple slope landforms. The survey unit traverses both cultivated paddocks and pasture. Bedrock outcrops and cobbles occur infrequently. Soils are a silty loam. Background quartz is negligible. Ground exposure is negligible.	Predicted infrequent occupation: travel, hunting and gathering by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Impacts revised; now nil
SU12	SU12 is a series of broad, amorphous simple slope landforms which are generally of gentle gradient (Plate 10). The survey unit traverses uncultivated paddocks. Bedrock outcrops and cobbles occur infrequently. Soils are a silty loam. Exposures include bare earth, animal and vehicle tracks, but are infrequent. Background quartz is negligible. The drainage lines are highly eroded.	Predicted infrequent occupation: travel, hunting and gathering by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Overhead electrical connections and access track
SU13	SU13 is an elevated knoll landform. It is rocky with low bedrock outcrops and cobbles. It is treed. Exposures included bare earth under trees and animal tracks. Soils are a gravelly loam.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution	Wind turbine generators, access track and underground electrical connections
SU14	SU14 is a broad, amorphous (plateau like), very gently undulating ridge crest (Plate 11). It is cleared (with some regrowth) and used for grazing livestock. Sparse outcrops and cobbles occur. Prior impacts would include original clearance and in parts, cultivation. The ground was covered with dead or dying grass at time of survey. Exposures were primarily bare earth and animal tracks and occur infrequently. Soils are a gravelly loam. Background quartz is very sparse.	Predicted infrequent occupation: travel, hunting and gathering by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Wind turbine generators, access track; underground electrical connections and site compound
SU15	SU15 is an elevated knoll landform. It is very rocky with low bedrock outcrops and cobbles, including poor quality quartz. It is treed. Exposures included bare earth under trees and animal tracks.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution	Wind turbine generators, access track and underground electrical connections
SU16	SU16 is an amorphous lower valley slope/open depression (3 rd order) situated on the southern side of Langs Creek (Plate 12). The SU follows for the most part, an existing track. The eastern end of the SU traverses country which possesses regrowth Eucalypts, but the majority goes through open pasture.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted low density artefact distribution	Access track

SU	Comments	Predicted landuse and artefact distribution	Proposed impacts
	Previous impacts are likely to have included cultivation as well as clearance. Generally bedrock is absent, but piles of stones near western end indicate stone clearing. Ground exposures include bare earth, animal tracks, erosion and vehicle.	as a result of discard as isolated events which could occur anywhere.	
SU17	SU17 is an elevated knoll landform. Exposures included bare earth and animal tracks.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution	Wind turbine generators, access track and underground electrical connections
SU18	SU18 is an elevated knoll landform. It is rocky with low bedrock outcrops and cobbles. Exposures included bare earth and animal tracks.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution	Wind turbine generators, access track and underground electrical connections
SU19	SU19 is a narrow, 2 nd stream order open depression measuring c. 30 m wide (Plate 13). It is grassed and soils are a silty loam and highly eroded. Rocky outcrops are present. Bare earth exposures are frequent due to erosion and an existing crossing.	Predicted infrequent occupation: travel, hunting and gathering by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Access track and underground electrical connections
SU20	SU20 is a series of broad, amorphous simple slope landforms which are generally of gentle gradient. The survey unit traverses uncultivated paddocks. Bedrock outcrops and cobbles occur infrequently. Soils are a silty loam. Exposures include bare earth and animal tracks. Background quartz is negligible.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution	Nil
SU21	SU21 is a series of broad, amorphous simple slope landforms which are generally of gentle gradient. The survey unit traverses both cultivated and uncultivated paddocks. Bedrock outcrops and cobbles occur infrequently. Soils are a silty loam. Exposures include bare earth and animal tracks.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution	Wind turbine generators, access track and underground electrical connections
SU22	SU22 is broad, elevated, amorphous knoll landform (Plate 14). It is rocky with low bedrock outcrops and cobbles. Exposures included bare earth under tree, gates and animal tracks. Soils are a gravelly loam. Exposures are infrequent. Previous impacts include clearance. The land is currently under pasture and used for grazing.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Wind turbine generators, access track and underground electrical connections
SU23	SU23 is a series of broad, amorphous simple slope landforms which are generally of gentle gradient (Plate 14). The survey unit traverses both cultivated and uncultivated paddocks. Bedrock outcrops and cobbles occur infrequently. Soils are a silty loam. Exposures include bare earth and animal tracks. Background quartz is negligible.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Access track
SU24	SU24 is an elevated knoll landform (Plate 15). It is rocky with low bedrock outcrops and cobbles. It is treed. Exposures, while infrequent, included bare earth under trees and animal tracks. Soils are a gravelly loam.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Wind turbine generators, access track and underground electrical connections

SU	Comments	Predicted landuse and artefact distribution	Proposed impacts
SU25	SU25 (Plate 16) is an open depression on an upper slope of a ridge crest (plateau like). It is under pasture and used for grazing. The drainage line itself is highly eroded. Exposures included erosion and were infrequent.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Wind turbine generators, access track and underground electrical connections
SU26	SU26 is a series of broad, amorphous simple slope landforms which are generally of gentle gradient. The survey unit traverses uncultivated paddocks. Bedrock outcrops and cobbles occur infrequently. Soils are a silty loam. Exposures include bare earth and animal tracks. Background quartz is negligible.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Nil
SU27	SU27 is a broad, very gently undulating plateau like ridge crest (Plate 17). It is cleared and used for grazing livestock. Elevated features, particularly at north end are very rocky with cobbles and low bedrock outcrops. Elsewhere sparse outcrops and cobbles occur. Prior impacts would include original clearance and in parts, cultivation. The ground was covered with dead or dying grass at time of survey. Exposures were primarily bare earth and animal tracks and occur infrequently. Soils are a gravelly loam. Background quartz is low.	Predicted infrequent occupation: travel, hunting and gathering by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Wind turbine generators, access track and underground electrical connections
SU28	SU28 is a broad, very gently undulating plateau like ridge crest (Plate 18). It is cleared and used for grazing livestock. Elevated features, particularly at north end are very rocky with cobbles and low bedrock outcrops. Elsewhere sparse outcrops and cobbles occur. Prior impacts would include original clearance and in parts, cultivation. The ground was covered with dead or dying grass at time of survey. Exposures were primarily bare earth and animal tracks and occur infrequently. Soils are a gravelly loam. Background quartz is low.	Predicted infrequent occupation: travel, hunting and gathering by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Wind turbine generators, access track and underground electrical connections
SU29	SU29 is an elevated knoll landform. It is rocky with low bedrock outcrops and cobbles. It is treed. Exposures, while infrequent, included bare earth under trees and animal tracks. Soils are a gravelly loam.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Wind turbine generators, access track and underground electrical connections
SU30	SU30 is an open depression on an upper slope of a ridge crest (plateau like). It is under pasture and used for grazing. The drainage line itself is eroded. Exposures included erosion and tracks and were infrequent.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Revised - nil
SU31	SU31 (Plate 19) is a series of open depressions/upper slopes of a ridge crest (plateau like). It is under pasture and used for grazing. Drainage lines are highly eroded. Exposures included erosion and vehicle tracks.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Access track and underground electrical connections
SU32	SU32 is an elevated knoll landform (Plate 20). It is rocky with low bedrock outcrops and cobbles. Exposures, while infrequent, included bare earth under trees and animal tracks. Soils are a gravelly loam.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution as a result of discard as	Wind turbine generators, access track and underground electrical connections

SU	Comments	Predicted landuse and artefact distribution	Proposed impacts
		isolated events which could occur anywhere.	
SU33	SU33 is a very gently undulating ridge crest landform (Plate 21). Much of the southern end is covered with regrowth scrub. The northern end in particular, is very rocky.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Wind turbine generators, access track and underground electrical connections
SU34	SU32 is series of moderately undulating elevated knoll landforms (Plate 22). It is very rocky with low bedrock outcrops and cobbles. Exposures are relatively frequent and include bare earth and animal tracks. Soils are highly eroded, gravelly loam. The north end has regrowth scrub, while to the south it is grassed with native, unimproved pasture. Background quartz is very sparse.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Wind turbine generators, access track and underground electrical connections
SU35	SU35 is a series of broad, amorphous simple slope landforms which are generally of gentle gradient (Plate 23). The survey unit traverses uncultivated paddocks. Bedrock outcrops and cobbles occur infrequently. Soils are a silty loam. Exposures include bare earth and animal tracks. Background quartz is negligible.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Access track
SU36	SU36 is an elevated knoll landform. It is very rocky with low bedrock outcrops and cobbles. Exposures are frequent and include bare earth and animal tracks. Soils are highly eroded, gravelly loam. It is grassed with native, unimproved pasture. Background quartz is very sparse.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Wind turbine generators, access track and underground electrical connections
SU37	SU37 is a narrow, 2 nd stream order open depression measuring c. 50 m wide. It is grassed and soils are a silty loam and highly eroded. It is used for grazing. Ground exposure was very low.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Nil
SU38	SU38 is series of gently undulating elevated knoll landforms (Plate 24). It is very rocky with low bedrock outcrops and cobbles. Exposures are infrequent and include bare earth and animal tracks. Soils are highly eroded, gravelly loam. Regrowth scrub occurs intermittently and elsewhere it is grassed with native, unimproved pasture. Background quartz is very sparse.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Wind turbine generators, access track and underground electrical connections
SU39	SU39 is a relatively narrow, 1 st stream order open depression. It is grassed with scattered scrub and soils are a silty loam and highly eroded. It is used for grazing. Ground exposure was very low. An existing track traverses the landform.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur	Access track

SU	Comments	Predicted landuse and artefact distribution	Proposed impacts
		anywhere.	
SU40	SU40 is series of moderately undulating elevated knoll landforms (Plate 25). It is very rocky with low bedrock outcrops and cobbles. Exposures are infrequent and include bare earth and animal tracks. Soils are highly eroded, gravelly loam. Regrowth scrub occurs intermittently and elsewhere it is grassed with native, unimproved pasture. Background quartz is very sparse.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Wind turbine generators, access track and underground electrical connections
SU41	SU41 is a series of amorphous simple (lower) slope landforms which are generally of gentle gradient. The survey unit traverses paddocks. Bedrock outcrops and cobbles occur infrequently. Soils are a silty loam. Exposures include bare earth and animal tracks. Background quartz is negligible.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Access track
SU42	SU42 is a series of amorphous simple (lower) slope landforms which are generally of gentle gradient. The survey unit traverses paddocks. Bedrock outcrops and cobbles occur infrequently. Soils are a silty loam. Exposures include bare earth and animal tracks. Background quartz is negligible.	Predicted infrequent occupation: travel, hunting and gathering, by small groups. Predicted very low density artefact distribution as a result of discard as isolated events which could occur anywhere.	Nil



Plate 2 Survey Unit 1; taken from south east end of SU looking 210°.



Plate 3 Survey Unit 2; taken from top of knoll looking 340°.



Plate 4 Survey Unit 3 looking 340°.



Plate 5 Survey Unit 4 looking east from southwest end.



Plate 6 Survey Unit 6; taken from near south end looking 160°.



Plate 7 Survey Unit 7 looking 270°.



Plate 8 Erosion in Survey Unit 9 looking 20°.



Plate 9 Survey Unit 10; photo taken midway along SU looking 20°.



Plate 10 Survey Unit 12; photo taken midway along SU looking 285°.



Plate 11 Survey Unit 14; photo taken near north end of SU looking north.



Plate 12 Survey Unit 16; taken from midway along SU looking 240°.



Plate 13 Survey Unit 19 looking 0°.



Plate 14 Photo taken from SU24 looking south along SU23 to SU22 in distance.



Plate 15 Survey Unit 24 looking 10°.



Plate 16 Survey Unit 25 looking 155°.



Plate 17 Survey Unit 27; photo taken c. midway along SU looking 180°.



Plate 18 Survey Unit 28; taken from near south end looking north.



Plate 19 Survey Unit 31; taken from near south end looking 300°.



Plate 20 Survey Unit 32; photo taken from near south end looking 230°.



Plate 21 Survey Unit 33 looking 330°; note turbine ridges in the distance.



Plate 22 Survey Unit 34; photo taken from near south end looking 20°.



Plate 23 Survey Unit 35; photo taken near east end looking 150°.



Plate 24 Survey Unit 38; photo taken midway looking 230°.



Plate 25 Survey Unit 40; taken near north end looking north.

Aboriginal Object Recordings

The Aboriginal object locales recorded during the survey are summarised in Table 3 and described in further detail below.

Table 3 Summary of Aboriginal object locales recorded during the field survey (Datum: GDA).

Name	Comments	Easting	Northing
Bango WF SU4/L1	1 artefact on a casual vehicle track in SU4	661332	6178976
Bango WF SU8/L1	5 artefacts in animal and vehicle track exposures in SU8	662260	6178462
Bango WF SU9/L1	1 isolated artefact in a cultivated paddock in SU9	663049	6177863
Bango WF SU9/L2	5 artefacts located in an extensive area of erosion in SU9	663949	6177258
Bango WF SU14/L1	7 artefacts located on a casual vehicle track in SU14	663847	6171872
Bango WF SU16/L1	5 artefacts located on a casual vehicle track in SU16	660657	6175646
Bango WF SU27/L1	3 artefacts located along a sheep track in SU27	671324	6169442
Bango WF SU31/L1	17 artefacts located along a graded vehicle track in SU31	671897	6169892
Bango WF SU31/L2	3 artefacts located along a graded vehicle track in SU31	671855	6170070
Bango WF SU33/L1	3 artefacts on a graded track and drain area in SU33	670481	6171086
Bango WF SU33/L2	2 artefacts located on an animal track in SU33	670124	6171713
Bango WF SU34/L1	2 artefacts located on a sheep track in SU34	669932	6171948
Bango WF SU34/L2	1 artefact located on a sheep track in SU34	669988	6172052
Bango WF SU40/L1	2 artefacts located on a casual vehicle track in SU40	671397	6172975

Bango WF Survey Unit 4/Locale 1

One stone artefact was recorded in an area of vehicle track exposure in this locale within Survey Unit 4 (Plate 26). The landform is a broad crest of very gentle gradient and an open aspect. The artefact was located in an area measuring 50m x 5m, of which 20% was ground exposure, possessing 80% archaeological visibility. The effective survey coverage is high, and given that one artefact only was recorded, artefact density is assessed to be very low. The vehicle track area is highly disturbed, but away from this, additional artefacts may be present in a subsurface context, although these would be distributed at very low density.



Plate 26 Bango WF SU4/L1 looking 285°.

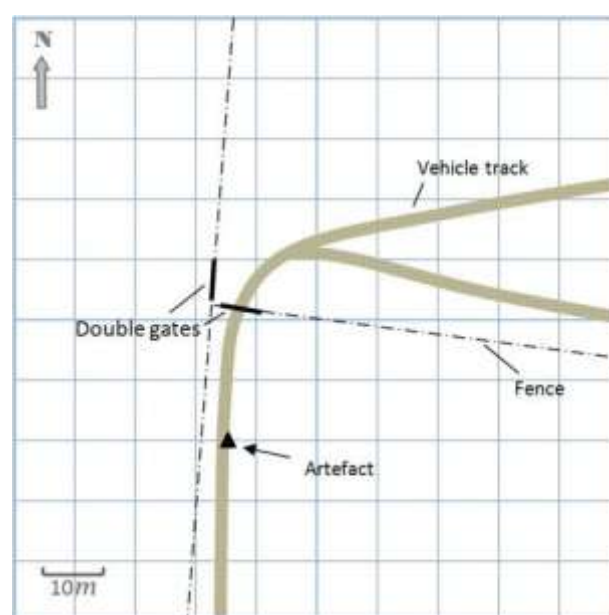


Figure 3 Sketch map showing location of Bango WF SU4/L1.

Bango WF Survey Unit 8/Locale 1

Five stone artefacts (plus 3 quartz *possible* artefact pieces) were recorded in a vehicle/animal track exposure at this locale in Survey Unit 8 (Plate 27); the artefacts were in an area of 10 x 3m. The landform is broad undulating crest with very gentle gradient and open aspect. The artefacts were located in an exposure measuring 100m x 5m (overall), of which 60% was ground exposure, possessing 90% archaeological visibility. The effective survey coverage is high, and given that only five artefacts were recorded, artefact density is assessed to be very low. The site has subsurface potential given some depth to the soils, but artefact density is predicted to be very low.



Plate 27 Bango WF SU8/L1 looking 300°.

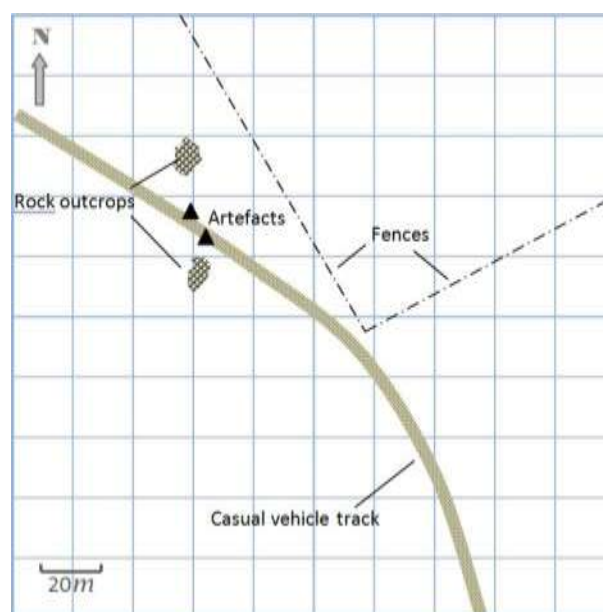


Figure 4 Sketch map showing location of Bango WF SU8/L1.

Bango WF Survey Unit 9/Locale 1

One stone artefact was recorded in a previously ploughed paddock at this locale within Survey Unit 9 (Plate 28). The landform is a simple slope with gentle gradient and an aspect to 30°. The broad paddock area possesses 30% ground exposure, with 60% archaeological visibility. The effective survey coverage within the entire paddock is high, and given that one artefact only was recorded it is assessed to be a genuine isolated find, and artefact density for this locale is assessed to be very low. The site has subsurface potential given some depth to the soils, and artefact density is predicted to be very low.



Plate 28 *Bango WF SU9/L1* looking 300°.

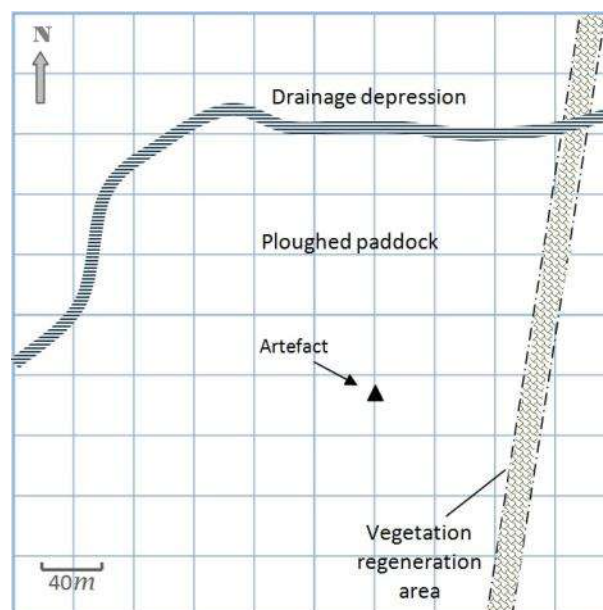


Figure 5 Sketch map showing location of *Bango WF SU9/L1*.

Bango WF Survey Unit 9/Locale 2

Five stone artefacts and 3 possible quartz artefact pieces were recorded in an extensive area of sheet and gully erosion in this locale within Survey Unit 9 (Plate 29). The landform is a simple slope of gentle gradient and an aspect to 90°. The artefacts were located in an area of 50 x 50 m, within a broader area (75 x 85m) which has 10% ground exposure, of which 90% was archaeological visibility. The effective survey coverage is high, and artefact density is assessed to be very low. The locale may contain additional artefacts (in areas which have not sustained erosion), but these would be present in very low density. To the east, nearer to the creek line, there is some subsurface potential and artefact density is assessed to be low/moderate.



Plate 29 *Bango WF SU9/L2* looking 230°.

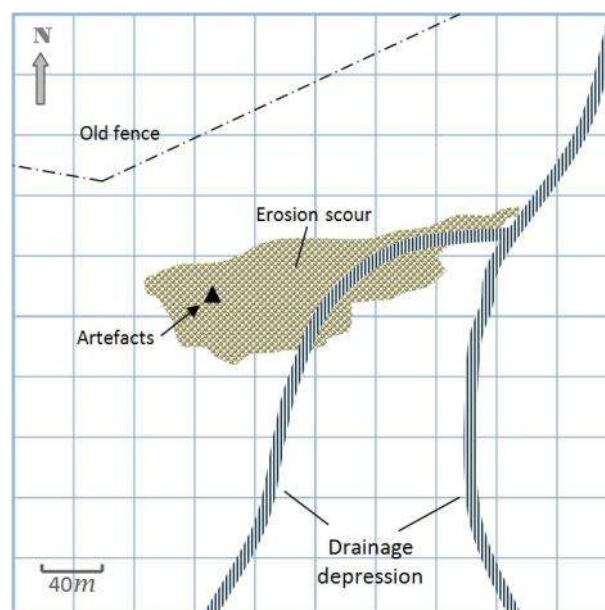


Figure 6 Sketch map showing location of *Bango WF SU9/L2*.

Bango WF Survey Unit 14/Locale 1

Seven stone artefacts were recorded in an area of vehicle track exposure in this locale within Survey Unit 14 (Plate 30). The landform is a broad crest of very gentle gradient and an aspect to 150°. The artefacts were in an area of exposure measuring 75 x 3m, possessing ground exposure of 50%, of which 60% was archaeological visibility. The effective survey coverage during field survey was high, and artefact density is assessed to be very low. The locale has subsurface potential given some depth to the soils, and artefact density is predicted to be very low.



Plate 30 *Bango WF SU14/L1* looking 150°.

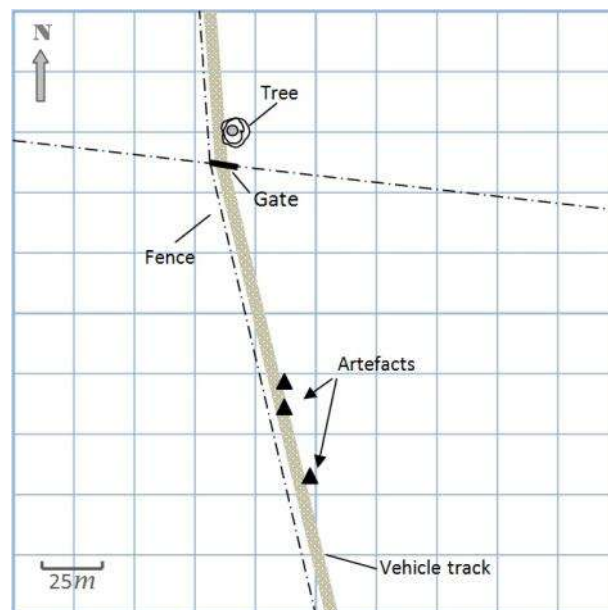


Figure 7 Sketch map showing location of *Bango WF SU14/L1*.

Bango WF Survey Unit 16/Locale 1

Five stone artefacts were recorded in an area of vehicle track exposure at this locale within Survey Unit 16 (Plate 31). The landform is a basal slope of very gentle gradient and open aspect, c. 60m from a creek, and is generally disturbed. The artefacts were recorded in an area measuring 125 x 2m, possessing actual ground exposure of 40%, of which 50% was archaeological visibility. The effective survey coverage is high, and artefact density is assessed to be low. The locale is predicted to contain additional artefacts, distributed at low density and in a disturbed context.



Plate 31 Bango WF SU16/L1 looking 120°.

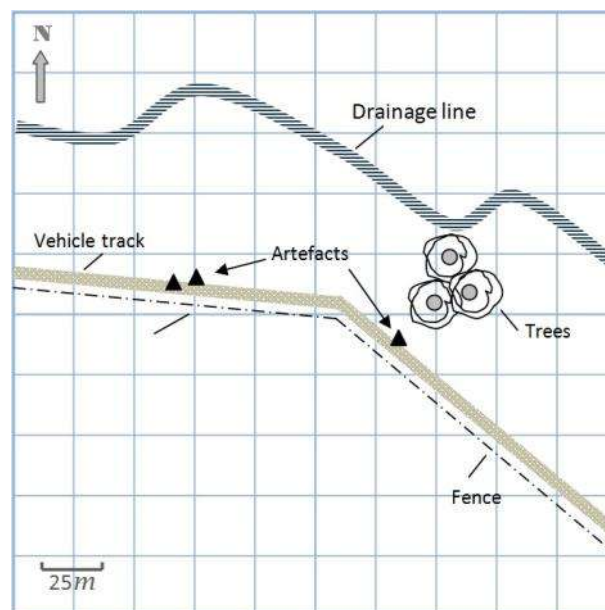


Figure 8 Sketch map showing location of Bango WF SU16/L1.

Bango WF Survey Unit 27/Locale 1

Three stone artefacts were recorded in an area of exposure associated with an animal track in this locale within Survey Unit 27 (Plate 32). The landform is an eroded crest of gentle gradient and an aspect to 90°. The area in which artefacts were recorded measures 30 x 0.5m of which 90% is ground exposure, possessing 90% archaeological visibility. The effective survey coverage is high, and artefact density is assessed to be low. The locale may contain additional artefacts, with some subsurface potential, but these would be present in low density.



Plate 32 *Bango WF SU27/L1* looking 175°.

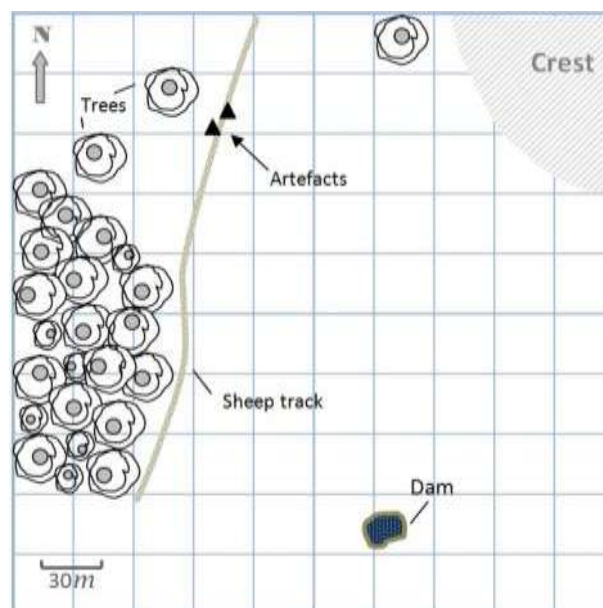


Figure 9 Sketch map showing location of *Bango WF SU27/L1*.

Bango WF Survey Unit 31/Locale 1

Seventeen stone artefacts were recorded in a highly disturbed area of ground exposure associated with a graded vehicle track and accompanying water diversion ditch within this locale (Plate 33). The landform is an upper slope/open depression interface with gentle gradient and northerly aspect. The artefacts were located in an area of 75 x 3m, within a broader 150 x 50m area possessing 80% ground exposure, of which 80% was archaeological visibility. The effective survey coverage is high, and artefact density is assessed to be low/moderate. The upper section of the soil profile throughout much of this locale has been removed through the construction of the vehicle track and water drainage ditch so that while there may be subsurface artefacts present, these would be situated in a highly disturbed context.



Plate 33 *Bango WF SU31/L1* looking 160°.

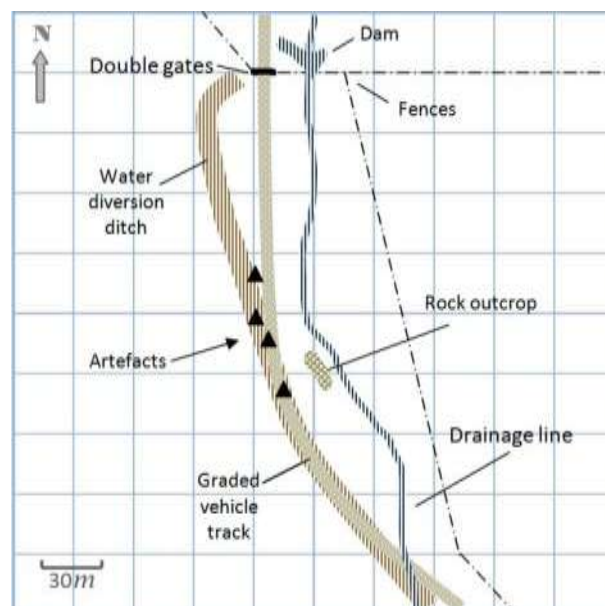


Figure 10 Sketch map showing location of *Bango WF SU31/L1*.

Bango WF Survey Unit 31/Locale 2

Three stone artefacts were recorded in an area of vehicle track ground exposure at this locale within Survey Unit 31 (Plate 34). The landform is a upper slope/open depression interface of very gentle gradient and an aspect to 300°. The artefacts were located in an area measuring 50 x 3m, with 80% ground exposure of which 60% was archaeological visibility. The effective survey coverage is high, and artefact density is assessed to be low/moderate. This locale is highly disturbed due to the construction of a water drainage ditch and the vehicle track, wherein soils have been imported and used as road base. Accordingly, while there may be subsurface artefacts situated within this locale, these would be present in a highly disturbed context.



Plate 34 *Bango WF SU31/L2* looking 150°.

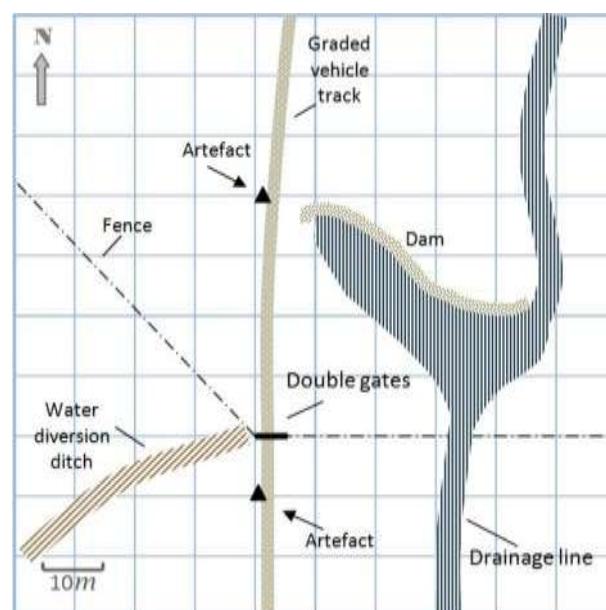


Figure 11 Sketch map showing location of *Bango WF SU31/L2*.

Bango WF Survey Unit 33/Locale 1

Three stone artefacts, probably derived from the same knapping event, were recorded in a 10 x 3m area of ground exposure associated with an eroded and graded vehicle track in this locale within Survey Unit 33 (Plate 35). The landform is a crest of very gentle gradient and an open aspect. The effective survey coverage is high, and given that these were the only artefacts recorded, it is surmised that they were produced as the result of an isolated knapping event. The locale may contain additional artefacts but these would be present in low density and in a disturbed context due to track grading works.



Plate 35 *Bango WF SU33/L1* looking 270°.

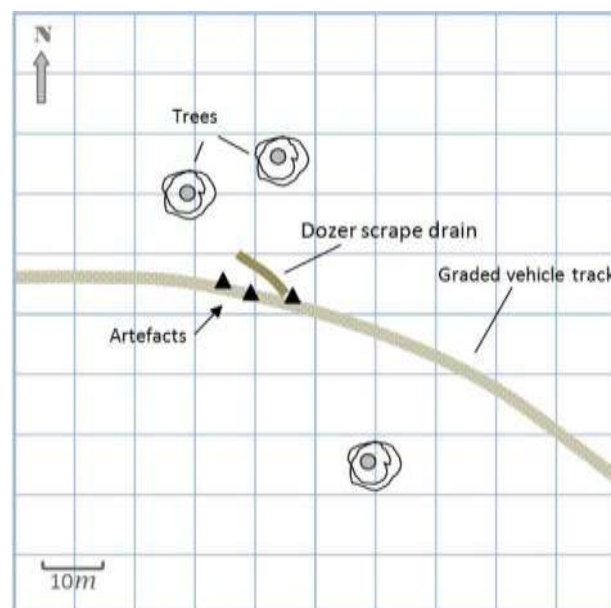


Figure 12 Sketch map showing location of *Bango WF SU33/L1*.

Bango WF Survey Unit 33/Locale 2

Two stone artefacts (8 m apart) were recorded in an area of bare earth exposure in this locale within Survey Unit 33 (Plate 36). The area is a slight rise which is very rocky. The landform is a crest of very gentle gradient and open aspect. The broader area has ground exposure of 30%, of which 60% was archaeological visibility. The effective survey coverage is reasonable, and given that two artefacts only were recorded, artefact density is assessed to be very low. The locale may contain additional artefacts but these would be present in very low density. Because of the skeletal nature of the lithosol the site has no subsurface potential.



Plate 36 *Bango WF SU33/L2* looking 230°.

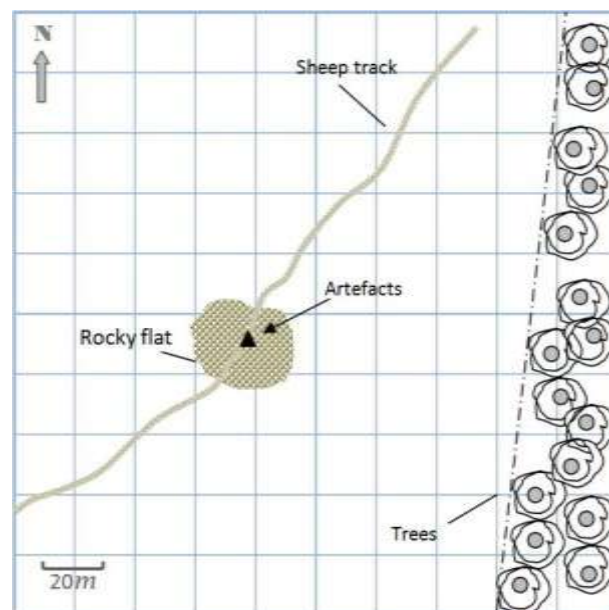


Figure 13 Sketch map showing location of *Bango WF SU33/L2*.

Bango WF Survey Unit 34/Locale 1

Two stone artefacts (c. 2 m apart) were recorded in an area of bare earth exposure in this locale within Survey Unit 34 (Plate 37). The landform is a saddle of gentle gradient and open aspect. The broader saddle area has ground exposure of 10%, of which 90% was archaeological visibility. The effective survey coverage is reasonable, and given that two artefacts only were recorded, artefact density is assessed to be very low. The locale may contain additional artefacts but these would be present in very low density. Because of the skeletal nature of the lithosol the site has limited subsurface potential.



Plate 37 *Bango WF SU34/L1* looking 0°.

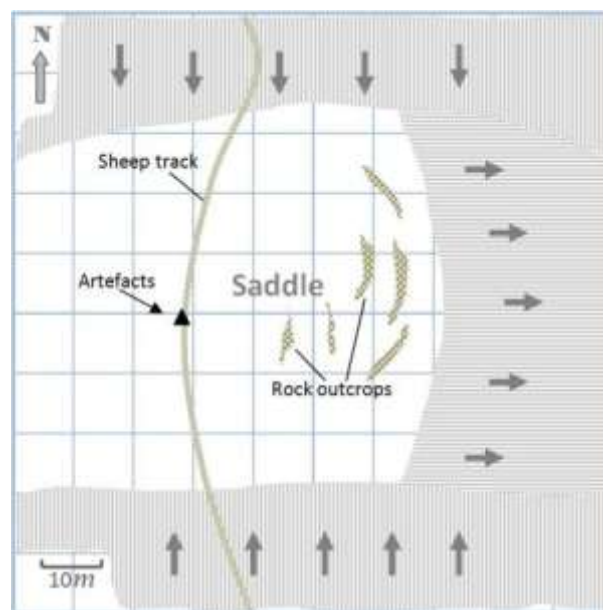


Figure 14 Sketch map showing location of *Bango WF SU34/L1*.

Bango WF Survey Unit 34/Locale 2

One stone artefact was recorded in an area of bare earth exposure in this locale within Survey Unit 34 (Plate 38). The landform is a crest of gentle gradient and an aspect to 150°. The broader crest area has ground exposure of 10%, of which 60% was archaeological visibility. The effective survey coverage is reasonable, and given that one artefact only was recorded, artefact density is assessed to be very low. The locale may contain additional artefacts but these would be present in very low density. Because of the skeletal nature of the lithosol the site has no subsurface potential.



Plate 38 *Bango WF SU34/L2* looking 0°.

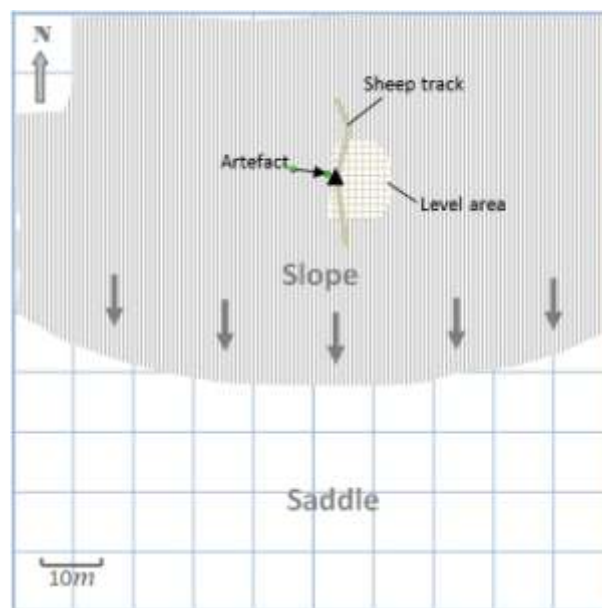


Figure 15 Sketch map showing location of *Bango WF SU34/L2*.

Bango WF Survey Unit 40/Locale 1

Two stone artefacts were recorded in an area of bare earth exposure in this locale within Survey Unit 40 (Plate 39). The landform is a saddle on a crest of gentle gradient. The broader area has ground exposure of 5%, of which 90% was archaeological visibility. The effective survey coverage is reasonable, and given that two artefacts only were recorded, artefact density is assessed to be very low. The locale may contain additional artefacts but these would be present in very low density. Because of the eroded and skeletal nature of the lithosol the site has no subsurface potential.



Plate 39 *Bango WF SU40/L1* looking 150°.

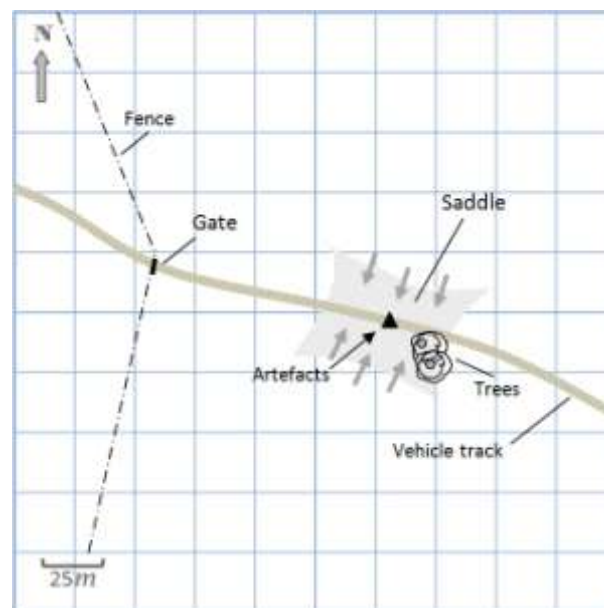


Figure 16 Sketch map showing location of *Bango WF SU40/L1*.

Table 4 Stone artefacts recorded.

Locale	colour	material	type	platform	platform surface	termination	L	W	Th	comments
Bango WF SU4/L1	Milky	Quartz	Proximal flake portion	Broad	Flake scar		13	16	4	Hertzian
Bango WF SU8/L1	Milky	Quartz	Flake fragment				30	18	9	
Bango WF SU8/L1	Brown	Tuff	Possible flake portion	Focal			14	9	2	Hertzian
Bango WF SU8/L1	Brown	Tuff	Flake	Broad	Flake scar	Hinge	18	10	3	
Bango WF SU8/L1	Milky	Quartz	Flaked piece				22	9	7	
Bango WF SU8/L1	Milky	Quartz	Flake fragment				13	8	7	
Bango WF SU9/L1	Brown	Tuff	Flake	Broad	Flake scar	Feather	50	48	12	70% terrestrial cortex
Bango WF SU9/L2	Brown	Silcrete	Flake	Focal		Feather	36	30	15	Use wear along 2 edges; macro flake scars
Bango WF SU9/L2	Brown	Silcrete	Flake	Broad		Feather	46	18	9	Parallel arises on dorsal
Bango WF SU9/L2	Brown	Volcanic	Pebble				61	45	16	95% pebble cortex
Bango WF SU9/L2	Brown	Tuff	Flake	Focal		Feather	23	11	4	
Bango WF SU9/L2	Brown	Tuff	Flake fragment				21	11	2	
Bango WF SU14/L1	Brown	Silcrete	Flake fragment				18	8	2	Artefacts 14 to 19 probably derived from 1 event
Bango WF SU14/L1	Brown	Silcrete	Flake fragment				16	6	2	
Bango WF SU14/L1	Brown	Silcrete	Flake fragment				13	8	2	
Bango WF SU14/L1	Brown	Silcrete	Flake fragment				11	7	2	
Bango WF SU14/L1	Brown	Silcrete	Proximal flake portion	Broad	Flake scar		30	28	8	
Bango WF SU14/L1	Brown	Silcrete	Flake fragment				16	12	3	
Bango WF SU14/L1	Brown	Tuff	Flake	Focal		Feather	13	22	3	
Bango WF SU16/L1	Brown	Volcanic	Flake	Focal		Hinge	11	12	3	Hertzian
Bango WF SU16/L1	Grey	Volcanic	Flake	Focal		Feather	31	24	8	Hertzian
Bango WF SU16/L1	Black	Chert	Distal flake portion				21	12	2	
Bango WF SU16/L1	Milky	Quartz	Medial flake portion ?				13	25	7	Possible artefact

Locale	colour	material	type	platform	platform surface	termination	L	W	Th	comments
Bango WF SU16/L1	Black	Chert	Flake	Focal		Step	14	11	3	
Bango WF SU27/L1	Grey	Volcanic	Flake	Broad		Feather	66	39	14	Longitudinally split
Bango WF SU27/L1	Grey	Volcanic	Flake fragment				18	10	5	
Bango WF SU27/L1	Grey	Volcanic	Flake fragment				23	14	8	
Bango WF SU31/L1	Grey	Volcanic	Core				47	32	28	Amorphous; one negative scar
Bango WF SU31/L1	White	Quartz	Flake	Focal	Flake scar	Feather	33	18	6	
Bango WF SU31/L1	Grey	Volcanic	Flake	Focal	Flake scar	Feather	11	10	3	
Bango WF SU31/L1	Grey	Volcanic	Flake	Focal	Flake scar	Feather	37	22	8	
Bango WF SU31/L1	Grey	Volcanic	Flake fragment				8	6	1	
Bango WF SU31/L1	Pink	Chert	Flake	Broad		Feather	9	10	3	
Bango WF SU31/L1	Grey	Volcanic	Proximal flake portion	Broad	Flake scar		11	13	3	
Bango WF SU31/L1	Grey	Volcanic	Flake fragment				14	20	6	
Bango WF SU31/L1	Grey	Volcanic	Medial flake portion				19	14	5	
Bango WF SU31/L1	Grey	Chert	Flake	Broad	Flake scar	Hinge	22	39	8	
Bango WF SU31/L1	Grey	Volcanic	Flake fragment				13	10	2	
Bango WF SU31/L1	Grey	Volcanic	Distal flake portion				22	11	3	
Bango WF SU31/L1	Grey	Silcrete	Flake fragment				12	11	7	
Bango WF SU31/L1	Grey	Chert	Flake fragment				15	36	9	
Bango WF SU31/L1	Grey	Volcanic	Flake fragment				28	14	6	
Bango WF SU31/L1	Grey	Chert	Flake fragment				22	25	8	10% terrestrial cortex
Bango WF SU31/L2	Grey	Volcanic	Flake	Broad	Flake scar	Feather	24	22	8	
Bango WF SU31/L2	Grey	Volcanic	Distal flake portion			Feather	11	11	2	
Bango WF SU31/L2	Black	Chert	Flake fragment				18	14	5	
Bango WF SU33/L1	Grey	Silcrete	Flake	Broad	Flake scar	Feather	30	17	4	Very fine-grained; artefacts 46 to

Locale	colour	material	type	platform	platform surface	termination	L	W	Th	comments
										48 probably from one event
Bango WF SU33/L1	Grey	Silcrete	Flake	Broad	Flake scar	Feather	16	15	5	
Bango WF SU33/L1	Grey	Silcrete	Flake fragment				9	12	4	
Bango WF SU33/L2	Grey	Volcanic	Flake fragment				21	19	6	
Bango WF SU33/L2	Grey	Silcrete	Flake	Broad	Flake scar	Feather	8	19	5	Hertzian; very fine-grained
Bango WF SU34/L1	Grey	Tuff	Flake	Broad	Flake scar	Hinge	56	30	8	Hertzian
Bango WF SU34/L1	Brown	Silcrete	Medial flake portion				16	12	4	
Bango WF SU34/L2	Purple	Rhyolite	Core				40	35	20	Seven negative fake scars; one rotation
Bango WF SU40/L1	Grey	Tuff	Medial flake portion				14	8	4	
Bango WF SU40/L1	Grey	Tuff	Lithic fragment				52	44	33	Probable artefact

3. CONSULTATION PROCESS

A process of Aboriginal community consultation has been undertaken as a component of this assessment, and has been conducted in accordance with the guidelines as set out in the *Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (NSW DEC 2005) and OEH's *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW DECCW 2010b). All copies of correspondence are included in Appendix 4.

It is noted in particular that there were no late registrations of interest, but had there been, they would have been accommodated within the process of consultation. The relevant Local Aboriginal Land Council (Onerwal LALC) was consulted, and although invited to do so, was unable to provide a representative for the field survey.

3.1 Consultation

In order to identify, notify and register Aboriginal people who may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the area of the proposed project, the following procedure was implemented (Copies of all documentation relating to this process have been submitted to NSW OEH [Queanbeyan] in separate correspondence dated 3 September 2012).

In brief, Aboriginal community consultation was conducted:

- before the field assessment to detail the proposed Project and assess preliminary community views;
- during the field survey with the Aboriginal people team members;
- after the field survey to discuss the findings and recommendations for Aboriginal cultural heritage management but providing the draft report to the RAPS for review and consideration of management issues; and
- strictly in accordance with OEH guidelines;

Correspondence dated 9 July 2012 was sent to:

- NSW OEH Queanbeyan office
- Onerwal Local Aboriginal Land Council
- the Registrar, Aboriginal Land Rights Act 1983
- the National Native Title Tribunal, requesting a list of registered native title claimants, native title holders and registered Indigenous Land Use Agreements
- Native Title Services Corporation Limited (NTSCORP Limited)
- Yass Valley Shire Council
- Upper Lachlan Shire Council
- Boorowa Shire Council
- the Lachlan Catchment Management Authority, requesting contact details for any established Aboriginal reference group

In addition an advertisement was placed in the 11 July 2012 edition of the Yass Tribune newspaper (closing date for registration of interest was noted as 25 July 2012), and the 12

July 2012 edition of the Boorowa News (closing date for registration of interest was noted as 27 July 2012).

Following advice received from NSW OEH (9 July 2012) and the National Native Title Tribunal (19 July 2012), further correspondence was sent to:

- Yukkumbruk
- Peter Falk Consultancy
- Pejar Local Aboriginal Land Council
- Gundungurra Aboriginal Heritage Association Inc
- Yass Valley Indigenous Consultative Committee Community Development
- Ngunawal Heritage Aboriginal Corporation
- Arnold Williams - Ngunnawal Elders Corporation
- Yurwang Gundana Consultancy Cultural Heritage Services
- Buru Ngunawal Aboriginal Corporation
- Carl and Tina Brown
- Gunjeewong Cultural Heritage Aboriginal Corporation
- Gundungurra Tribal Council Aboriginal Corporation

The Registered Aboriginal Parties(RAPs) for this project are:

- Arnold Williams - Ngunnawal Elders Corporation
- Buru Ngunawal Aboriginal Corporation
- Peter Falk Consultancy
- Ngunawal Heritage Aboriginal Corporation
- Onerwal Local Aboriginal Land Council

An outline of the scope of the project, the proposed cultural heritage assessment process and the heritage assessment methodology was forwarded to the registered parties on varying dates, immediately following receipt of their registration of interest. One response (endorsement) was received in regard to the consultation process and methodology, but no issues were raised that had not been addressed in the documents.

A draft report was provided to all RAPS for comment on 27 March 2013. Two responses have been received:

- In a letter dated 12 April 2013, Buru Ngunawal Aboriginal Corporation has indicated their agreement with the report.
- In a letter dated 22 April 2013, Ngunawal Heritage Aboriginal Corporation has recommended a salvage program be undertaken to collect and move all 57 stone artefacts from the 14 sites. Wind Prospect CWP has indicated to Ngunawal Heritage Aboriginal Corporation, via correspondence dated 6 May 2013, that the recommendation for collection would be considered within the context of the development of the Cultural Heritage Management Protocol which would be produced prior to construction of the wind farm.

4. SUMMARY AND ANALYSIS OF BACKGROUND INFORMATION

In the previous section of this report, the results of the background research and the field survey have been outlined. The purpose of this section of the Aboriginal cultural heritage assessment report is to explain the results. In summary, the turbine ridges are predicted to be of very low archaeological potential. No previously recorded Aboriginal places, areas or objects are known to be present in the proposal area, however, 14 Aboriginal sites (most of which are very low density artefact scatters) were recorded.

The proposed impact areas are located in landforms and terrain which is highly amorphous. During the field survey no landforms (or areas within landforms) were identified that are likely to have been environmental focal points that Aboriginal people would have habitually occupied and hence which would result in high density concentrations of artefacts. In addition biodiversity is assessed to be relatively low, and water sources are ephemeral. Accordingly Aboriginal use of this landscape is predicted to have been sparse, of low intensity, and restricted to a limited range of activities; - movement through country, hunting and gathering forays and so on. These types of activities would have resulted in artefact discard which is patchy and low density in distribution.

Given consideration of the predictive model relevant to the area and the extensive survey coverage (see Table 1) achieved during the field survey, the paucity of stone artefacts is believed to be a reasonably accurate reflection of the artefactual status of the proposal area. That is, the proposed impact areas are assessed to contain very low density artefact distribution.

It is believed that the area is likely to contain stone artefacts across the majority, if not all the Survey Units defined during this study. Accordingly, the 14 stone artefact locales which have been recorded are expected to be indicative of the archaeological status of the proposal area only, rather than a comprehensive inventory. All stone artefact recordings are very low density distributions and any unrecorded stone artefacts, either in surveyed areas or in adjacent terrain, are likewise predicted to be present in very low or very low/low densities only.

From an archaeological perspective, the results can be compared to previous studies. Packard and Hughes (1983) also found that sites were rarely present on the elevated topographies of the region. This pattern of low artefact density in elevated contexts has been confirmed by numerous previous wind farm studies in the region (for example, see Austral Archaeology PL 2005, 2008, 2009; Dibden 2006a, 2006b, 2008, 2012; Reeves and Thomson 2004).

It is concluded that there are no information gaps which are of a significant magnitude to warrant any further consideration at this time.

5. CULTURAL HERITAGE VALUES AND STATEMENT OF SIGNIFICANCE

The following significance assessment criteria is derived from the relevant aspects of ICOMOS Burra Charter (Australian ICOMOS 1999).

Aboriginal cultural heritage sites are assessed under the following categories of significance:

- Social or cultural value to contemporary Aboriginal people;
- Historical value;
- Scientific/archaeological value; *and*
- Aesthetic value.

Aboriginal cultural significance

The Aboriginal community will value a place in accordance with a variety of factors including contemporary associations and beliefs and historical relationships. Most heritage evidence is highly valued by Aboriginal people given its symbolic embodiment and physical relationship with their ancestral past.

Archaeological value

The assessment of archaeological value involves determining the potential of a place to provide information which is of value in scientific analysis and the resolution of potential archaeological research questions. Relevant research topics may be defined and addressed within the academy, the context of cultural heritage management or Aboriginal communities. Increasingly, research issues are being constructed with reference to the broader landscape rather than focusing specifically on individual site locales. In order to assess scientific value sites are evaluated in terms of nature of the evidence, whether or not they contain undisturbed artefactual material, occur within a context which enables the testing of certain propositions, are very old or contain significant time depth, contain large artefactual assemblages or material diversity, have unusual characteristics, are of good preservation, or are a part of a larger site complex. Increasingly, a range of site types, including low density artefact distributions, are regarded to be just as important as high density sites for providing research opportunities.

Aesthetic value

Aesthetic value relates to aspects of sensory perception. This value is culturally contingent.

5.1 Significance Value of the Aboriginal Objects in the Study Area

In order to assess the criteria of archaeological significance, and also to consider the criteria of rarity, consideration can be given to the distribution of stone artefacts across the continent. There are two estimates of the quantity of accumulated stone artefacts in Australia (Wright 1983: 118; Kamminga 1991: 14, 2002). Wright estimated an average of 500,000 débitage items and 24,000 finished tools per square kilometre, which equates to a total of about 180 billion finished stone tools and four trillion stone débitage items in Australia. Kamminga's estimates, which were determined from a different set of variables, provide a conservative estimate of 200 billion stone tools and 40 million tonnes

of flaking débitage (see Kamminga 1991 :14; 2002). These two estimates are similar, and suggest that the actual number of stone tools and items of flaking débitage in Australia is in the trillions. The stone artefacts distributed in the proposal area cannot therefore, be considered to be rare.

The vast majority of stone artefacts found in Australia comprise flaking debris (termed débitage) from stone tool making. While it can be reasonably inferred from a range of ethnographic and archaeological evidence that discarded stone artefacts and flaking debris was not valued by the maker, in certain circumstances these objects may to varying degrees have archaeological research potential and/or Aboriginal social value. However, only in very exceptional circumstances is archaeological research potential high for particular sites (Kamminga, J. pers. comm. June 2009).

All recorded artefacts in the subject area are representative of flaking debris. They are highly disturbed and generally have little subsurface excavation potential. The artefact distribution is similar in content to many other lithic scatters in the local area and wider region; the artefact assemblage is therefore common under the criteria of representativeness.

The scientific significance of the recorded Aboriginal artefact locales in the project area is low. However, the cultural value and significance of these locales is generally high for the Aboriginal community. The Indigenous cultural value of the landscape in general, as well as the Aboriginal objects it contains, is considerably higher than the scientific value. Both the landscape and the objects which are encompassed within it, are material testament to the lives of Indigenous people's ancestors and the focus of their current identity, concerns and aspirations. Therefore, the proposed impacts will have an impact on the cultural significance which attaches to the area.

5.2 Statement of Significance

The 14 Aboriginal sites identified in the subject area are assessed to be representative of extremely low density artefact distribution. Their archaeological heritage value is low. The Aboriginal cultural value of the artefacts is significant however (as described by Ngunawal Heritage Aboriginal Corporation in correspondence dated 22 April 2013).

6. THE PROPOSED ACTIVITY

In this section the nature and extent of the proposed activity and any potential harm to Aboriginal areas, objects and/or places is identified.

A full description of the proposal and its potential impact on the landscape and heritage resource is described. A summary of the impact history of the study area has been described in Section 2 and is not repeated here. However, it is emphasised that prior and existing land uses have caused significant changes to geomorphological processes in the area with an associated effect on the archaeological resource.

Potential impacts to archaeology and heritage during the construction phase of the wind farm proposal relate to site preparation, operation of vehicles and machinery and the installation of infrastructure. This may involve earthworks and excavations and vegetation clearing.

6.1 Proposed Impacts

The proposal would involve the construction, operation, and decommissioning of the wind farm. The proposed impact areas are shown in Figures in Appendix 2. Up to 122 wind turbine generators are proposed in layout 1 and up to 96 wind turbine generators in layout 2.

The proposal would involve the following additional component (Table 5):

- Electrical connections between wind turbines and on-site substations, which would be a combination of underground cable and overhead power lines;
- Onsite control buildings and equipment storage facilities for each precinct;
- A temporary concrete batching plant at each precinct;
- Access roads within the precincts in addition to minor upgrades to access on local roads, as required, for the installation and maintenance of wind turbines;
- A number of freestanding permanent monitoring masts for wind speed verification and monitoring; and
- Collector substation and switching station to connect the wind farm to the existing electricity network.

A description of the individual components and their related impacts are outlined as follows:

Turbines

The ground disturbance associated with each turbine would measure a maximum 25 x 25 metres. A wind turbine assembly/crane hardstand area adjacent to the turbine footings could measure up to 25 x 60 metres.

Electrical Connections

The onsite electrical works will include on-site power reticulation cabling (underground and overhead) linking the turbines to a substation. Up to 61 km of underground cabling

is proposed between the turbines, with overhead cabling proposed to connect the turbines in different areas. Underground cabling would be laid out in trenches measuring 1 - 1.5 metres deep and 0.5 - 1 metres wide and where possible the trench routes will follow access tracks, with short spur connections to each turbine. Approximately 9 km of overhead cabling would require an easement of up to 75 metres wide (actual impact would be considerably less).

Collector Substation

A substation is required to convert power from onsite reticulation voltage to a transmission voltage suitable to connect to the existing transmission system. The substation would occupy an area measuring c. 150 x 150 metres. The substation would be fenced and the ground covered with crushed rock and partly by concrete pads for equipment, walkways and cable covers.

Switching Station

The switching station will occupy an area approximately 160 by 220 m and will be surrounded by a 3 m high security fence, surmounted by strands of barbed or razor wire. The arrangement will include an array of busbars, circuit breakers, isolators, buried earth grid, various voltage and current transformers as agreed with TransGrid, power conditioning equipment, an operations and facilities building with parking and a secondary distribution supply source. The ground surface within the enclosure will be covered partly with a layer of crushed rock and partly by concrete slabs. The 3.52 ha area includes a provision for a 20 m Asset Protection Zone.

On-site Control and Facilities Building

A facilities building will be constructed at the same location as the collector substation. The building will house instrumentation, electrical and communications equipment, routine maintenance stores, a small work area and staff amenities.

On-site Access Roads

Approximately 83 km (c. 6 m wide) of onsite access roads would be constructed.

Wind Monitoring Masts

Five permanent wind monitoring masts will be installed on-site each of which will measure up to 80 m in height. The purpose of the monitoring masts is to provide necessary information for the performance monitoring of the wind turbines. The wind monitoring masts would be of a guyed, narrow lattice or tubular steel design.

6.2 Type of Harm

The proposed works would entail ground disturbance and, accordingly, the construction of the wind farm has the potential to cause impacts to any Aboriginal areas, places or objects which may be present within the zones of direct impact (Tables 5 and 6).

Table 5 Project components and approximate dimension (based on greatest impact).

Project Component	Approximate Dimensions
<i>Permanent facilities</i>	
Turbine footings	25 x 25 m (ea.)
Turbine assembly / crane hardstand areas	25 x 60 m (ea.)
Substation	150 x 150 m
Switching station	220 x 160 m
Site compound	75 x 75 m
Site access: new roads	83 km x 6 m
Underground cabling on-site	61 km x 3 m
Overhead easement	9 km x 75 m
Wind monitoring masts	5 x 5sq m
<i>Temporary construction facilities</i>	
Concrete batch plant	50 x 100 m
Rock crushing facility	50 x 100 m
Site office	40 x 100 m
Construction compound	150 x 200 m

Table 5 presents the calculated area of the site proposed to be impacted by the project based on the proposed turbine layout. Some of these impacts would be for the duration of the wind farm operation and some are temporary impacts during the construction phase. In total approximately 118 hectares would suffer disturbance as a result of the project.

Table 6 Impact assessment.

Aboriginal object locale	Type of harm	Degree of harm	Consequence of harm
Bango WF SU4/L1	Direct: Access track	Partial	Partial loss of value
Bango WF SU8/L1	Direct: Access track	Partial	Partial loss of value
Bango WF SU9/L1	Nil	n/a	n/a
Bango WF SU9/L2	Direct: Overhead TL	Partial	Partial loss of value
Bango WF SU14/L1	Direct: Access track	Partial	Partial loss of value
Bango WF SU16/L1	Direct: Access track	Partial	Partial loss of value
Bango WF SU27/L1	Nil	n/a	n/a
Bango WF SU31/L1	Direct: Access track	Partial	Partial loss of value
Bango WF SU31/L2	Direct: Access track	Partial	Partial loss of value
Bango WF SU33/L1	Direct: Access track	Partial	Partial loss of value
Bango WF SU33/L2	Nil	n/a	n/a
Bango WF SU34/L1	Direct: Access track	Partial	Partial loss of value
Bango WF SU34/L2	Nil	n/a	n/a
Bango WF SU40/L1	Nil	n/a	n/a

Impacts will be located on land currently utilised for sheep grazing. Previous land use has resulted in relatively significant environmental impacts and a generally degraded landscape. European activated geomorphological processes and other natural processes associated with land degradation, will have caused significant prior impacts to Aboriginal objects within the proposal area. Irrespective of prior impacts the proposed works entail ground disturbance and accordingly the project has the potential to cause additional impacts to any Aboriginal objects which may be present within the individual components of the proposal. The nature of impacts relating to each Aboriginal object locale is set out in Table 6.

7. AVOIDING AND/OR MINIMISING HARM

The principles of ecologically sustainable development and the matter of cumulative harm have been considered for this project. The area is in a vast rural region and hence existing and future impacts are low, despite the construction of numerous wind farms in the region. It is emphasised that the footprint of the proposed wind farm is minimal in area (118 hectares). The majority of cultural values, including archaeological, which attach to the landform and the broader landscape remain intact across the region.

Avoidance or the mitigation of harm has been considered as an option in relation to the proposed activities. However, the cultural and archaeological heritage significance of the proposal area has not been assessed to be of sufficient significance to warrant the implementation of avoidance or impact mitigation strategies. However, a number of management strategies are possible and these are each given consideration below.

7.1 Management and Mitigation Strategies

Further Investigation

The field survey has been focused on recording artefactual material present on visible ground surfaces. Further archaeological investigation would entail subsurface excavation undertaken as test pits for the purposes of identifying the presence of artefact bearing soil deposits and their nature, extent, integrity and significance.

According to the NSW OEH (2010a: 24), test excavation will be necessary when it can be demonstrated that subsurface Aboriginal objects with potential conservation value have a high probability of being present in an area and the area cannot be substantially avoided.

No areas of the proposal area have been identified which warrant further archaeological investigation in order to formulate appropriate management and mitigation strategies. Based on a consideration of the predictive model of site type applicable to the environmental context in which impacts are proposed, the archaeological potential of the proposed impact areas is assessed not to warrant further investigation. It has not been demonstrated that Aboriginal objects with potential conservation value have a high probability of being present in the subject area. Accordingly, test excavation conducted under OEH's *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010a: 24) is not necessary.

Furthermore, the environmental context in which impacts are proposed contain highly eroded landforms, most of which are weathered to bedrock. Accordingly, subsurface excavation is impractical.

Conservation

Conservation is a suitable management option in any situation, however, it is not always feasible to achieve. Such a strategy is generally adopted in relation to sites which are assessed to be of high cultural and scientific significance, but can be adopted in relation to any site type.

In the case at hand, avoidance of impacts (or minimisation of impacts) in regard to the recorded artefacts locales is not considered to be warranted. Such a strategy, would in any case, likely result in impacts to other Aboriginal objects (as predicted) which may not have been recorded because of subsurface incidence or lack of obtrusiveness.

Mitigated Impacts

Mitigated impact usually takes the form of partial impacts only (i.e. conservation of part of an Aboriginal artefact locale or Survey Unit) and/or salvage in the form of further research and archaeological analysis prior to impacts. Such a management strategy is generally appropriate when Aboriginal objects are assessed to be of moderate or high significance to the scientific and/or Aboriginal community and when avoidance of impacts and hence full conservation is not feasible. Salvage can include the surface collection or subsurface excavation of Aboriginal objects and subsequent research and analysis.

It is assessed that the archaeological resource in the proposal area does not surpass significance thresholds which warrant any form of impact mitigation in this regard. However, in correspondence dated 22 April 2013, the Ngunawal Heritage Aboriginal Corporation has requested a programme of salvage in respect of the 57 artefacts found during the field survey. This matter would be considered further prior to the construction of the wind farm during the development of the Cultural Heritage Management Protocol.

Unmitigated Impacts

Unmitigated impact to Aboriginal objects can be given consideration when they are assessed to be of low archaeological and cultural significance and otherwise in situations where conservation is simply not feasible.

The Aboriginal object locales identified have been assessed to be of low archaeological heritage significance. In addition, any undetected or subsurface artefacts are likewise assessed to be of low archaeological sensitivity. Given the nature and artefact density in the proposal area, and the low scientific significance rating they been accorded, unmitigated impacts are appropriate (however, see above under heading *Mitigated Impacts*).

8. STATUTORY INFORMATION

The NPW Act provides statutory protection for all Aboriginal objects and Aboriginal Places.

An ‘Aboriginal object’ is defined as

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

An Aboriginal place is an area declared by the Minister to be an Aboriginal place for the purposes of the Act (s84), being a place that in the opinion of the Minister *is or was of special significance with respect to Aboriginal culture*.

Under s90 of the NPW Act a person must not destroy, damage or deface or knowingly cause or permit the destruction, damage or defacement of an Aboriginal object or Aboriginal Place without first obtaining the s90 consent Aboriginal Heritage Impact Permit (AHIP). Consents which enable a person to impact an Aboriginal object are issued by the OEH upon review of a s90 Aboriginal Heritage Impact Permit application.

However, under Section 89J of the Environmental Planning and Assessment Act 1979, the following authorisations are not required for State Significant Development that is authorised by a development consent granted after the commencement of this Division (and accordingly the provisions of any Act that prohibit an activity without such an authority do not apply):

- an Aboriginal heritage impact permit under section 90 of the National Parks and Wildlife Act 1974.

9. RECOMMENDATIONS

The following recommendations are made on the basis of:

- A consideration of the relevant section of the Environmental Planning and Assessment Act (see Section 8 Statutory Information).
- The results of the investigation as documented in this report.
- Consideration of the discrete and small area of the development footprint.
- The discussion in Section 7 regarding impact mitigation and management.

The following recommendations are provided:

- There are no identified Aboriginal archaeological and cultural constraints relating to the proposal.
- The 14 recorded Aboriginal object locales and the predicted very low density subsurface artefact distribution in the proposal area does not surpass archaeological significance thresholds which would act to preclude the proposed impacts.
- The proposal area does not warrant further archaeological investigation such as subsurface test excavation.
- The 14 recorded Aboriginal object locales are assessed to be representative of a very low density distribution of stone artefacts. The archaeological heritage significance of these locales is assessed to be low. Accordingly, unmitigated impact, where this would occur, is considered to be appropriate. A management strategy of impact avoidance is not warranted.
- It is recommended that ground disturbance impacts associated with the proposal be kept to a minimum and to defined areas so as to ensure as little impact as possible to the Aboriginal objects (stone artefacts) which can be expected to extend in a relatively continuous distribution across the broader landscape encompassed by the proposal.
- It is recommended that additional archaeological assessment is conducted in any areas which are proposed for impacts that have not been surveyed during the current assessment. It is predicted that significant Aboriginal objects can occur anywhere in the landscape and, accordingly, they need to be identified and impact mitigation strategies implemented prior to impacts.
- The proponent should, in consultation with an archaeologist, develop a Cultural Heritage Management Plan. The development of an appropriate Cultural Heritage Management Plan should be undertaken in consultation with an archaeologist, the registered Aboriginal parties and the NSW Office of Environment and Heritage.

The Cultural Heritage Management Plan would set out procedures relating to the conduct of additional archaeological assessment, if required, and the management of any Aboriginal cultural heritage values which may be identified.

- Personnel involved in the construction and management phases of the project should be trained in procedures to implement recommendations relating to cultural heritage, as necessary.
- Cultural heritage should be included within any environmental audit of impacts proposed to be undertaken during the construction phase of the development.

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GLOSSARY

Aboriginal object - A statutory term, meaning: ‘... any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains’ (s.5 NPW Act).

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

Development area - Area proposed to be impacted as part of a specified activity or development proposal.

Harm - A statutory term meaning ‘... any act or omission that destroys, defaces, damages an object or place or, in relation to an object – moves the object from the land on which it had been situated’ (s.5 NPW Act).

Place - An area of cultural value to Aboriginal people in the area (whether or not it is an Aboriginal place declared under s.84 of the Act).

Proponent - A person proposing an activity that may harm Aboriginal objects or declared Aboriginal places and who may apply for an AHIP under the NPW Act.

Proposed activity - The activity or works being proposed.

Subject area - The area that is the subject of archaeological investigation. Ordinarily this would include the area that is being considered for development approval, inclusive of the proposed development footprint and all associated land parcels. In this instance the subject area refers to the development footprint.

APPENDIX 1 OEH AHIMS RESULTS

AHIMS Web Services (AWS) Extensive search - Site list report									
Your Ref Number : Bango Wind Farm Client Service ID : 74521									
SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteType
57-1-0075	Fitzgerald trackhead	AGD	55	665220	6161120	Open site	Valid	Artifact -	Open Camp Site
51-4-0054	Contact	Recorders	A.P Square					Artifact -	Permits
	Handman Creek	AGD	55	669400	6178040	Open site	Valid	Artifact -	Permits
	Contact	Recorders	Petra Scholl						Permits

Report generated by AHIMS Web Service on 09/07/2012 for Julie Doherty for the following area at Datum: GDA, Zone: 55, Eastings: 6150000 - 6170000, Northings: 6150000 - 6180000 with a Buffer of 50 meters. Additional Info: EIS, Number of Aboriginal sites and Aboriginal objects found is 2

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

Page 1 of 1

APPENDIX 2 SURVEY UNIT AND SITE MAPPING

APPENDIX 3 EUROPEAN HERITAGE

Historical Register Searches

Searches have been conducted for previous heritage listings in and around the study area; these searches have included all of the relevant heritage registers for items of local through to world significance. Details of these searches are provided below.

Australian Heritage Database

This database contains information about more than 20 000 natural, historic and Indigenous places.

A search of this database revealed that there are no items listed on the Register of the National Estate (RNE) as being in or near the proposed Bango Wind Farm subject area.

State Heritage Inventory

The NSW heritage database contain over 20,000 statutorily-listed heritage items in New South Wales. This includes items protected by heritage schedules to local environmental plans (LEPs), regional environmental plans (REPs) or by the State Heritage Register.

The information is supplied by local councils and State agencies and includes basic identification details and listing information. Consequently listings should be confirmed with the responsible agency.

The Bango Wind Farm falls within the boundaries of three local council areas, they being Boorowa Council, Upper Lachlan Shire Council and Yass Valley Council. A search of this database in relation to all three council areas revealed no listings for items in the subject area.

National Trust of Australia (NSW) Register

The National Trust of Australia (NSW) is a non-government Community Organisation which promotes the conservation of both the built and natural heritage (for example, buildings, bushland, cemeteries, scenic landscapes, rare and endangered flora and fauna, and steam engines may all have heritage value). The Trust has approximately 30,000 members in New South Wales.

A search of the National Trust of Australia (NSW) Register has revealed there are no items listed in this register for the subject area.

Yass Valley LEP 2003

The Yass Valley LEP 2003 contains a list of heritage items in the LGA. The objectives of heritage conservation within the LEP is as follows:

- a) to conserve the environmental heritage of Yass Valley,
- b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,
- c) to conserve archaeological sites,
- d) to conserve Aboriginal objects and Aboriginal places of heritage significance.

A search of the Heritage Map and Schedule 5 of the LEP revealed there is one item listed in proximity to the subject area. Item I094 “The Pines” – cottage and remnant orchard and packing shed on Lot 1 DP 831173 is located on land included in the Project site but does not fall within the area proposed to be impacted by the Project.

Results

Three potential European heritage items have been recorded during the study, none of which satisfy heritage listing criteria. All are located outside proposed impact areas and would not be affected by the development.

European Item ID:	BWF SU8/H1 Relic farmhouse complex with associated ploughed field and dam
Grid reference(GDA):	Zone 55: E661885 N6178175 (House site) E661898 N6178283 (Dam site)
Description:	This farmhouse complex is comprised of an assortment of relic objects and vestige features located in the vicinity of the original house site, with an associated area of a former ploughed field and dam situated immediately to the north (Figures 1 and 2). The relic objects and vestige features which now comprise the farmhouse site include a levelled house platform area, an adjacent ditch with 90° turn, an area of brick paving, a low set stone wall, the remains of a fireplace with chimney, a c. 12 x 5m area where bricks are strewn, an area where timbers have been pushed up, as well as a scattering of sundry objects such as metal and glass pieces, including a bucket and old bottles. In addition a fig, kurrajong and pine trees have been planted around the house area site. Immediately to the north of the farmhouse site is situated an area of relic ploughed field, c 55 x 60m in area, as visible in the aerial view seen below in Plate 1. Some ten ploughed furrows running north/south can be distinguished in this view, but from the indications it is believed highly probable that the ploughed area originally extended further to the west instead of cutting out at the present-day fence line. Located in the drainage line to the north of the area of relic ploughed field is an extant dam which, together with

the ploughed area, given their position and composition, are surmised to be directly related to and contemporaneous with the farmhouse (Plate 2). The dam is 'hourglass' shaped, running east/west, with an elongated restriction connecting two ponds. The banks and channel of the dam have been manually constructed, having been dug out by hand or with the use of a horse-drawn implement or similar. An upright post of similar age is positioned next to the dam.

Proposed impacts:

The impacts originally proposed for this area have been redesigned so that no impacts are now proposed for this locale.



Figure 1 Satellite view of the farmhouse complex area showing associated relic ploughed field and dam site (Google Earth, 2013).



Plate 1 SU8/H1; view of remnant stone wall alignment in the farmhouse precinct looking south.



Plate 2 View of manually constructed dam, looking west.

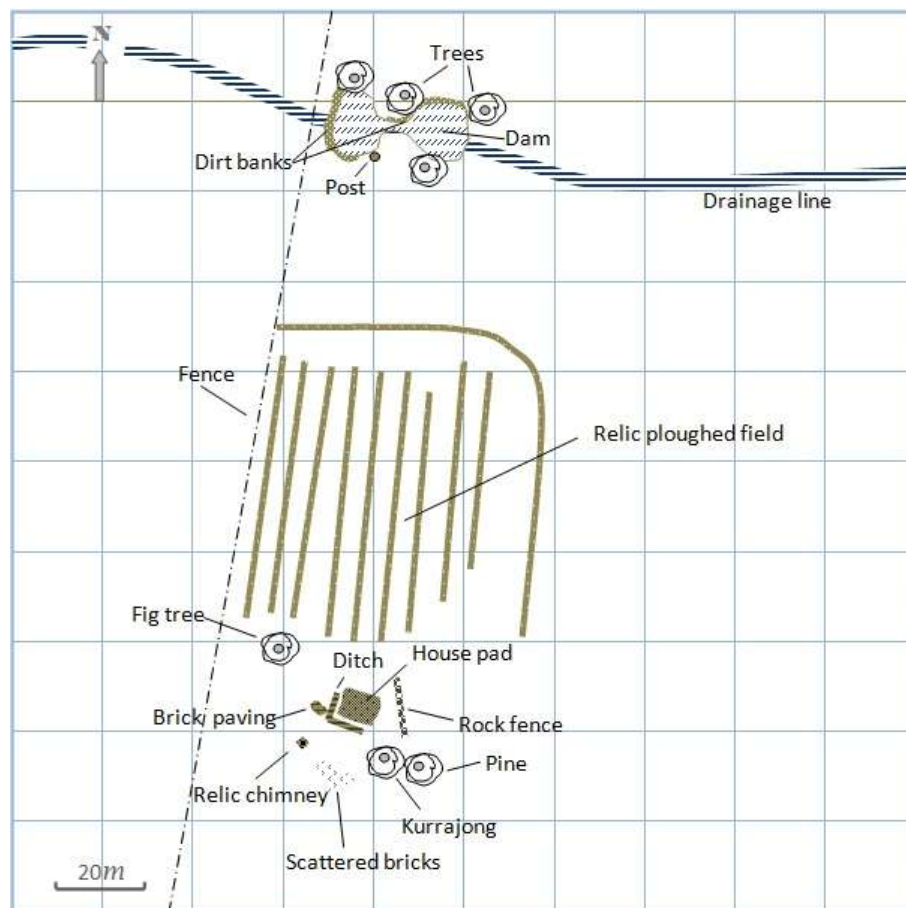


Figure 2 Map of farmhouse complex area showing associated relic ploughed field and dam site.

European Item ID: BWF SU39/H1 Prospecting pits

Grid reference(GDA): Zone 55: E671374 N6174706

Description: Located in Survey Unit 39 are traces of two areas of mining explorations in the form of prospecting pits (Figure 3). The shaft of the largest pit measures approximately 3 metres square and although its depth was not measured, it is over 2.0 metres deep. On the northern (downhill) side of this pit is a mullock heap comprised of the rock extracted from the pit and comprised of blue-grey gravels and shatter (Plate 3). The mullock heap extends out from the shaft a distance of some 5 metres at its greatest extent, and has a maximum height of c. 1.5m. A shallower more amorphous pit is located about 12 metres upslope to the southwest of the main excavated area. This pit is c. 2 x 2m, and shallow at about 1m deep. There are no artefacts obvious in the immediate vicinity of the site, nor are there any other associated features, other than some metal pickets relatively recently emplaced for reasons of safety. Given

the absence of artefacts and other features such as significant mine shafts and occupation sites, it appears that this was a relatively brief exploration of potential ore deposits that was abandoned due to a perceived low potential for mining in the immediate area.

Proposed impacts:

This site is located away from any proposed impacts.



Plate 3 View of main shaft and associated mullock heap, looking northwest.

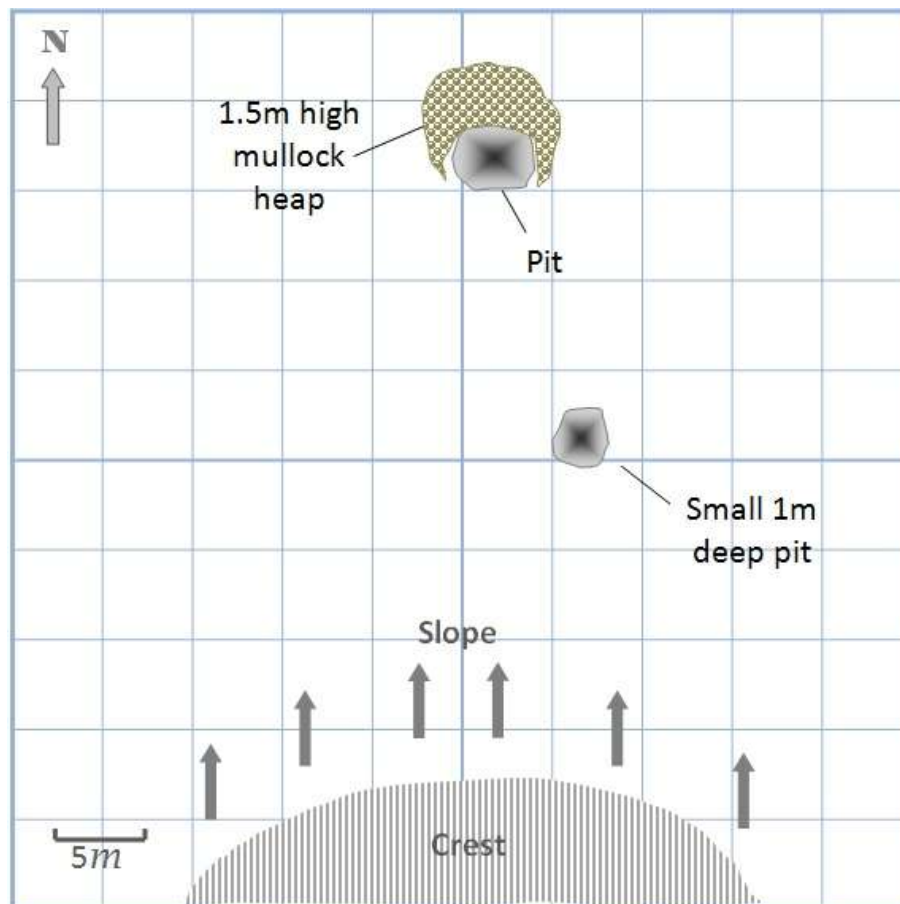


Figure 3 Map of BWF SU39/H1 prospecting pits.

European Item ID: BWF SU40/H1 Prospecting pits

Grid reference(GDA): Zone 55: E671815 N6174070

Description: This site is a series of prospecting pits (Figure 4). A detailed recording of this site was not made, as it was well outside the impact area. The broader area, c. 50 x 50m, is heavily eroded due to the mining activities in combination with water action on the moderately steep slope. A number of shafts and pits are present, the largest of which has subsequently filled with water. Copper ore with traces of azurite were found to be in evidence amongst the excavated shatter and gravels extracted from the shafts in this area. Some timber framework is also present in association with the pits.

Proposed impacts: There are no impacts proposed for this area.



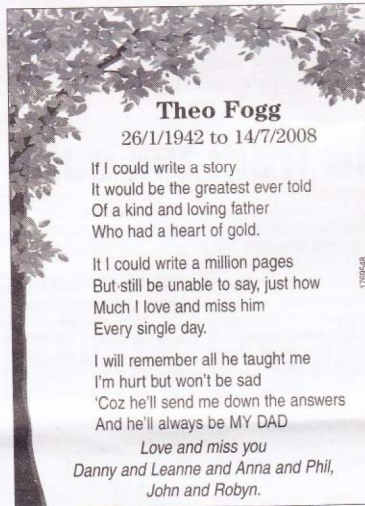
Figure 4 Satellite view of the BWF SU40/H1 Prospecting pits area, with pits located within the area of erosion (Google Earth, 2013).

APPENDIX 4 CONSULTATION CORRESPONDENCE

Advertisements

CATHOLIC CHURCH
 Saturday Vigil 5.30pm
 Sunday 8am.
 Binalong 9.30am
 (All Welcome)

IN MEMORIAM



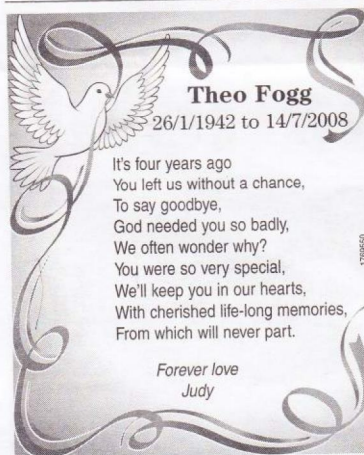
Theo Fogg
 26/1/1942 to 14/7/2008

If I could write a story
 It would be the greatest ever told
 Of a kind and loving father
 Who had a heart of gold.

It I could write a million pages
 But still be unable to say, just how
 Much I love and miss him
 Every single day.

I will remember all he taught me
 I'm hurt but won't be sad
 'Coz he'll send me down the answers
 And he'll always be MY DAD

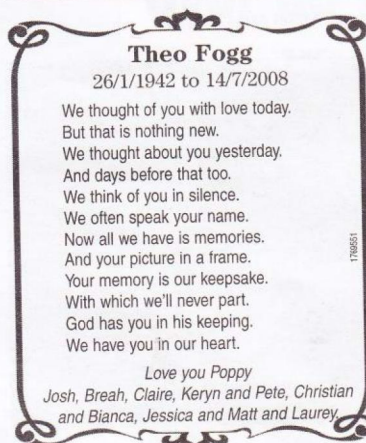
Love and miss you
 Danny and Leanne and Anna and Phil,
 John and Robyn.



Theo Fogg
 26/1/1942 to 14/7/2008

It's four years ago
 You left us without a chance,
 To say goodbye,
 God needed you so badly,
 We often wonder why?
 You were so very special,
 We'll keep you in our hearts,
 With cherished life-long memories,
 From which will never part.

Forever love
 Judy



Theo Fogg
 26/1/1942 to 14/7/2008

We thought of you with love today.
 But that is nothing new.
 We thought about you yesterday.
 And days before that too.
 We think of you in silence.
 We often speak your name.
 Now all we have is memories.
 And your picture in a frame.
 Your memory is our keepsake.
 With which we'll never part.
 God has you in his keeping.
 We have you in our heart.

Love you Poppy
 Josh, Breah, Claire, Keryn and Pete, Christian
 and Bianca, Jessica and Matt and Laurey.

PUBLIC NOTICE

Wind Prospect CWP is proposing to develop the Bango Wind Farm, located approximately 90 kilometres northwest of Goulburn between Boorowa and Yass. The wind farm would be comprised of approximately 120 turbines. Aboriginal people with cultural knowledge relevant to determining the significance of Aboriginal objects and/or places in the area are invited to register an interest in the process of community consultation. The purpose of community consultation with Aboriginal people is to assist with the preparation of an Aboriginal cultural heritage assessment. Please register on behalf of the proponent, to Julie Dibden, NSW Archaeology PL, PO Box 2135 Central Tilba NSW 2546: ph 0427074901, before 27 July 2012.

WANTED Fox Shooters

Shooting available on
Beverly Boorowa

Ring Wally Merriman 0427 068 843

Campbell Fundraising Disco Saturday, July 14, 2012

7pm Start
Ex Services Club

School Children \$5 - Adults \$10

PUBLIC NOTICES

HEARING DIFFICULTIES? Go to Christian Meyer Hearing! Regular local clinics, HARDEN 19.7.12. Registered, qualified practitioners. "Personalised Private Only" services. Top-end technologies only. Results guaranteed. Free home visits arranged. 1300-66-03-03.

MEETINGS

RUGBY RFS ANNUAL GENERAL MEETING

Saturday, July 21, 2012

Rugby Hall
10am Start
All welcome

Enquiries: Tony Croker 4835 7203

FOR SALE

LIGHTS - CEILING FANS - COOKWARE - gifts - kitchenware at Lamps 'N Things Cowra. Next to Bunnings.

TAKE A FURTHER 25% OFF ALL 1/2 PRICE UNDERWEAR

at
Lorraine's of young

**For enquiries ring Steve
on 0417 294 966**



POSITION VACANT

Asset and Risk Management Officer
 Closing Date for Applications 30 July 2012

An exciting opportunity exists for a highly motivated individual to progress their career in the Local Government Industry. Working with Council's experienced engineering and executive teams, the position offers a diverse range of roles and working environments.

The successful applicant will provide asset and risk management support to staff, managers and the executive will be responsible for achieving Council's asset management and corporate risk management objectives. A successful applicant will play an important role in Council to better manage local infrastructure. Graduates are encouraged to apply for the position.

The position is offered on a fixed-term full-time basis of 35 hours per week and consists of a 9 day fortnight position is expected to commence in September 2012. Salary and conditions will be in accordance with the Local Government (State) Award and include annual leave and 3 weeks sick leave per year. The award band and level is Professional / Specialist Level 2.

Application packages are available from the Council at 6-8 Market Street Boorowa, and Council's website www.boorowa.nsw.gov.au. Written applications should be received by 4.00 pm on 30 July 2012 and should be addressed to the General Manager. Further information on the position and how to apply is available from Deirdre Johnson 2000.

Council uses an objective selection and recruitment process and welcomes applications from anyone qualified for this position. Boorowa Council is an Employment Opportunity Employer.

Therese Manns
General Manager

Residential Aged Care Manager

Boorowa Hostel Inc, not for profit operator of the aged care Burrowa House situated in Boorowa NSW.

The successful applicant will need the experience/qualifications outlined below:

- Resident Care Planning and Personal Care needs.
- Knowledge of the Aged Care Act, the Residential Care Act and the Aged Care Accreditation process.
- Formulating Policies and Procedures.
- Staff Management and Rostering.
- Financial management.
- Knowledge and use of Microsoft Office.
- Experience with Home Care services for the elderly and disabled.

QUALIFICATIONS:

Certificate III & IV in Aged Care.

5 years experience in the Aged Care Sector.

For more information please contact 02 6385

Written application should be made before August 2012 and mailed to:

Supervisor's Position, Burrowa House, 769 Foote Street, BOOROWA, NSW, 2586.

Casual Bar Attendant

Must have RSA & RC
weekend work
Various hours

Phone Boorowa Recreation Club 6385 3224

PUBLIC NOTICES AND BUSINESS OPPORTUNITIES : PUBLIC NOTICES
11/07/2012 Yass Tribune

Wind Prospect CWP is proposing to develop the Bango Wind Farm, located approximately 90 kilometres northwest of Goulburn between Boorowa and Yass. The wind farm would be comprised of approximately 120 turbines. Aboriginal people with cultural knowledge relevant to determining the significance of Aboriginal objects and/or places in the area are invited to register an interest in the process of community consultation. The purpose of community consultation with Aboriginal people is to assist with the preparation of an Aboriginal cultural heritage assessment. Please register on behalf of the proponent, to Julie Dibden, NSW Archaeology PL, PO Box 2135 Central Tilba NSW 2546: ph 0427074901, before 25 July 2012.

PUBLIC NOTICES AND BUSINESS OPPORTUNITIES : PUBLIC NOTICES
11/07/2012 Yass Tribune

Consolidate your debt.

Westpac

Flexi Loan.

12.99%
Variable interest rate.

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Establishment fee.

Find out more

Conditions apply.

[Term Life Insurance Rate](#) Term life insurance quotes, compare all companies and save on premiums www.lifebroker.com.au

[TAFE Courses Online](#) Get your qualification faster. Fully-accredited. Start today! www.opencolleges.edu.au

[Newspaper News](#)

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[Savings Accounts](#) | [Personal Loans](#) | [Mobile](#) | [Credit Cards](#) | [Broadband](#)

First Stage Letters

New South Wales Archaeology Pty Limited

ABN 53106044366

PO Box 2135
Central Tilba NSW 2546
Ph 02 44737947
Fax 02 61002701
julie@nswarchaeology.com.au

9 July 2012

Manager
Landscape and Heritage Protection Section
Office of Environment and Heritage
PO Box 733
Queanbeyan NSW 2620

Dear Sir/Madam

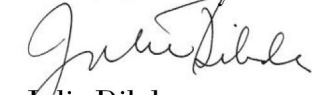
Re Proposed Bango Wind Farm, via Boorowa

NSW Archaeology PL has been engaged to conduct an archaeological assessment in relation to a proposal by Wind Prospect CWP to construct the Bango Wind Farm in an area north of Yass and southeast of Boorowa. As a part of that study NSW Archaeology Pty Ltd is undertaking consultation with Aboriginal people according to the requirements stipulated in the former NSW DECCW *Aboriginal cultural heritage consultation requirements for proponents, 2010*.

The purpose of Aboriginal community consultation is to assist the proponent in understanding Aboriginal peoples views and concerns about the project, to understand cultural values present in the area, and to assist the NSW Office of Environment and Heritage (OEH) in the determination of an AHIP application (if required). It is proposed to construct c. 120 wind turbines together with associated infrastructure.

We are seeking to identify Aboriginal persons who hold cultural knowledge relevant to this project area and who may wish to register an interest. Those who choose to register will have the opportunity to provide culturally appropriate information and to comment on the cultural heritage significance of Aboriginal objects and the area. If you are aware of Aboriginal people or groups who you believe may wish to register an interest please provide contact details to NSW Archaeology Pty Ltd on behalf of the proponent before the 24th July 2012.

Yours faithfully



Julie Dibden
New South Wales Archaeology Pty Limited

New South Wales Archaeology Pty Limited

ABN 53106044366

PO Box 2135
Central Tilba NSW 2546
Ph 02 44737947
Fax 02 61002701
julie@nswarchaeology.com.au

9 July 2012

Onerwal Local Aboriginal Land Council
PO Box 644
Yass NSW 2582

Dear Sir/Madam

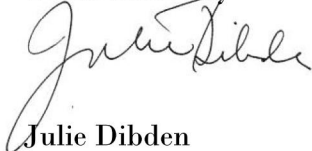
Re Proposed Bango Wind Farm, via Boorowa

NSW Archaeology PL has been engaged to conduct a cultural and archaeological heritage assessment in relation to a proposal by Wind Prospect CWP to construct the Bango Wind Farm in an area north of Yass and southeast of Boorowa. As a part of that study NSW Archaeology Pty Ltd is undertaking consultation with Aboriginal people according to the requirements stipulated in the former NSW DECCW *Aboriginal cultural heritage consultation requirements for proponents, 2010*.

The purpose of Aboriginal community consultation is to assist the proponent in understanding Aboriginal peoples views and concerns about the project, to understand cultural values present in the area, and to assist the NSW Office of Environment and Heritage (OEH) in the determination of an AHIP application (if required). It is proposed to construct c. 120 wind turbines together with associated infrastructure.

We are seeking to identify Aboriginal persons who hold cultural knowledge relevant to this project area and who may wish to register an interest. Those who choose to register will have the opportunity to provide culturally appropriate information and to comment on the cultural heritage significance of Aboriginal objects and the area. If you are aware of Aboriginal people or groups who you believe may wish to register an interest please provide contact details to NSW Archaeology Pty Ltd on behalf of the proponent before the 24th July 2012.

Yours faithfully



Julie Dibden

New South Wales Archaeology Pty Limited

New South Wales Archaeology Pty Limited

ABN 53106044366

PO Box 2135
Central Tilba NSW 2546
Ph 02 44737947
Fax 02 61002701
julie@nswarchaeology.com.au

9 July 2012

Office of the Registrar Aboriginal Land Rights Act 1983
PO Box 112
Glebe NSW 2037

Dear Sir/Madam

Re Proposed Bango Wind Farm, via Boorowa

NSW Archaeology PL has been engaged to conduct an archaeological assessment in relation to a proposal by Wind Prospect CWP to construct the Bango Wind Farm in an area north of Yass and southeast of Boorowa. As a part of that study NSW Archaeology Pty Ltd is undertaking consultation with Aboriginal people according to the requirements stipulated in the former NSW DECCW *Aboriginal cultural heritage consultation requirements for proponents, 2010*.

The purpose of Aboriginal community consultation is to assist the proponent in understanding Aboriginal peoples views and concerns about the project, to understand cultural values present in the area, and to assist the NSW Office of Environment and Heritage (OEH) in the determination of an AHIP application (if required). It is proposed to construct c. 120 wind turbines together with associated infrastructure.

We are seeking to identify Aboriginal persons who hold cultural knowledge relevant to this project area and who may wish to register an interest. Those who choose to register will have the opportunity to provide culturally appropriate information and to comment on the cultural heritage significance of Aboriginal objects and the area. We would appreciate if you could provide us with a list of Aboriginal owners if there are any for the area. If you are aware of Aboriginal people or groups who you believe may wish to register an interest please provide contact details to NSW Archaeology Pty Ltd on behalf of the proponent before 24th July 2012.

Yours faithfully



Julie Dibden
New South Wales Archaeology Pty Limited

New South Wales Archaeology Pty Limited

ABN 53106044366

PO Box 2135
Central Tilba NSW 2546
Ph 02 44737947
Fax 02 61002701
julie@nswarchaeology.com.au

9 July 2012

National Native Title Tribunal
GPO Box 9973
Sydney NSW 2001

Dear Sir/Madam

Re Proposed Bango Wind Farm, via Boorowa

NSW Archaeology PL has been engaged to conduct an archaeological assessment in relation to a proposal by Wind Prospect CWP to construct the Bango Wind Farm in an area north of Yass and southeast of Boorowa. As a part of that study NSW Archaeology Pty Ltd is undertaking consultation with Aboriginal people according to the requirements stipulated in the former NSW DECCW *Aboriginal cultural heritage consultation requirements for proponents, 2010*.

The purpose of Aboriginal community consultation is to assist the proponent in understanding Aboriginal peoples views and concerns about the project, to understand cultural values present in the area, and to assist the NSW Office of Environment and Heritage (OEH) in the determination of an AHIP application (if required). It is proposed to construct c. 120 wind turbines together with associated infrastructure.

We are seeking to identify Aboriginal persons who hold cultural knowledge relevant to this project area and who may wish to register an interest. Those who choose to register will have the opportunity to provide culturally appropriate information and to comment on the cultural heritage significance of Aboriginal objects and the area. Specifically we seek from you a list of registered native title claimants, native title holders and registered Indigenous Land Use Agreements.

If you are aware of Aboriginal people or groups who you believe may wish to register an interest please provide contact details to NSW Archaeology Pty Ltd on behalf of the proponent before 24th July 2012.

Yours faithfully



Julie Dibden
New South Wales Archaeology Pty Limited

New South Wales Archaeology Pty Limited

ABN 53106044366

PO Box 2135
Central Tilba NSW 2546
Ph 02 44737947
Fax 02 61002701
julie@nswarchaeology.com.au

9 July 2012

Native Title Services Corporation Ltd
PO Box 2105
Strawberry Hills NSW 2012

Dear Sir/Madam

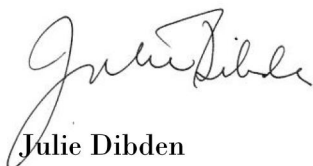
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We are seeking to identify Aboriginal persons who hold cultural knowledge relevant to this project area and who may wish to register an interest. Those who choose to register will have the opportunity to provide culturally appropriate information and to comment on the cultural heritage significance of Aboriginal objects and the area. If you are aware of Aboriginal people or groups who you believe may wish to register an interest please provide contact details to NSW Archaeology Pty Ltd on behalf of the proponent before 24th July 2012.

Yours faithfully



Julie Dibden
New South Wales Archaeology Pty Limited

New South Wales Archaeology Pty Limited

ABN 53106044366

PO Box 2135
Central Tilba NSW 2546
Ph 02 44737947
julie@nswarchaeology.com.au

9 July 2012

General Manager
Yass Valley Council
PO Box 6
YASS NSW 2582

Dear Sir/Madam

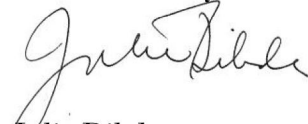
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The purpose of Aboriginal community consultation is to assist the proponent in understanding Aboriginal peoples views and concerns about the project, to understand cultural values present in the area, and to assist the NSW Office of Environment and Heritage (OEH) in the determination of an AHIP application (if required). It is proposed to construct c. 120 wind turbines together with associated infrastructure.

We are seeking to identify Aboriginal persons who hold cultural knowledge relevant to this project area and who may wish to register an interest. Those who choose to register will have the opportunity to provide culturally appropriate information and to comment on the cultural heritage significance of Aboriginal objects and the area. If you are aware of Aboriginal people or groups who you believe may wish to register an interest please provide contact details to NSW Archaeology Pty Ltd on behalf of the proponent before the 24th July 2012.

Yours faithfully



Julie Dibden
NSW Archaeology Pty Ltd

New South Wales Archaeology Pty Limited

ABN 53106044366

PO Box 2135
Central Tilba NSW 2546
Ph 02 44737947
julie@nswarchaeology.com.au

9 July 2012

General Manager
Upper Lachlan Shire Council
PO Box 10
CROOKWELL NSW 2583

Dear Sir/Madam

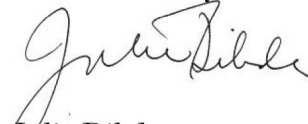
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The purpose of Aboriginal community consultation is to assist the proponent in understanding Aboriginal peoples views and concerns about the project, to understand cultural values present in the area, and to assist the NSW Office of Environment and Heritage (OEH) in the determination of an AHIP application (if required). It is proposed to construct c. 120 wind turbines together with associated infrastructure.

We are seeking to identify Aboriginal persons who hold cultural knowledge relevant to this project area and who may wish to register an interest. Those who choose to register will have the opportunity to provide culturally appropriate information and to comment on the cultural heritage significance of Aboriginal objects and the area. If you are aware of Aboriginal people or groups who you believe may wish to register an interest please provide contact details to NSW Archaeology Pty Ltd on behalf of the proponent before the 24th July 2012.

Yours faithfully



Julie Dibden
NSW Archaeology Pty Ltd

New South Wales Archaeology Pty Limited

ABN 53106044366

PO Box 2135
Central Tilba NSW 2546
Ph 02 44737947
julie@nswarchaeology.com.au

9 July 2012

General Manager
Boorowa Council
PO Box 96
Boorowa NSW 2586

Dear Sir/Madam

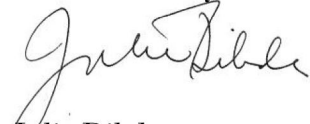
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NSW Archaeology PL has been engaged to conduct an archaeological assessment in relation to a proposal by Wind Prospect CWP to construct the Bango Wind Farm in an area north of Yass and southeast of Boorowa. As a part of that study NSW Archaeology Pty Ltd is undertaking consultation with Aboriginal people according to the requirements stipulated in the former NSW DECCW *Aboriginal cultural heritage consultation requirements for proponents, 2010*.

The purpose of Aboriginal community consultation is to assist the proponent in understanding Aboriginal peoples views and concerns about the project, to understand cultural values present in the area, and to assist the NSW Office of Environment and Heritage (OEH) in the determination of an AHIP application (if required). It is proposed to construct c. 120 wind turbines together with associated infrastructure.

We are seeking to identify Aboriginal persons who hold cultural knowledge relevant to this project area and who may wish to register an interest. Those who choose to register will have the opportunity to provide culturally appropriate information and to comment on the cultural heritage significance of Aboriginal objects and the area. If you are aware of Aboriginal people or groups who you believe may wish to register an interest please provide contact details to NSW Archaeology Pty Ltd on behalf of the proponent before the 24th July 2012.

Yours faithfully



Julie Dibden
NSW Archaeology Pty Ltd

New South Wales Archaeology Pty Limited

ABN 53106044366

PO Box 2135
Central Tilba NSW 2546
Ph 02 44737947
Fax 02 61002701
julie@nswarchaeology.com.au

9 July 2012

Manager
Lachlan Catchment Management Authority
PO Box 49
Boorowa NSW 2586

Dear Sir/Madam

Re Proposed Bango Wind Farm, via Boorowa

NSW Archaeology PL has been engaged to conduct an archaeological assessment in relation to a proposal by Wind Prospect CWP to construct the Bango Wind Farm in an area north of Yass and southeast of Boorowa. As a part of that study NSW Archaeology Pty Ltd is undertaking consultation with Aboriginal people according to the requirements stipulated in the former NSW DECCW *Aboriginal cultural heritage consultation requirements for proponents, 2010*.

The purpose of Aboriginal community consultation is to assist the proponent in understanding Aboriginal peoples views and concerns about the project, to understand cultural values present in the area, and to assist the NSW Office of Environment and Heritage (OEH) in the determination of an AHIP application (if required). It is proposed to construct upwards of 100 wind turbines together with associated infrastructure.

We are seeking to identify Aboriginal persons who hold cultural knowledge relevant to this project area and who may wish to register an interest. Those who choose to register will have the opportunity to provide culturally appropriate information and to comment on the cultural heritage significance of Aboriginal objects and the area. Can you advise us of the details of any established Aboriginal Reference Group. If you are aware of Aboriginal people or groups who you believe may wish to register an interest please provide contact details to NSW Archaeology Pty Ltd on behalf of the proponent before the 24th July 2012.

Yours faithfully



Julie Dibden

New South Wales Archaeology Pty Limited

New South Wales Archaeology Pty Limited

ABN 53106044366

PO Box 2135
Central Tilba NSW 2546
Ph 02 44737947
Fax 02 61002701
julie@nswarchaeology.com.au

3 September 2012

Manager
Landscape and Heritage Protection Section
Office of Environment and Heritage
PO Box 733
Queanbeyan NSW 2620

Dear Sir/Madam

Re Proposed Bango Wind Farm, via Boorowa

Further to my previous correspondence, the following groups and/or individuals are Registered Aboriginal Parties (RAPs) for the process of Aboriginal consultation currently being undertaken in regard to the above mentioned project:

- Ngunawal Heritage Aboriginal Corporation;
- Peter Falk Consultancy;
- Ngunnawal Elders Corporation;
- Onerwal Local Aboriginal Land Council;
- Buru Ngunawal Aboriginal Corporation.

Please note that this list of RAPs has been forwarded to Onerwal Local Aboriginal Land Council.

I have enclosed all copies of correspondence (including copies of the paper advertisement) relating to this matter of Aboriginal consultation.

Yours faithfully



Dr Julie Dibden
New South Wales Archaeology Pty Limited

New South Wales Archaeology Pty Limited

ABN 53106044366

**PO Box 2135
Central Tilba NSW 2546
Ph 02 44737947
Fax 02 61002701
julie@nswarchaeology.com.au**

3 September 2012

Onerwal Local Aboriginal Land Council
PO Box 644
Yass NSW 2582

Dear Sir/Madam

Re Proposed Bango Wind Farm, via Boorowa

Further to my previous correspondence, in accordance with the OEH Aboriginal consultation requirements, the following groups/individuals are Registered Aboriginal Parties (RAPs) for the process of Aboriginal consultation currently being undertaken in regard to the above mentioned project:

- Ngunawal Heritage Aboriginal Corporation;
- Peter Falk Consultancy;
- Ngunnawal Elders Corporation;
- Onerwal Local Aboriginal Land Council;
- Buru Ngunawal Aboriginal Corporation.

Please note that this list of RAPs has been forwarded to the NSW Office of Environment and Heritage.

Yours faithfully



Julie Dibden
New South Wales Archaeology Pty Limited

Consultation Process and Assessment Methodology

PROPOSED BANGO WIND FARM - PROPOSED CULTURAL HERITAGE ASSESSMENT PROCESS
30th July 2012

THE PROPOSED ACTIVITY

NSW Archaeology Pty Ltd has been commissioned by Wind Prospect CWP (the proponent) to conduct an Indigenous heritage (archaeological and cultural) assessment in relation to the proposed Bango Wind Farm (the proposed activity area – see attached map). The wind farm would be north of Yass and south of Boorowa.

It is proposed to construct approximately 150 turbines (depending on final selection), together with control and maintenance buildings, associated civil works and the electrical infrastructure that would be required to connect with the existing transmission network. The wind turbines would be sited on a series of contiguous ridges and surrounding hilltops.

Impacts relating to the proposal entail primarily the construction of turbine sites, access tracks, substations and electrical connections. The project will be assessed by the NSW Department of Planning and Infrastructure.

PROPOSED CULTURAL HERITAGE ASSESSMENT PROCESS

This document is being provided to registered Aboriginal parties for the purposes of agreeing on outcomes relating to the assessment process.

The cultural heritage assessment process for this project would be conducted in accordance with the *Draft Guidelines for Aboriginal Cultural heritage Impact Assessment and Community Consultation* (DEC 2005), and the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (NSW DECCW). The NSW Office of Environment and Heritage – OEH - manages Aboriginal cultural heritage in NSW in accordance with the National Parks and Wildlife Act 1974. Part 6 of the Act provides specific protection for Aboriginal objects and Aboriginal places by administering offences for harming them without authorisation. When an activity is likely to impact Aboriginal objects or declared Aboriginal Places, approval of the OEH is required, issued in the form of an Aboriginal Heritage Impact Permit (AHIP). It is noted that given this project is a Major Project, an application for an AHIP may not be required. Nevertheless, this project would be conducted in accordance with the OEH *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRP) (NSW DECCW 2010).

NSW OEH requires effective consultation with Aboriginal people because it recognises that:

- Aboriginal people should have the right to maintain culture, language, knowledge and identity;
- Aboriginal people should have the right to directly participate in matters that may affect their heritage; and
- Aboriginal people are the primary determinants of the cultural significance of their heritage.

Proposed Bango Wind Farm

The purpose of the NSW OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents document (NSW DECCW 2010) is to facilitate positive Aboriginal cultural heritage outcomes by:

- affording an opportunity for Aboriginal people who hold cultural knowledge relevant to determining the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to be involved in consultation so that information about cultural significance can be provided to NSW OEH to inform decisions regarding applications for an AHIP, or in this case, general approval or compliance; and
- providing Aboriginal people who hold cultural knowledge relevant to determining the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project with the opportunity to participate in decision-making regarding the management of their cultural heritage by providing proponents with information regarding cultural significance and inputting into management options (NSW DECCW 2010).

The ACHCRP requirements outline four main consultation stages to be implemented in the course of consultation undertaken with Aboriginal people (these are outlined below). In summary, the consultation process involves getting the views of, and information from Aboriginal people, and reporting these.

In order to fulfil the consultation requirements, NSW Archaeology Pty Ltd, on behalf of the proponent, proposes to implement the following procedure:

Stage 1 Notification of project proposal and registration of interest.

This stage is already underway, and the aim is to identify, notify and register Aboriginal people who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the proposal area.

- NSW Archaeology, on behalf of the proponent, has sought to identify the names of Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places. An advertisement has been placed in the local papers and letters have been written to various agencies.
- As we receive registrations of interest, NSW Archaeology is making a record of the names of each Aboriginal person or group who has registered an interest. Unless it is specified by a registered Aboriginal party that they do not want their names released, the list of names will be provided to OEH and the Local Aboriginal Land Councils.
- Where an Aboriginal organization representing Aboriginal people who hold cultural knowledge has registered an interest, a contact person for that organization must be nominated. Where Aboriginal cultural knowledge holders have appointed a representative to act on their behalf, this information must be provided in writing to NSW Archaeology.

Proposed Bango Wind Farm

Stage 2 Presentation of information about the proposed project

The aim of this stage is to provide registered Aboriginal parties with information about the scope of the proposed project and the proposed cultural heritage assessment process. This will entail:

- The proponent has engaged NSW Archaeology to conduct the consultation process. It is therefore the role of Julie Dibden, NSW Archaeology, to co-ordinate the assessment process. Aboriginal parties are invited to define their role, function and responsibility in this process.
- All registered Aboriginal parties are invited to identify, raise and discuss any cultural concerns, perspectives and assessment requirements (if any). In this regard registered Aboriginal parties should contact Julie Dibden, and this may be done in writing or by telephone.
- Provision of project information and proposed cultural heritage process is provided to registered Aboriginal parties as per this document and the accompanying *Methodology* document.
- If further information is required in regard to the proposal this will be provided to Aboriginal parties upon request. If necessary additional information sessions about the project will be provided; this may entail a project site visit.
- A record will be made that the proposed project information has been submitted. A record of any agreed outcomes and any contentious issues that may require further discussion to establish mutual resolution (if applicable) will be kept and a record will be provided to registered Aboriginal parties.
- All comments and feedback in regard to the Consultation Process and Project Methodology should be provided to NSW Archaeology within 28 days .

Stage 3 Gathering information about cultural significance

The aim of stage 3 is to facilitate a process whereby Aboriginal parties can contribute to culturally appropriate information gathering and the project methodology, provide information that will enable the cultural significance of Aboriginal objects and/or place in the proposal area to be determined, and to have input into the development of cultural heritage management options.

- A proposed *methodology* for the cultural heritage assessment will be provided to registered Aboriginal parties for review. Any comments in regard to the methodology should be provided to Julie Dibden, NSW Archaeology, within 28 days. Any protocols that registered Aboriginal parties wish to be adopted into the information gathering process and assessment methodology, and any other matters should be provided in writing or may be sought by the consultant.
- As a part of consultation, NSW Archaeology, on behalf of the proponent, seeks cultural information from registered Aboriginal parties to identify whether there are any Aboriginal objects or places of cultural value to Aboriginal people in the proposal area and if so, to uncover knowledge about their context in order to reveal their meaning and significance. Registered Aboriginal parties who wish to contribute to this process should make contact

Proposed Bango Wind Farm

with Julie Dibden (within 28 days) so that appropriate arrangements regarding collecting cultural knowledge can be made.

- If any information obtained is sensitive appropriate protocols will be developed and implemented for sourcing and holding sensitive information.
- Registered Aboriginal parties are invited to identify, raise and discuss any cultural concerns, perspectives and assessment requirements by telephone or in writing to Julie Dibden, NSW Archaeology, within 28 days.
- All feedback received from registered Aboriginal parties will be documented in the Aboriginal cultural heritage assessment report as appropriate.

Stage 4 Review of Draft Cultural Heritage Assessment Report

The aim of this stage is to prepare and finalise an Aboriginal cultural heritage assessment report with input from registered Aboriginal parties.

- A draft report will be compiled.
- The draft report will be provided to registered Aboriginal parties for review and comment.
- Any comments in regard to the report should be provided to Julie Dibden, NSW, within 28 days.
- After considering comments the report will be finalised and copies will be provided to registered Aboriginal parties. The final report will include copies of any submissions made and the proponents response to any submissions.

NSW ARCHAEOLOGY PTY LTD



PROPOSED METHODOLOGY FOR THE INDIGENOUS HERITAGE (CULTURAL AND ARCHAEOLOGICAL) ASSESSMENT OF THE PROPOSED BANGO WIND FARM
prepared by Julie Dibden NSW Archaeology Pty Ltd 30/7/12

NSW Archaeology Pty Ltd has been engaged by Wind Prospect CWP to conduct the Aboriginal cultural heritage assessment of the proposed Bango Wind Farm.

NSW Archaeology Pty Ltd is a consultancy specialising in Indigenous cultural heritage management, and aims to prepare assessments of a high standard to satisfy all stakeholders including the local Aboriginal community, the NSW Office of Environment and Heritage – OEH and the NSW Heritage Office. NSW Archaeology Pty Ltd has conducted assessments of numerous Wind Farm projects in New South Wales.

The proposed Wind Farm will be assessed as a Major Project. The Aboriginal cultural heritage assessment report would address the former NSW Department of Planning, Director-General's Environmental Assessment Requirements in respect of potential impacts and proposed mitigation measures relating to Indigenous heritage values (archaeological and cultural).

The project would be conducted in accordance with the requirements of the OEH *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW*, the NSW DEC 2005 *Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (prepared in respect of Part 3A projects) and the *DECCW 2010 Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*. In addition the study is being undertaken following the requirements for *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRP) (NSW DECCW 2010).

In accordance with the process as outlined in *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRP) (NSW DECCW 2010), this methodology is being provided to all Aboriginal groups/individuals who have registered an interest in this process of consultation. The purpose of providing registered stakeholders with this methodology is for stakeholders to review and provide feedback to the consultant, including identification of issues/areas of cultural significance that might affect the methodology. Stakeholders are invited to make a written response to this proposed methodology within 28 days.

The methodology which is proposed to be implemented during this project is set out below.

It is proposed that the assessment of cultural heritage values of the project area will entail the following aspects as defined in the OEH *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW*:

Review of background information: Definition and mapping of the physical landscape; reviewing historic values via recourse to written and oral histories and existing heritage data bases; and define the material evidence of Aboriginal land use via review of previous research, development of predictive model and a field inspection and survey. Any information received from registered Aboriginal parties will be used in this process. Registered Aboriginal parties are invited to inform Julie Dibden in regard to areas, objects and places of cultural value in the proposed activity area.

Initiate ongoing consultation in accordance with the OEH's Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010. Information is sought from registered Aboriginal parties on whether there are any Aboriginal areas, objects or places of cultural value to Aboriginal people in the proposed activity area.

Identify and assess the cultural heritage values: Upon receipt of information that would enable the cultural significance of Aboriginal areas, objects and/or places in the proposed activity area to be determined, the range of social, historical, scientific and aesthetic values present across the study area would be identified, mapped, and assessed as to why they are important.

Assess harm of the proposed activity: Identification of the nature of the proposed activity and any potential harm to Aboriginal areas, objects and/or places. This would take into consideration the principles of ecologically sustainable development (ESD).

Develop harm avoidance and/or minimisation strategies: Registered stakeholders would be invited to have input into the development of cultural heritage management options. The development of avoidance and/or minimisation strategies would commence in the field, and be developed further within an Aboriginal cultural heritage assessment report.

Documentation of Findings: An Aboriginal cultural heritage assessment report would be prepared. The report would be prepared in accordance with the report outline as set out in OEH's *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW*.

A draft copy of the report will be provided to all Aboriginal groups or individuals who register an interest in this project for review and comment.

A field assessment would be conducted which would assess all areas of proposed impacts as defined by turbine envelopes and inclusive of additional components such as roads and transmission lines located outside each turbine envelope. The field assessment would entail a sampled survey with results extrapolated to other areas. The field survey will entail a pedestrian survey although some activity areas such as for example overhead electrical connections may be reconnoitred by vehicle traverses.

The field survey will aim to locate Aboriginal areas, objects and places. An assessment will also be made of prior land disturbance, survey coverage variables (ground exposure and archaeological visibility) and the potential archaeological sensitivity of the land.

A survey methodology will entail walking parallel transects across individual Survey Units. This methodology will enable direct visual inspection of as much of the ground surface of the proposed activity area as practicable. The Survey Unit will be utilised as a framework of recording, analysis and the formulation of management strategies. The proposed activity area will be divided into a number of Survey Units each of which will be defined on the basis of a combination of environmental variables which are assumed to relate to Aboriginal usage of the area. The rationale for employing this definition relates to its utility in regard to predicting the archaeological potential of landforms. Additionally, the archaeological evidence which has been located within individual locales within Survey Units is assumed to be generally representative of the archaeological resource located within the entire Survey Unit.

The field recording and mapping will be conducted using a mobile GIS system. The location of Aboriginal area, object and place locales and Survey Units will be recorded using ArcGIS software and a Trimble GPS. In order to ensure consistency in data collection, all field records will be made in Microsoft Access database's formulated specifically for the Wind Farm project. Two separate databases would be used for recording Survey Unit and Aboriginal Object data. The data collected will form the basis for the documentation of survey results in the Survey Report. All data collection and reporting would be done in accordance with the guidelines as set out in the *DECCW 2010 Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*.

Upon review of this proposed methodology, registered stakeholders are invited to make submissions relating to the information gathering and assessment methodology, and any matters such as issues/areas of cultural significance that might affect, inform or refine the assessment methodology, to Julie Dibden within 28 days. All feedback received will be documented in the cultural heritage assessment report, which will include copies of submissions received and the proponents response to issues raised.

Second Stage Letters

New South Wales Archaeology Pty Limited

ABN 53106044366

PO Box 2135
Central Tilba NSW 2546
Ph 02 44737947
Fax 02 61002701
julie@nswarchaeology.com.au

9 July 2012

Wally Bell
Buru Ngunawal Aboriginal Corporation
PO Box 6900
Charnwood ACT 2615

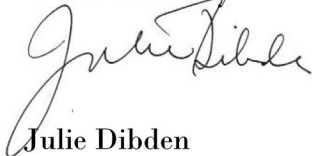
Dear Wally

Re Proposed Bango Wind Farm, via Boorowa

NSW Archaeology PL has been engaged to conduct a cultural and archaeological heritage assessment in relation to a proposal by Wind Prospect CWP to construct the Bango Wind Farm in an area north of Yass and southeast of Boorowa. It is proposed to construct c. 120 wind turbines together with associated infrastructure. As a part of the heritage assessment NSW Archaeology Pty Ltd is undertaking consultation with Aboriginal people according to the requirements stipulated in the former NSW DECCW *Aboriginal cultural heritage consultation requirements for proponents, 2010*.

Aboriginal people with cultural knowledge relevant to determining the significance of Aboriginal objects and/or places in the area are invited to register an interest in the process of community consultation. The NSW Office of Environment and Heritage (OEH) provided your details to us and indicated that you may have an interest in the area. The purpose of community consultation with Aboriginal people is to assist the preparation of an application to OEH for an AHIP (Aboriginal Heritage Impact Permit) for these works (if required). Please register in writing to: Julie Dibden, NSW Archaeology PL, PO Box 2135 Central Tilba NSW 2546: ph 0427074901, before 24 July 2012. Please note that if you do register an interest your details will be forwarded to the OEH and the Onerwal Local Aboriginal Land Councils unless you specify that you do not want your details released.

Yours faithfully



Julie Dibden
New South Wales Archaeology Pty Limited

New South Wales Archaeology Pty Limited

ABN 53106044366

PO Box 2135

Central Tilba NSW 2546

Ph 02 44737947

Fax 02 61002701

julie@nswarchaeology.com.au

9 July 2012

Carl and Tina Brown
17 Cassia Crescent
Queanbeyan NSW 2620

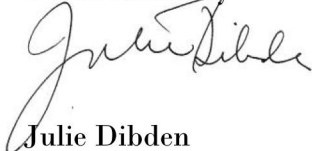
Dear Carl and Tina

Re Proposed Bango Wind Farm, via Boorowa

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Yours faithfully



Julie Dibden

New South Wales Archaeology Pty Limited

New South Wales Archaeology Pty Limited

ABN 53106044366

PO Box 2135
Central Tilba NSW 2546
Ph 02 44737947
Fax 02 61002701
julie@nswarchaeology.com.au

9 July 2012

Dean Bell
Yurwang Gundana Consultancy Cultural Heritage Services
PO Box 5628
South Windsor NSW 2756

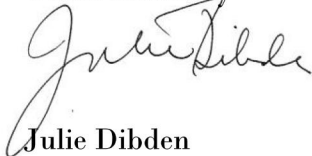
Dear Dean

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julie@nswarchaeology.com.au

9 July 2012

Sharon Halls
Gundungurra Aboriginal Heritage Association Inc
PO Box 31
Lawson NSW 2783

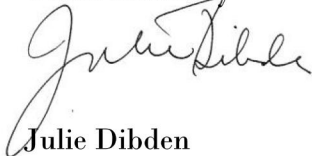
Dear Sharon

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9 July 2012

Cherie Carroll Turrise
Gunjeewong Cultural Heritage Aboriginal Corporation
1 Bellevue Place
Portland NSW 2847

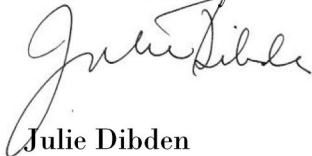
Dear Cherie

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ABN 53106044366

PO Box 2135
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9 July 2012

Arnold Williams
Ngunnawal Elders Corporation
13 Fitzgibbon Place
Queanbeyan NSW 2620

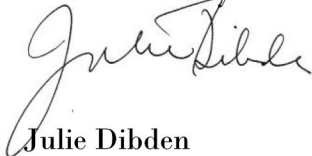
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PO Box 2135
Central Tilba NSW 2546
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9 July 2012

Dorothy Carroll
Ngunnawal Heritage Aboriginal Corporation
245 Ash Road
Prestons NSW 2170

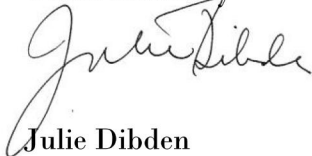
Dear Carroll

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9 July 2012

Delise Freeman
Pejar Local Aboriginal Land Council
PO Box 289
Goulburn NSW 2580

Dear Delise

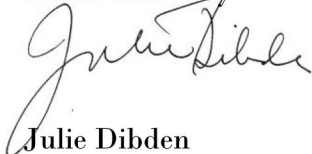
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Please note that the area is in the Onerwal Local Aboriginal Land Council area.

Yours faithfully



Julie Dibden
New South Wales Archaeology Pty Limited

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ABN 53106044366

PO Box 2135

Central Tilba NSW 2546

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9 July 2012

Peter Falk Consultancy

PO Box 1018

Mittagong NSW 2575

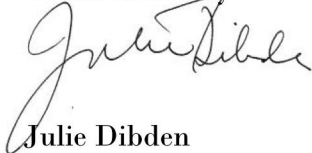
Dear Peter

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Yours faithfully



Julie Dibden

New South Wales Archaeology Pty Limited

Response to Draft Report

6 May 2013

Graeme Dobson
Ngunawal Heritage Aboriginal Corporation
245 Ash Road
PRESTONS NSW 2170



Dear Graeme,

Bango Wind Farm – Cultural heritage report comments

Thank you for your letter dated 22 April 2013, regarding the Bango Wind Farm Heritage Report. We note your recommendation that all artefacts which may be impacted during construction are to be collected.

In response we would advise that a Cultural Heritage Management Protocol, which documents the procedures to be followed for impact management and/or mitigation, will be developed prior to the wind farm's construction. The recommendations made by you will be considered within the context of the development of the Cultural Heritage Management Protocol.

If you have any questions regarding this information, please do not hesitate to give me call.

Kind regards,

A handwritten signature in black ink, appearing to read "A. Maddocks".

Adrian Maddocks
Senior Development Manager

WIND PROSPECT CWP PTY LTD

PO Box 1708, Suite 2, Level 6, T&G Building, 41-45 Hunter Street, Newcastle NSW 2300
Tel: +61 (0) 2 4013 4640 • Fax: +61 (0) 2 4926 2154

A.B.N. 57 127 205 645 • Email: newcastle@windprospect.com.au • Internet: www.windprospect.com.au
SITE CODE BAN 080811