View south-east towards Ben Chifley Dam from within the proposed pipeline easement.

ABORIGINAL HERITAGE ASSESSMENT

Ben Chifley Dam to Bathurst Pipeline Project

December 2011

Report Prepared by

OzArk Environmental & Heritage Management Pty Ltd

For

Bathurst Regional Council

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EXECUTIVE SUMMARY

Bathurst Regional Council (BRC) proposes to construct a pipeline to transfer water from Ben Chifley Dam (BCD) to the Bathurst Water Filtration Plant (WFP) in order to control releases and reduce system losses along river channels.

Two potential pipeline routes have been proposed, with the first 2000 m (paralleling Campbells River) being common to both options:

- Option One: 'Road option'; and
- Option Two: 'River bank option'.

OzArk Environmental & Heritage Management P/L (OzArk) conducted archaeological surveys along both easements on 8 and 9 February 2011 in order to identify any extant Aboriginal archaeological sites or areas of archaeological sensitivity and to assist the Proponent in determining a preferred alignment upon which to further develop the project.

A total of six (6) Aboriginal sites were recorded during the current survey, of which five (5) were open sites and one (1) was an isolated find. Of these, two (2) can be avoided by both proposed pipeline Options. Of the two, Option Two (river bank option) is likely to result in harm to more Aboriginal sites. Option One (road option) avoids three (3) of the six sites. If Aboriginal sites cannot be avoided by the final project design, an Aboriginal Heritage Impact Permit (AHIP) will be required in order to destroy or partially destroy the affected sites. To this end it is recommended that:

- All sites should be avoided if possible;
- Sites that cannot be avoided may be required to be subject to test excavation in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales: Part 6 National Parks and Wildlife Act 1974* (DECCW 2010) in order to determine their nature, extent and integrity. For some sites, this is a necessary precursor to AHIP application; and
- An AHIP will be required for surface collection and / or salvage excavation prior to pipeline works at all sites where ground disturbing works will dissect surface or sub-surface archaeological deposits.

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1 INTRODUCTION

1.1 BRIEF DESCRIPTION OF THE PROPOSAL

Bathurst Regional Council (BRC) proposes to construct a pipeline to transfer water from Ben Chifley Dam (BCD) (**Plate 1**) to the Bathurst Water Filtration Plant (WFP) in order to control releases and reduce system losses along river channels.

Figure 1: Location map (Base map source: http://maps.google.com).

1.2 PROPOSED WORKS

Two potential pipeline routes have been proposed, with the first 2000 m (paralleling Campbells River) being common to both options:

- Option One (Road Option): The pipeline would run along existing roads from BCD to WFP and would require pumping. The first 2000 m of the route parallels Campbells River, crossing the river twice prior to meeting the gravel road at The Lagoon. Where feasible, the pipeline will be installed within existing easements.
- Option Two (River Bank Option): The pipeline would broadly parallel the Campbell and Macquarie Rivers, however it would be located on disturbed river banks or within existing infrastructure easements away from the riparian fringe. 2000 m of the route parallels Campbells River, crossing the river twice prior to meeting the gravel road at The Lagoon. At this point Option Two parallels the Macquarie River.

1.2.1 Impact Footprint

The proposed Impact Footprint will consist of:

- Entrenching works approximately 1 m in width with an additional disturbance zone of approximately 5 m centred on the pipeline; and
- Associated impact sites (stockpile / storage locations) – as yet undefined locations.

1.3 SUBJECT AREA

The Subject Area is located between Bathurst and BCD (approximately 25 km south-east of Bathurst) and consists of three survey units (**Figure 3**):

- **Western Survey Unit.** Consists of the Option One easement from Bathurst to The Lagoon. Located within existing road corridors (**Plate 2**);
- **Eastern Survey Unit.** Consists of the Option Two easement from Bathurst to The Lagoon. Largely parallels the Macquarie River (**Plate 3**); and
- **Common Survey Unit.** Consists of the section of pipeline common to both Options from BCD to The Lagoon (**Plate 4**).

In all cases, the Survey Units followed the same alignment as the project Impact Footprint with an additional 10 m to 20 m[1] either side of the Impact Footprint centreline.

[1] The surveyed area was narrower within road corridors where the Subject Area was defined as the space between the existing road and the existing fencelines.

Figure 2: Proposed works showing two pipeline options (Source: BRC / Hydro Tasmania Consulting).

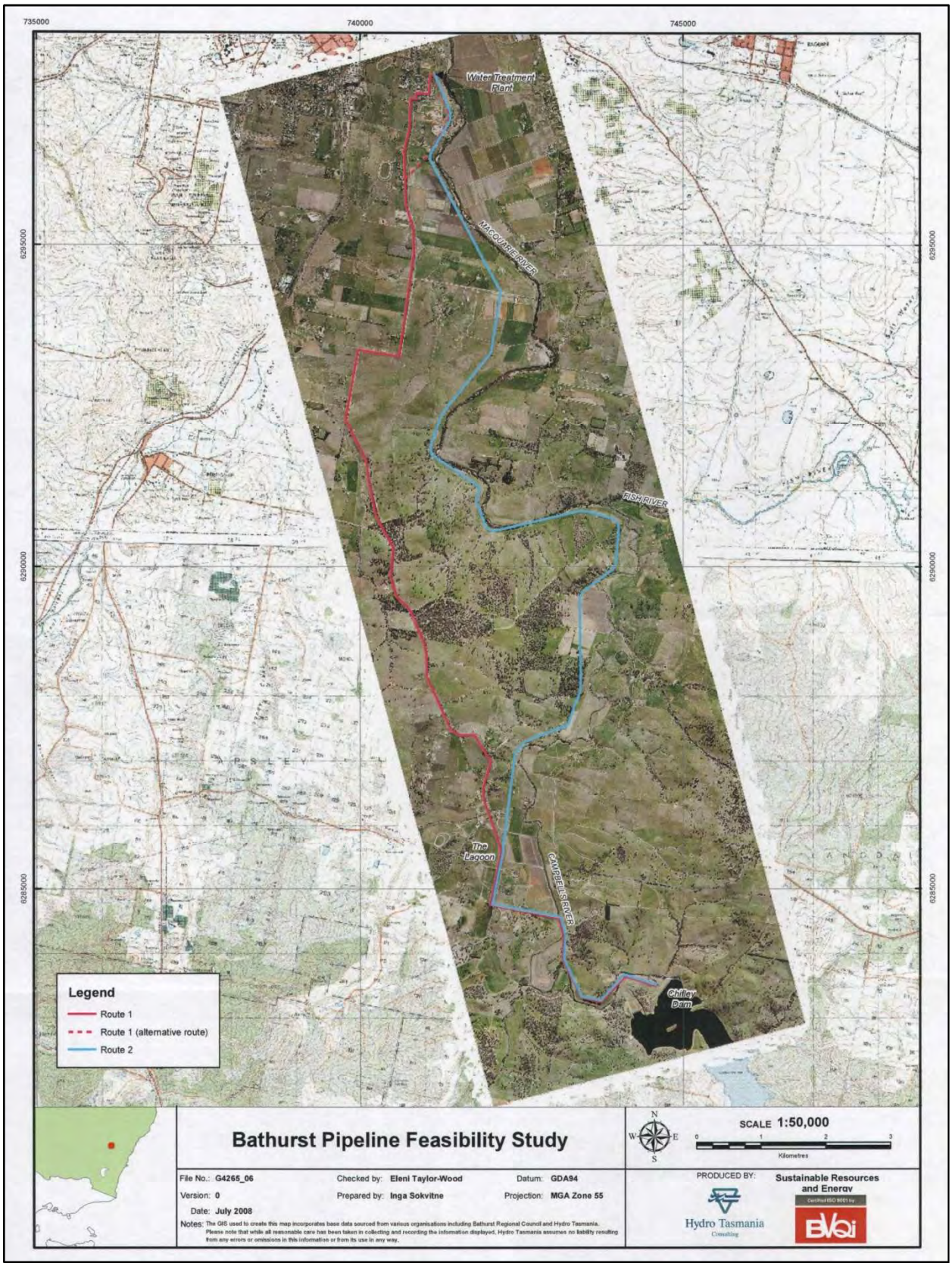
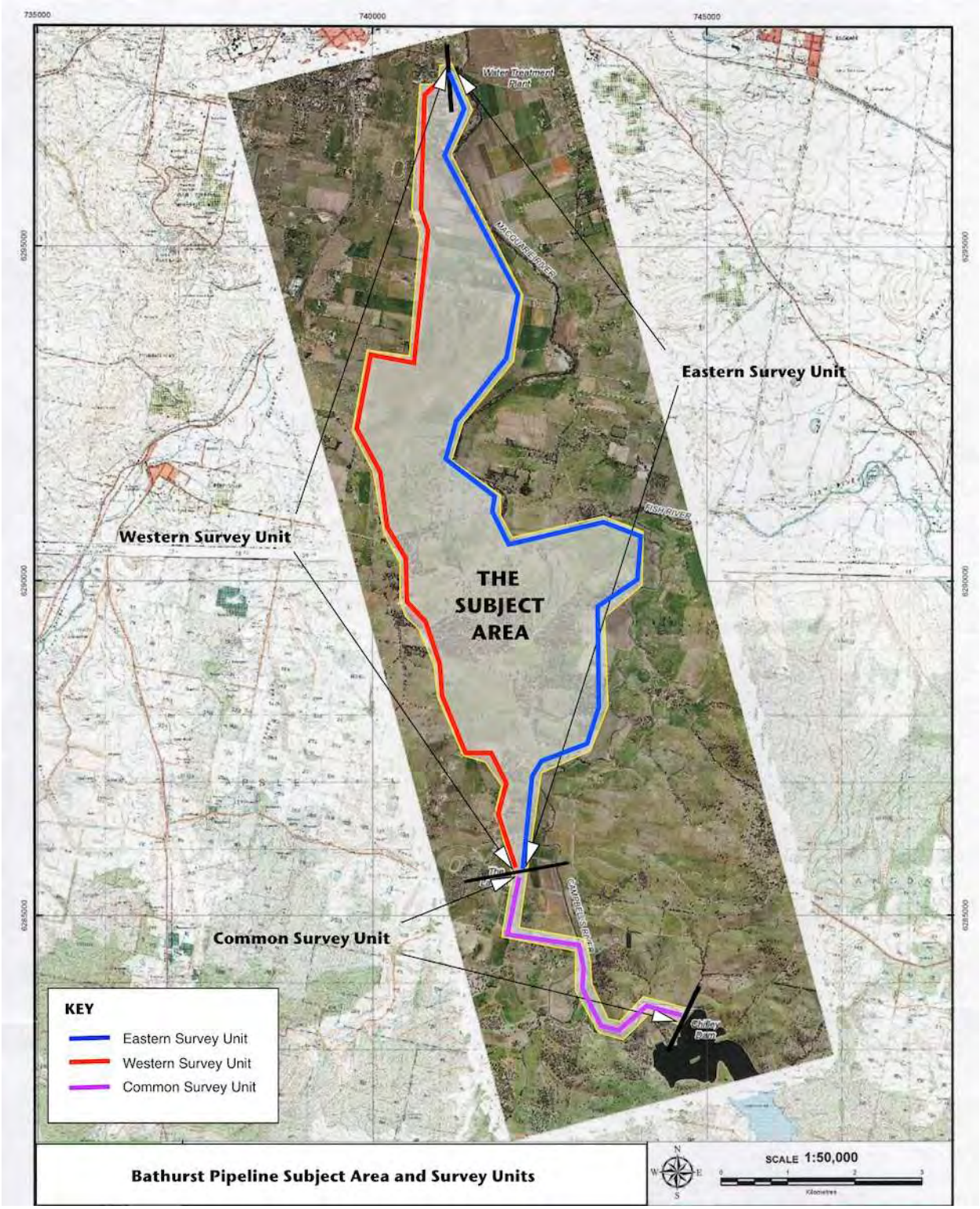


Figure 3: The Subject Area (Base map source: BRC / Hydro Tasmania Consulting).



2 THE PROJECT

2.1 PURPOSE AND OBJECTIVES OF THE ARCHAEOLOGICAL INVESTIGATION

The purpose of the current study is to identify any extant Aboriginal archaeology or areas of archaeological sensitivity in order to assist the Proponent in determining a preferred alignment on which to further develop the project.

The objectives of the current study are to:

Objective One: Record and assess Aboriginal artefacts / features (if any).

Objective Two: Provide management recommendations in light of Objective One.

2.2 DATE OF HERITAGE ASSESSMENT

The heritage assessment was conducted over two consecutive days, viz. 8 to 9 February 2011.

2.3 ABORIGINAL COMMUNITY INVOLVEMENT

Aboriginal community consultation was conducted according to the *Aboriginal Cultural Heritage Consultation Requirements* (ACHCRs) DECCW 2010. As a result of the notification phase of this process, eleven Aboriginal groups or organisations registered an interest (listed in **Appendix 1**). Four groups were invited to send a representative to participate in the fieldwork programme, however one representative was unable to attend.

Three stakeholder groups participated in fieldwork:

- Bathurst Local Aboriginal Land Council, represented by Tina Petford (8 Feb 2011);
- Dhuuluu-Yala, represented by John Phillips (8 Feb 2011); and
- Wiradjuri Traditional Owners Central West Aboriginal Corporation, represented by Brian Grant (9 Feb 2011).

Subsequent to the fieldwork, correspondence was received from Dhuuluu-Yala and Wiradjuri Traditional Owners Central West Aboriginal Corporation. In September 2011, the final draft report was distributed to all registered stakeholders for comment, with comments requested by 28th October 2011. No responses were received.

A log and copies of correspondence with Aboriginal community stakeholders is presented in **Appendices 1 and 2**.

2.4 OZARK EHM INVOLVEMENT

2.4.1 Field assessment

The fieldwork component of the current project was undertaken by:

- Fieldwork director: Dr Jodie Benton (BA (Hons) and PhD – University of Sydney); and

- Archaeologist: Mr Kim Tuovinen (BA (Hons) – University of Sydney; Grad Dip Ed – Charles Sturt University; Grad Dip Arch – Flinders University);
- Archaeologist: Mr Josh Noyer (BA – University of California [Santa Cruz]);
- Archaeological Assistant: Ms Heidi Kolkert (Ecologist, OzArk; BA, BSc Hons, Associate Member of NSW Ecological Consulting Society).

2.4.2 Reporting

The reporting component of the current project was undertaken by:

- Report authors: Mr Kim Tuovinen (BA (Hons) – University of Sydney; Grad Dip Ed – Charles Sturt University; Grad Dip Arch – Flinders University); Mr Josh Noyer (BA – University of California [Santa Cruz]) and Ms Heidi Kolkert (Ecologist, OzArk; BA, BSc Hons, Associate Member of NSW Ecological Consulting Society);
- Reviewer: Dr Jodie Benton (BA (Hons) and PhD – University of Sydney).

2.5 DESKTOP DATABASE SEARCHES CONDUCTED

A desktop search was conducted on the following databases to identify any potential issues. The results of this search are summarised here in **Table 1**.

Table 1: Desktop-database search results.

Name of database searched	Date of search	Type of search	Comment
Australian Heritage Database http://www.environment.gov.au/heritage/ahdb/	18 Feb 2011	Bathurst LGA	69 items listed 3 indigenous none were in Bathurst.
NSW Heritage Office State Heritage Register and State Heritage Inventory http://www.heritage.nsw.gov.au/	18 Feb 2011	Bathurst LGA	31 listed under NSW Heritage Act. None are listed by Local Government or State Agencies. No places on the search are within the Study Area
National Native Title Claims Search http://www.nntt.gov.au/Applications-And-Determinations/Search-Applications/Pages/Search.aspx	18 Feb 2011	Bathurst LGA	Active: Gundungurra Tribal Council Aboriginal Corporation #6, Tribunal file no: NC97/7
Department of Sustainability, Environment, Water, Population and Communities (SEWPC) Protected Matters (EPBC Act) Database; http://www.environment.gov.au/erin/ert/epbc/index.html	18 Feb 2011	Bathurst LGA	69 items listed 3 were indigenous however, none were in Bathurst.
Department of Environment, Climate Change and Water (DECCW)[2] Aboriginal Heritage Information Management System (AHIMS);	30 Nov 2010	9 x 18 km centred on the Study Area	15 registrations within the search area.
Local Environment Plan	18 Feb 2011	Bathurst LGA	None of the Aboriginal places noted occur near the Study Area.

[2] Now Office of Environment and Heritage (OEH) (as at April 2011).

2.6 PROJECT CONSTRAINTS

The principal constraint affecting the efficacy of the field survey was ground surface visibility. Much of the Subject Area was dominated by tall, dense agricultural grasses and weeds, often reducing visibility to 0%. Whilst this affected the observability of unobtrusive sites (such as open sites containing stone artefact scatters), this did not have an impact on the observability of obtrusive sites (such as scarred trees). To this end, all exposures were inspected closely in order to provide the best possible survey coverage of the Subject Area.

3 LANDSCAPE CONTEXT

Understanding the past and present environmental contexts of a study area is requisite in any Aboriginal archaeological investigation (DECCW, 2010). It is a particularly important consideration in the development and implementation of survey strategies for the detection of archaeological sites. Environmental characteristics - including the availability of water, the abundance and type of plant and animal food resources, the nature and type of stone and ochre resources; and the access and the availability of shade and shelter - play an influential role in determining the type and nature of material culture remains that will have been distributed across the landscape by Aboriginal people in the past. In addition natural geomorphic processes of erosion and/or deposition; as well as humanly activated landscape processes - especially those associated with European occupation of Australia - influence the degree to which these material culture remains are retained in the landscape as archaeological sites; and the degree to which they are preserved, revealed and/or conserved in present environmental settings. The following sections provide information relating to the environmental context of the study area especially where these have the potential to aid the prediction and or explanation of Aboriginal archaeological site location.

3.1 TOPOGRAPHY

The Subject Area lies within the South Eastern Highlands Bioregion (NSW NPWS 2003). This bioregion covers the dissected ranges and plateau of the Great Dividing Range that are topographically lower than the Australian Alps, which lie to the southwest. It extends to the Great Escarpment in the east and to the western slopes of the inland drainage basins (NSW NPWS 2003). The bioregion continues into Victoria. The substrate is formed of Palaeozoic granites, metamorphosed sedimentary rocks and Tertiary basalts (NSW NPWS 2003).

Topographically, the dominant features of the bioregion are plateau remnants, granite basins with prominent ridges formed on contact metamorphic rocks and the western ramp grading to the South Western Slopes (NSW NPWS 2003). Streams cutting through the bioregion are deeply entrenched with only a few terrace features. Valleys are narrow and there is little Quaternary sediment.

In terms of the three survey units assessed, the topography can be broadly described as:

- **Western Survey Unit:** Undulating terrain (**Plate 2**);
- **Eastern Survey Unit:** Flood plains, terraces and toe slopes (**Plate 3**);
- **Common Survey Unit:** Undulating terrain, terraces, flood plains and a stream channel (**Plate 4**).

The Eastern and Western Survey Units differ markedly, with the proposed river bank (eastern) route located in much closer proximity to water-courses and traversing areas more likely to be rich in Aboriginal archaeological sites. By contrast, the more undulating terrain of the proposed road (western) route is likely to demonstrate lower archaeological sensitivity whilst presenting greater engineering challenges to the project.

3.2 GEOLOGY AND SOILS

The Subject Area is part of the Lachlan fold belt that runs through the eastern states of Australia as a complex series of metamorphosed Ordovician to Devonian sandstones, shales and volcanic rocks interrupted by a number of granite bodies and deformed by episodes of folding, faulting and uplift (NSW NPWS 2003). The general structural trend in this bioregion is north-south and the topography strongly reflects this. Most of the granite bodies are oriented parallel to the general north-south structural trend, but the youngest bodies, like the Bathurst granite (about 325 million years old) cut across this trend. The study area and it surrounding areas feature carboniferous granite with limited areas of Tertiary basalt caps and Quaternary sands along the Macquarie River (NSW NPWS 2003).

Soils vary across the bioregion according to altitude, temperature and rainfall. Within the Bathurst region shallow red earths dominate the ridges, yellow texture contrast soils are found on all slopes and deep coarse sands in alluvium (NSW NPWS 2003).

3.3 HYDROLOGY

The Subject Area is dominated by the Macquarie and Campbells Rivers. Flowing initially west from BCD and turning north near The Lagoon, Campbells River joins the Fish River below Hunts Hill to become the Macquarie River, which subsequently parallels the proposed eastern pipeline route. Numerous smaller tributaries flow into these rivers, including Davys Creek in the south-west.

The Campbells and Macquarie Rivers flow through wide, fertile river flats and currently irrigate a range of crops such as maize and cabbages. These same river flats are likely to have supported a wide range of flora and fauna resources during antiquity and are thus likely to have been foci for Aboriginal cultural activities within the region (See **Section 3.4** below).

3.4 FLORA AND FAUNA

A series of diverse vegetation communities occur across the bioregion, including those consisting of yellow box (*Eucalyptus melliodora*), red box (*Eucalyptus polyanthemos*) and Blakely's red gum (*Eucalyptus blakelyi*), with areas of white box (*Eucalyptus albens*) occupying lower areas (OEH 2011). According to (OEH 2011) Red stringybark (*Eucalyptus macrorhyncha*), broad-leaved peppermint (*Eucalyptus dives*) and white gum (*Eucalyptus rossii*) associations

dominate hills in the west of the bioregion. Brown barrel (*Eucalyptus fastigata*) communities are more common in the east. River oak (*Casuarina cunninghamiana*) is seen frequently along main streams. The native vegetation within the assessed areas has been altered by European settlement and associated land-use.

Prior to European occupation the general area would have provided a rich resource base for animals including fish, fresh and saltwater invertebrates, gliders, possums, macropods and bandicoots and a large variety of reptiles and amphibians. The wetlands and permanent creeks within close proximity would have undergone inundation and seasonal movements of fauna would have supported a greater diversity and number of species, predominantly birds but including other species such as: swamp wallabies, grey kangaroos, koala, rock wallabies, swamp rats, frogs and tortoise, as well as predator species such as the red bellied black snake and carpet python. Myriad different migratory bird species would have also utilised these swamp areas and the flowering eucalypts present on site would have attracted nectar and insect feeding birds, including parrots and honey eaters and also a large number of species of bats.

3.5 CLIMATE

The Bathurst area has a relatively cool climate with snow occasionally falling in winter. The area receives an average rainfall of 636.6 mm annually. The annual average maximum temperature is 19.8ºC with the average minimum temperature 6.8ºC (BOM 2011).

3.6 LAND–USE HISTORY

The Subject Area traverses properties that have historically been subject to a wide range of land-uses:

- Road corridors (**Plate 5**);
- Agriculture and pastoralism (**Plate 6**);
- Water supply infrastructure (BCD) (**Plate 1**); and
- Suburban development (**Plate 7**).

3.6.1 Existing levels of disturbance

Disturbance to both the ground surface and mature vegetation throughout the Subject Area has been relatively high. Construction of roads has required numerous cuttings in addition to deposition of imported gravels and bitumen road surfaces. Whilst cuttings remove entire sections of soil and bedrock, the adjacent shoulders of the cuttings should be considered potentially intact. The area is intensively farmed, resulting in widespread clearing of vegetation and regular ploughing. It is noteworthy that whilst ploughing tends to disturb archaeological deposits it also tends to reveal artefacts that would otherwise remain sub-surface and thus be

undetected. The construction of the BCD resulted in the destruction of a number of known Aboriginal sites (outside the current Subject Area) and the alteration of the topography in the immediate vicinity of the dam. Suburban development in the northern extremity of the Subject Area has resulted in intensive excavation and modification of ground surfaces in addition to clearing of vegetation.

3.7 CONCLUSION

Geographically, there is a high likelihood that the Subject Area saw repeated occupation during antiquity and thus a high probability that Aboriginal archaeological sites will be present in the area.

The Eastern and Common Survey Units are more likely to display Aboriginal archaeology than the Western Survey Unit. This is based on the Eastern and Common Survey Units':

- Proximity to the Macquarie and Campbells Rivers;
- Topographical features associated with major waterways (i.e. terraces and toe slopes); and
- Nature of disturbance (agricultural in the case of the Eastern and Common Survey Units, road infrastructure in the case of the Western Survey Unit).

4 ABORIGINAL HERITAGE ASSESSMENT: BACKGROUND

4.1 ETHNO-HISTORIC SOURCES OF REGIONAL ABORIGINAL CULTURE

According to Tindale (1974), the current study area falls within the limits of the lands occupied by the Wiradjuri language group.

Few archival sources are available which give any great detail regarding local Aboriginal culture around the current study area at the time of contact or even soon after. The Orange and Bathurst areas seem to have undergone little study by professional or amateur ethnologists and anthropologists despite its close proximity to Sydney.

The closest earliest reference dates to April 23rd, 1817 when John Oxley passed by Limestone Creek, south of Mt Canobolas, describing the surroundings as 'a beautiful picturesque country of low hills and fine valleys well watered' (Whitehead 2003: 351). Further to the southwest Oxley met with Aborigines at the Lachlan River carrying stone hatchets and possum skin cloaks, he then returned to Bathurst along the Bell and Macquarie Rivers north of Orange in late August. He noted the abundant resources of the areas adjacent to the Macquarie River, including emus, ducks, swans, fish and freshwater muscles and that the country has running waters everywhere and on every hill was a spring (Rawson 1997: 8).

Several first hand accounts of contact with Aborigines still living a tribal life within the general region are available, providing insight into aspects of daily life. Miss Jane Piper, the daughter of Captain Piper and owner of "Alloway" and "Westbourne" at Bathurst, wrote in her diary:

> *In the 1830's, there was a large camp of Aborigines near "Westbourne". Their shelters were made of bark under which an Aboriginal man, his mate and their piccaninnies slept at night. If they owned any dogs these would sleep with them in their 'gunyah' to help keep them warm. The men provided food, consisting of kangaroo, opossums, lizards, snakes and other delicacies. The women cooked them by throwing them on to hot coals, skinned but not disembowelled. When they were cooked, they were laid on a piece of bark and the man sat down to eat, his woman seated at his back. He tore the food to pieces with his fingers, and threw the bones over his shoulder to his lubra, who then gnawed them and passed them on to the dogs* (McBurney 1995).

A fight between the local Aborigines and an outside tribe was also described by Miss Piper, who interpreted the fight as being over women, whereby the non-local tribe had come into the area to steal a woman:

> *They used spears, nulla nullas, boomerangs and womerahs. A European sympathiser persuaded one of the local tribe to allow him make the warrior of the home (local?) tribe into a devil. This he did by fastening two bullocks' tails to a thick*

> *cord, made from grass, tying them around the man's waist. His hair was plastered down with pipeclay, and he had red circles around his eyes and red streaks around his body. The Bathurst Tribe won, but the victory cost six lives. It is not known what happened to the woman, perhaps she escaped!*
>
> *The fallen heroes were buried with much ceremony, the bodies in a sitting position with their heads bowed on their knees. The war weapons of the dead were placed inside the opossum skin rug in which each body was buried. During the burial the women cried and wailed, the dead man's woman cut her head and body severely causing streams of blood to flow freely. The men and women joined in a sort of chant to tell of the deceased's virtues. When the women died they were buried anywhere* (McBurney 1995).

On matters of ceremony she writes:

> *The mystic rites of the Aborigine were frequently carried out in secrecy, but when a young man was initiated he had his front tooth knocked out, and was then considered to be eligible for matrimony* (McBurney 1995).

4.2 REGIONAL ARCHAEOLOGICAL CONTEXT

According to Tindale's map of tribal boundaries (1974), the current study area falls within the boundaries of Wiradjuri country, as defined by the limits of the Wiradjuri language group. This territory is said to include all lands between Dubbo and Lithgow on an east-west axis and as far south as the Hay Plains and Ivanhoe, and north to the Talbragar River near Dubbo. According to Horton (2007), however, the boundary of the Wiradjuri extends somewhat further to the north and west to encompass Gilgandra, Nyngan and most of the Bogan River. It is important to note here that the use and meaning of the term 'tribe' and the designation of lines on a map as 'tribal boundaries' have been a controversial issue (Bowdler 1983: 22). There is no doubt that there were distinctive groups which can be defined by their linguistic traits, but the designation of lines on a map as boundaries, although useful, must also be accepted as problematic. Unlike Tindale's map, the map (from NSW NPWS) reproduced in Bowdler (1983: 17, Figure 2) shows a more general relationship of the language groups known to exist in NSW.

A study undertaken by White (1986) divides Wiradjuri territory into three primary physiographic divisions:

- The riverine plains in the west;
- The transitional western slopes in between; and,
- The highlands or central tablelands in the east.

The current study area falls within the eastern division, being the central tablelands.

Prior to 1979, no systematic, regional based archaeological studies had been undertaken in the Bathurst area. The only sites recorded within the region were generally done so by interested locals or amateurs. In the 1960's, Gresser, an amateur site recorder noted that the hilly land from Bathurst to the north was covered with camp sites, all of which were located on the low ridges that led down to the creeks and springs. He also noted that although sites are usually close to the creeks, they can also, albeit rarely, be found in other locations such as elevated ridge tops.

In 1979 Pearson undertook a pilot survey targeting two creek valleys north of the Mitchell Hwy between Lucknow and Bathurst – Lewis Ponds and Browns Creeks. Forty-two sites were recorded, with artefacts numbering between 1 and 92 at each site (Pearson 1979: 8). Analysis was undertaken on 18 sites that had 10 or more artefacts. The results of this study fed into Pearson's subsequent broad regional study, summarised below.

In (1981), Pearson[3] analysed the patterns of Aboriginal and early European settlement within the Upper Macquarie Region. This study included a small excavation component, which saw three shelters excavated, providing occupation dates of around 7,000 BP. Following is a summary of the salient points learned from these studies:

- According to Pearson archaeological sites could be divided into two main categories, occupation sites and non-occupation sites (which included grinding grooves, scarred or carved trees, ceremonial and burial sites etc.).
- An analysis of the location of these sites led him to build a model for site prediction which saw occupation sites occurring in places that had:
    - access to water – site size decreased with distance from water;
    - good drainage and views over watercourses or river flats;
    - level ground;
    - adequate fuel; and,
    - appropriate localised weather patterns for summer or winter occupation.

Such places were most frequently found on low ridge tops, creek banks, gently undulating hills and river flats and usually in open woodland vegetation (Pearson 1981: 101 as quoted in Koettig 1985: 47).

The location of non-occupation sites was dependent on various factors relating to site function. For example:

[3] M. Pearson's 1981 study is an unpublished PhD thesis from the ANU. I have been unable to directly access this work and rely heavily on summaries presented in Koettig (1985) and to a lesser extent Kelton (1996) and Navin Officer (2003).

- grinding grooves only occur where there is appropriate outcropping sandstone, but as close to the occupation site as possible;
- scarred trees were variably located with no obvious patterning, other than proximity to watercourses, where camps were more frequently located, hence these provided a focus of human activity;
- burial grounds were as close to occupation sites as geological formations would permit;
- ceremonial sites such as bora rings and stone arrangements were located away from occupation sites.

As a result of collected ethnographic information, Pearson indicates that Aboriginal campsites may not have been used for longer than three consecutive nights and those large sites may be the result of repeated short visits rather than long stays.

Much of Pearson's study was based upon the work of P. Gresser, an amateur archaeologist, ethno-historian and collector of Aboriginal artefacts, who documented his lifetimes' work in the 1960's. His first major recording of sites and oral histories were in the Bathurst – Orange area, and those that relate to the current study area are included below under Local Context.

Although a useful study, Koettig (1985: 49-50) considers Pearson's findings as preliminary, mainly due to the unsystematic nature of the recording of most sites used in the analysis. In her view, this would have skewed both site type (obvious manifestations) and location (areas of disturbance), therefore biasing the sample. Further the sample size of both the Wellington and other areas were considered too small to yield significant results.

Further north, a study undertaken by Balme (1986)[4] has contributed to our knowledge of the archaeology of the region by looking at site location with reference to preservation, both in the face of natural and incursive processes. Findings concluded that apart from the effect of historic impacts on sites, the greatest influence on the distribution of sites is that of geomorphic processes affecting site preservation and subsequent processes leading to site exposure (Balme 1986: 182 as quoted in Jo McDonald CHM: 1998: 17). Balme also found there was little scope for the assessment of the chronology of prehistoric sites in the area as so few datable contexts have been located.

A 1987 study undertaken for the installation of a pipeline between Oberon and Bathurst recorded six sites (five open camp sites and one isolated find) while noting that four previously recorded sites may have been impacted by the proposal. In terms of site location, the report concludes that sites were found where they were expected based on Pearson's 1981 distribution patterns (Lance and Truscott 1987: 18).

[4] J. Balme's 1986 study has also been inaccessible and I rely heavily on summaries presented in Jo McDonald CHM (1998).

In general, the more recent development driven studies have conformed to the site prediction model outlined by Pearson for the Bathurst area, with the more complex site foci close to water supplies, on elevated landforms and either one-off site evidence or specialised sites being found on higher elevations such as ridge tops.

4.3 LOCAL ARCHAEOLOGICAL CONTEXT

A search of the (then) Department of Environment, Climate Change and Water (DECCW) Aboriginal Heritage Information Management System (AHIMS) found fifteen (15) Aboriginal sites within a 9 x 18 km area centred on the Subject Area. Of these fifteen sites, ten (10) are open camp sites, four (4) are isolated finds and one (1) is a carved tree.

Of the fifteen sites found by the AHIMS search, five (5) were identified in a Michael Pickering 1980 transmission line survey. These sites (AHIMS #44-3-0058, #44-3-0059, #44-3-0060, #44-3-0063, #44-3-0064) were primarily isolated finds with the exception of a single open camp site (AHIMS #44-3-0058). All five of these sites were assessed as having very low significance and a high risk of damage from the proposed transmission line development (Pickering 1980: 9-10).

A 1994 survey conducted by Doug Williams and Matthew Barber for the Ben Chifley Dam identified six (6) indigenous sites, of which five (5) were located within the AHIMS search area. Permits 1260, 1261, 1262, and 1263 were issued for all five of the sites. These five sites (AHIMS #44-6-0069, #44-6-0065, #44-6-0070, #44-6-0072, #44-6-0071) have all become inundated with water from the Ben Chifley Dam. All of the sites, with exception to site AHIMS #44-6-0072, were identified by Williams and Barber's 1994 survey as having low significance and were open camp sites composed of low density lithic scatters in highly disturbed areas. Site #44-6-0072 was assessed as having moderate to high significance due to the presence of rare glass artefacts within an aboriginal context, indicating cultural interaction and adaptation (Williams and Barber 1994: 13-14).

In addition to the sites identified by Williams and Barber, AHIMS sites #44-6-0081 and #44-6-0087 have become inundated with water from the Ben Chifley Dam, with permits 1261, 1262, and 1263 being issued for site AHIMS #44-6-0081. Both of these sites were identified as open camp sites composed of lithic scatters in a disturbed context. This brings a total seven (7) of the fifteen identified sites within the search area as having become inundated with water from the Ben Chifley Dam.

The lone carved tree (Site AHIMS #44-6-0011) identified by the AHIMS search has reportedly been destroyed, as indicated by the son of the land owner of the property where the tree is believed to have been be located.

4.4 PREDICTIVE MODEL FOR SITE LOCATION

Proximity to a permanent water supply is the primary factor appearing to determine the location of Aboriginal campsites. In the Sydney region and elsewhere, stream ordering has been used to predict the potential for site occurrence, and further to indicate the possible nature of these sites in terms of their complexity. Results of an integrated series of studies including a serious excavation component (Jo McDonald CHM 1997), suggests a high correlation between the permanence of a water source and the permanence and / or complexity of the area's Aboriginal occupation. This was further reflected in the lithic assemblages from sites close to permanent water, which suggested that a greater range of activities were represented (e.g. tool use, manufacture and maintenance, food processing and quarrying). Sites near ephemeral water sources had evidence for one-off occupation (e.g. isolated knapping floors or tool discard), and creek junctions were also proven to be foci for site activity.

Using the concept of stream ordering, and the results of the review of archaeological context **Section 4.2** and **4.3**, the following general predictions can be made regarding the nature of sites and their location in the current Subject Area.

- In the vicinity of first / second order water courses (such as Macquarie River and Campbells River), archaeological evidence may be frequent and / or show evidence of repeated occupation, especially if other resource areas are nearby such as stone or food;
- Stands of mature native trees (over 100 years old) have the potential to bear cultural modifications;

From the context described above, it is possible to say that the most likely sites to be encountered within the current Subject Area are:

- Isolated finds may occur anywhere, especially in disturbed locations;
- Open camp sites and grinding grooves are possible in the vicinity of Macquarie River and Campbells River; and
- Scarred trees are possible where mature trees of scar bearing type are extant.

For the purposes of the current study, site type definitions can be found in **Appendix 3**.

4.5 SAMPLING STRATEGY

Using desktop predictive modelling as described above, aerial photographs of the Study Area were examined to detect landscape features (including vegetation), waterways and potential food resources. This process identified areas of potentially high archaeological sensitivity (including creeklines, and escarpments) to be targeted for assessment, although full pedestrian survey of the easement was attempted.

Ground surface visibility does not affect the detection of all site types. It is predominantly open sites, isolated finds, deposits associated with shelters and to a lesser degree grinding groove sites that are impacted by this factor. For these sites, the degree of ground surface visibility combined with archaeological post-formation processes (i.e. whether sites are obtrusive as a result of factors that have occurred since they were formed) will both influence the effectiveness of archaeological field survey. Consequently, it is considered important to document and assess variables associated with ground surface visibility in relation to the landforms surveyed. The following variables are recorded:

- The area of landforms / survey units determined to have exposures or patches of ground surface visibility; and
- The quality of the visibility within these exposures, a factor which is usually influenced by the degree of ground cover from either live vegetation or leaf litter, or from siltation (e.g. floodplains) or imported soil deposits (e.g. tracks, roads).

Ground surface visibility along the current study corridor was very variable, as may be expected in a survey that covers such a variety of landforms with shifting degrees of land-use disturbance. The majority of the easement was thickly vegetated with ground surface visibility of between 0% and 10%. Vehicle tracks, access tracks, creek banks and creek crossings often had a higher incidence of erosion and offered limited areas of increased ground surface visibility of around 90 %, where wooded slopes and forested undulating hillsides had almost no ground surface visibility.

4.6 FIELD METHODS

On the properties accessed, the entire water pipeline easement of both proposed routes was walked, with two field officers spaced between 10 and 15 m apart at times to optimise accessible areas, high ground surface visibility locations and hence the probability of encountering heritage sites.

All mature native trees (of which there were few) along the assessed portions of the optic cable easement were inspected for scarring, ensuring good survey coverage of this site type, while sandstone outcrops were inspected for engravings or grinding grooves, providing equally appropriate survey coverage for these site types.

5 RESULTS OF ABORIGINAL HERITAGE ASSESSMENT

5.1 EFFECTIVE SURVEY COVERAGE

Two of the key factors influencing the effectiveness of archaeological survey are ground surface visibility (GSV) and exposure. These factors are quantified in order to ensure that the survey data provides adequate evidence for the evaluation of the archaeological materials across the landscape. For the purposes of the current study, these terms are used in accordance with the definitions provided in the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales: Part 6 National Parks and Wildlife Act 1974* (DECCW 2010).

Ground surface visibility is defined as:

> *… the amount of bare ground (or visibility) on the exposures which might reveal artefacts or other archaeological materials. It is important to note that visibility, on its own, is not a reliable indicator of the detectability of buried archaeological material. Things like vegetation, plant or lead litter, loose sand, stone ground or introduced materials will affect the visibility. Put another way, visibility refers to 'what conceals' (DECCW 2010: 39).*

Exposure is defined as:

> *… different to visibility because it estimates the area with a likelihood of revealing buried artefacts or deposits rather than just being an observation of the amount of bare ground. It is the percentage of land for which erosion and exposure was sufficient to reveal archaeological evidence on the surface of the ground. Put another way, exposure refers to 'what reveals' (DECCW 2010: 37).*

The current study examined three survey units:

- **Western.** Consisted of undulating terrain within road corridors; grasses and weeds obscured between 50 and 85 % of the overall ground surface, with all exposures exhibiting high levels of background noise (gravels) (**Plate 8**);
- **Eastern**. Consisted of undulating terrain within farm paddocks; grasses and weeds obscured between 70 and 100% of the overall ground surface (**Plate 9**);
- **Common.** Consisted of undulating terrain within farm paddocks; grasses and weeds obscured approximately 90 to 100% of the ground surface with vehicle tracks constituting the primary exposures (**Plate 10**).

In general, where exposures were present it was noted that the soils ranged from skeletal to silty alluvial deposits. Survey effectiveness was greatest along road corridors, with the Western Survey Unit consequently receiving the greatest effective survey coverage:

- Western Survey Unit: approximately 41%;

- Eastern Survey Unit: approximately 15%; and
- Common Survey Unit: approximately 15%.

In terms of landforms, the crest and undulating terrain received overall greater levels of effective coverage (42.5% and 39.75%, respectively) than the landforms currently subject to agriculture and pastoralism (terraces, toe slopes, stream channels and flood plains [1 to 10% effective coverage]). The flats exhibited a median level of effective coverage (27.8%). Whilst all landforms displayed limited visibility, the higher effective coverage of the undulating terrain within the road corridors is unsurprising given their more numerous exposures. Overall, ground surface visibility was low along the eastern and common survey units and this is likely to have had some impact on survey effectiveness, although the overall high levels of prior agricultural disturbances to these landforms means that the likelihood of undisturbed Aboriginal sites remaining undetected is considered low.

These figures are summarised in **Tables 2** and **3**. Detailed survey information is provided in **Appendix 4**.

Table 2: Survey coverage data.

Survey Unit	Landform	Survey Unit Area (sq m)	Visibility %	Exposure %	Effective Coverage Area (sq m) (= Survey Unit Area x Visibility % x Exposure %)	Effective Coverage % (= Effective Coverage Area / Survey Unit Area x 100)
Western	Undulating	250500	85	50	106462.5	42.5
	Crest	4740	85	50	2014.5	42.5
	Flat	12800	85	20	2176	17
Eastern	Flood Plain	73200	85	10	6222	8.5
	Terrace	32360	50	10	1618	5
	Toe Slope	203080	100	10	20308	10
	Flat	121840	100	30	36552	30
Common	Flat	12000	85	20	2040	17
	Undulating	70600	100	30	21180	30
	Terrace	58200	100	1	582	1
	Stream Channel	16920	100	1	169.2	1

Table 3: Landform summary—sampled areas.

Landform	Landform area (sq m)	Area Effectively Surveyed (sq m) (= Effective Coverage Area)	% of Landform Effectively Surveyed (= Area Effectively Surveyed / Landform x 100)	Number of Sites	Number of Artefacts or Features
Undulating	321100	127642.5	39.75	1	3 artefacts
Crest	4740	2014.5	42.5	1	3 artefacts
Flat	146640	40768	27.80	1	2 artefacts
Flood Plain	73200	6222	8.5	0	0

Landform	Landform area (sq m)	Area Effectively Surveyed (sq m) (= Effective Coverage Area)	% of Landform Effectively Surveyed (= Area Effectively Surveyed / Landform x 100)	Number of Sites	Number of Artefacts or Features
Terrace	90560	2200	2.43	0	0
Toe Slope	203080	20308	10	2	10+ artefacts
Stream Channel	16920	169.2	1	1	1 artefact

5.2 ABORIGINAL SITES RECORDED

A total of six (6) Aboriginal sites were recorded during the current survey, of which five (5) were open sites and one (1) was an isolated find. **Table 4** summarises the six sites whilst **Figures A and B in Appendix 4** illustrates the locations of the sites in relation to the proposed project impact footprint.

Table 4: Survey results.

Site Name	Easting (GDA)	Northing (GDA)	Survey Unit	Landform	Remarks
BP(e)-OS1 with PAD	741130	6291905	Eastern	Toe slope	Open Site, eastern route.
BP(e)-OS2 with PAD	743386	6289492	Eastern	Flood plain	Open Site, eastern route.
BP(w)-OS3	741988	6287150	Western	Spur	Open Site, western route, small site (3 x artefacts) atop road cutting (eastern side of road).
BP(e)-OS4	742292	6286039	Eastern	Flood plain	Open Site, eastern route, small site (2 x artefacts) on trotting track.
BP(c)-OS5 with PAD	742581	6284663	Common	Base of knoll	Open Site, common route, small site (3 x artefacts) on farm track.
BP(c)-IF1	743083	6284141	Common	Low slope	Isolated find, common route, 1 x artefact on rock outcrop.

BP(e)-OS1 with PAD

Site type: Open site with Potential Archaeological Deposit (PAD);

GPS Coordinates: GDA Zone 55; GR 741130 / 6291905;

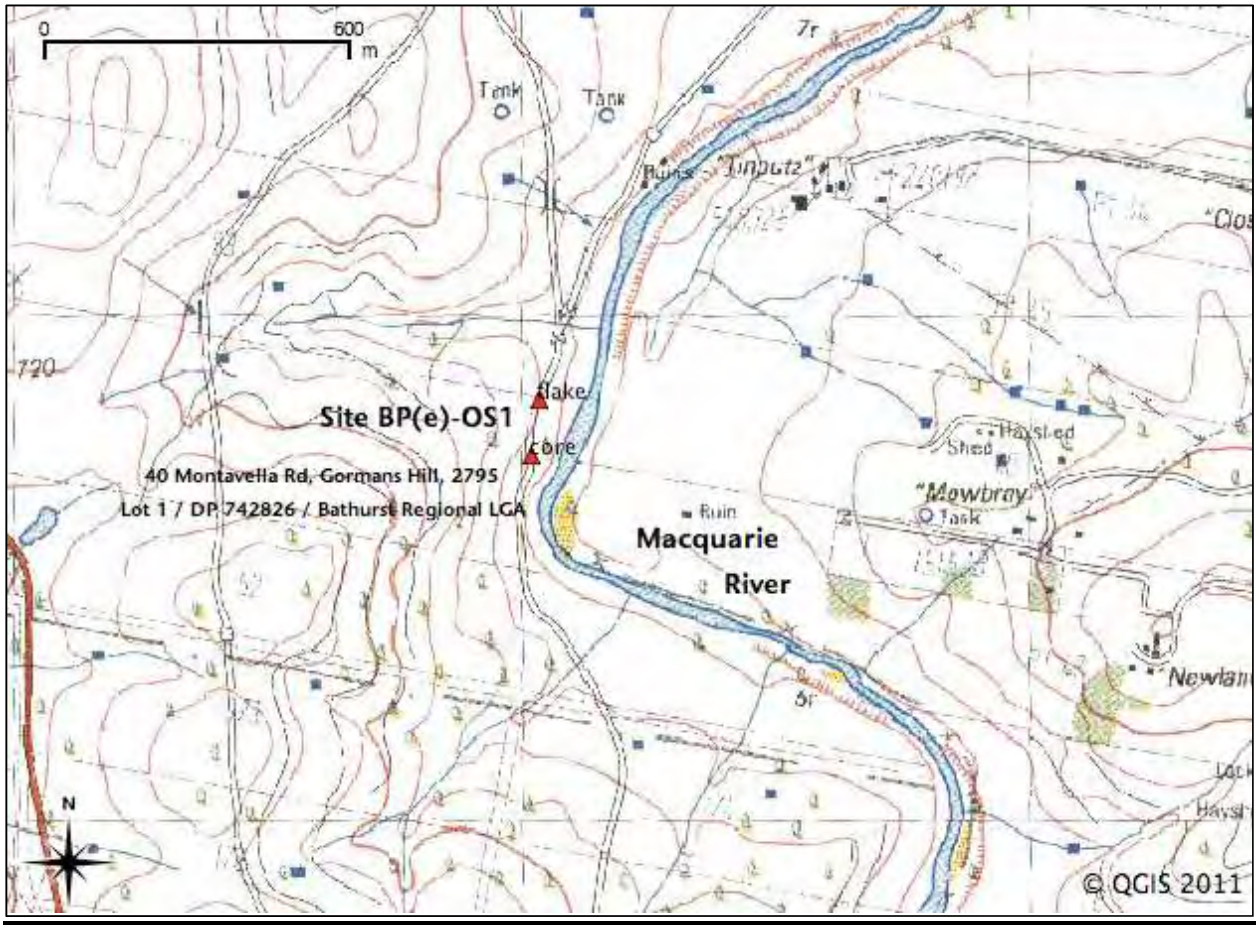
Location of site: 40 Montevilla Road, Gormans Hill, NSW (Lot 1 / DP 742826 / Bathurst Regional LGA);

Description of site: Site BP(e)-OS1 with PAD is a disturbed open artefact scatter located within a grazed paddock. Artefacts were situated on a stock track. It was considered likely that sub-surface deposits could be present at the site (**Plates 11** to **13). Figure 4** provides localised site location information.

Table 5: Artefacts recorded at BP(e)-OS1 with PAD.

Serial	Material	Type	Dimensions (L x W x D mm)	Platform	Cortex	Termination	Remarks
1	Grey fine-grained siliceous (FGS)	Flake	25 x 32 x 6	Broad		Hinge	2 x negative flake scars
2	Silcrete	Core	58 x 40 x 31		10%		Fragment

Figure 4: Location of site BP(e)-OS1 with PAD. Red triangles are the locations of the two artefacts.



BP(e)-OS2 with PAD

Site type: Open site with Potential Archaeological Deposit (PAD);

GPS Coordinates: GDA Zone 55; GR 743386 / 6289492;

Location of site: 324 Bidgeribbin Road, The Lagoon, NSW (Lot 2 / DP 786780 / Bathurst Regional LGA);

Description of site: Site BP(e)-OS2 with PAD is a disturbed open artefact scatter located in the vicinity of a cropped paddock. Artefacts were situated on the vehicle track bordering the crop (**Plates 14** to **16**). In addition to the current surface expression, a

number of artefacts have previously been collected by the property owner for the purpose of protection during agricultural activities. These artefacts are currently stored on the property for safe-keeping and include edge-ground implements (including at least one axe head), grinding stones, large flakes and cores. **Figure 5** provides localised site location information.

Table 6: Artefacts recorded at BP(e)-OS2 with PAD.

Serial	Material	Type	Dimensions (L x W x D mm)	Cortex	Termination	Remarks
1	Basalt with silica	Axe head fragment	54 x 31 x 11			Laterally fragmented.
2	Quartz	Flake	13 x 19 x 8			2 x negative flake scars on dorsal surface. High quality.
3	FGS	Broken flake (BF)	10 x 9 x 2			Distal tip of flake.
4	FGS	BF	44 x 17 x 7			Blade flake, broken. 4 negative flake scars.
5	Grey FGS	BF	33 x 22 x 7			
6	Quartzite	Primary flake	87 x 70 x 22	20%		
7	Quatzite	Core	71 x 50 x 55	30%		Cobble.
8	Pale quartzite	Flake	39 x 33 x 12		Hinge	3 negative flake scars.

BP(w)-OS3

Site type: Open site;

GPS Coordinates: GDA Zone 55; GR 741988 / 6287150;

Location of site: Shoulder of road cutting, Lagoon Road; approximately 500 m south-east of intersection of Samuel Way and Lagoon Road. Artefacts are situated 40 m south-east of the entrance to 793 Lagoon Road, The Lagoon (Lot 22 / DP 1040935 / Bathurst Regional LGA) adjacent to an agricultural fence within the road corridor (eastern side of road) (**Plate 17**);

Description of site: BP(w)-OS3 is a small scatter of three (3) white chert flakes (**Plate 18**) atop the road cutting. **Figure 6** provides localised site location information.

Table 7: Artefacts recorded at BP(w)-OS3.

Serial	Material	Type	Dimensions (L x W x D mm)	Platform	Cortex (%)
1	White chert	Flake	27 x 11 x 5	Narrow	5
2	White chert	Flake	28 x 18 x 9	Narrow	0
3	White chert	Flake	20 x 20 x 8	Narrow	0

Figure 5: Location of site BP(e)-OS2 with PAD. Red triangles are the locations of the artefacts.

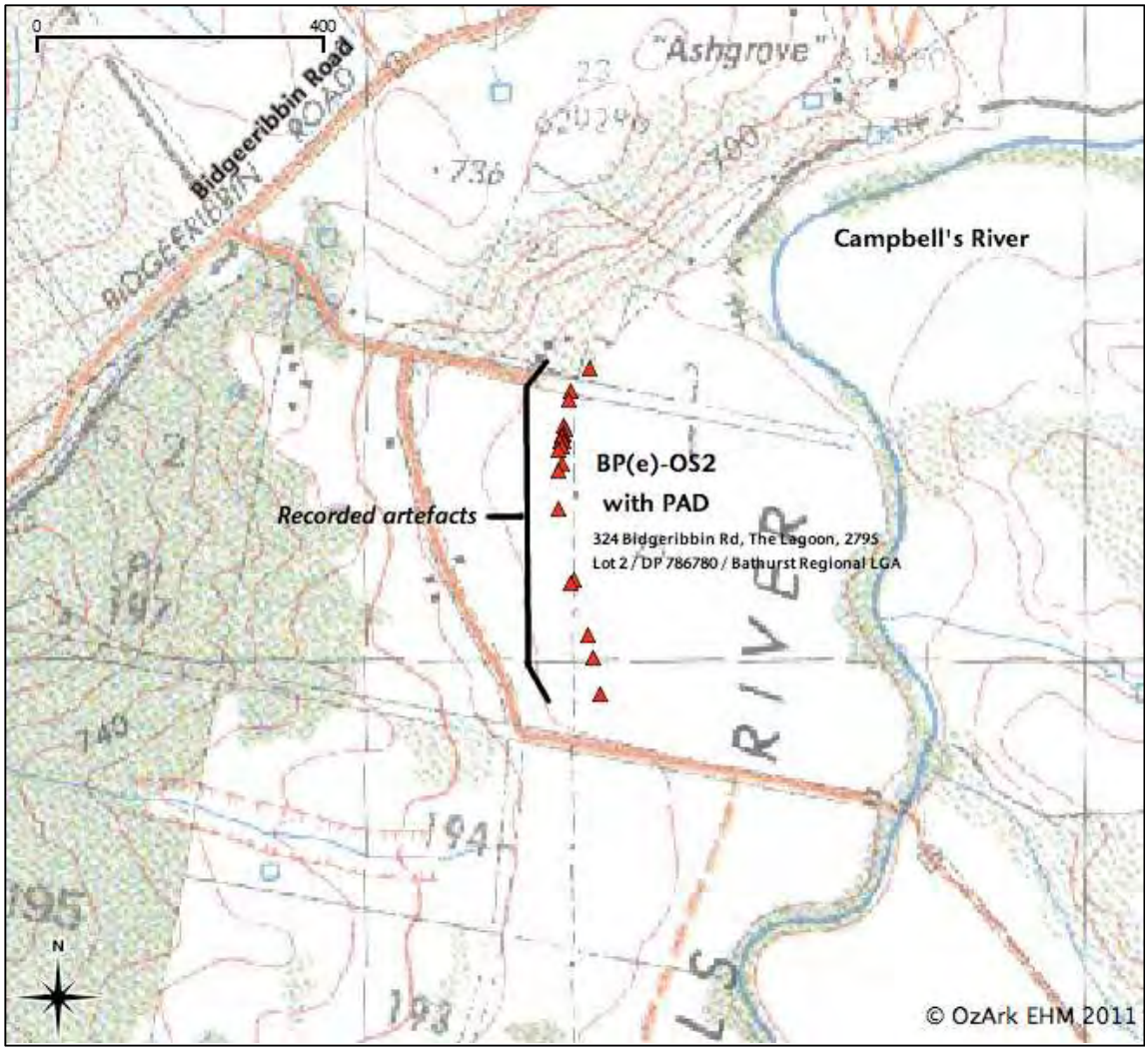
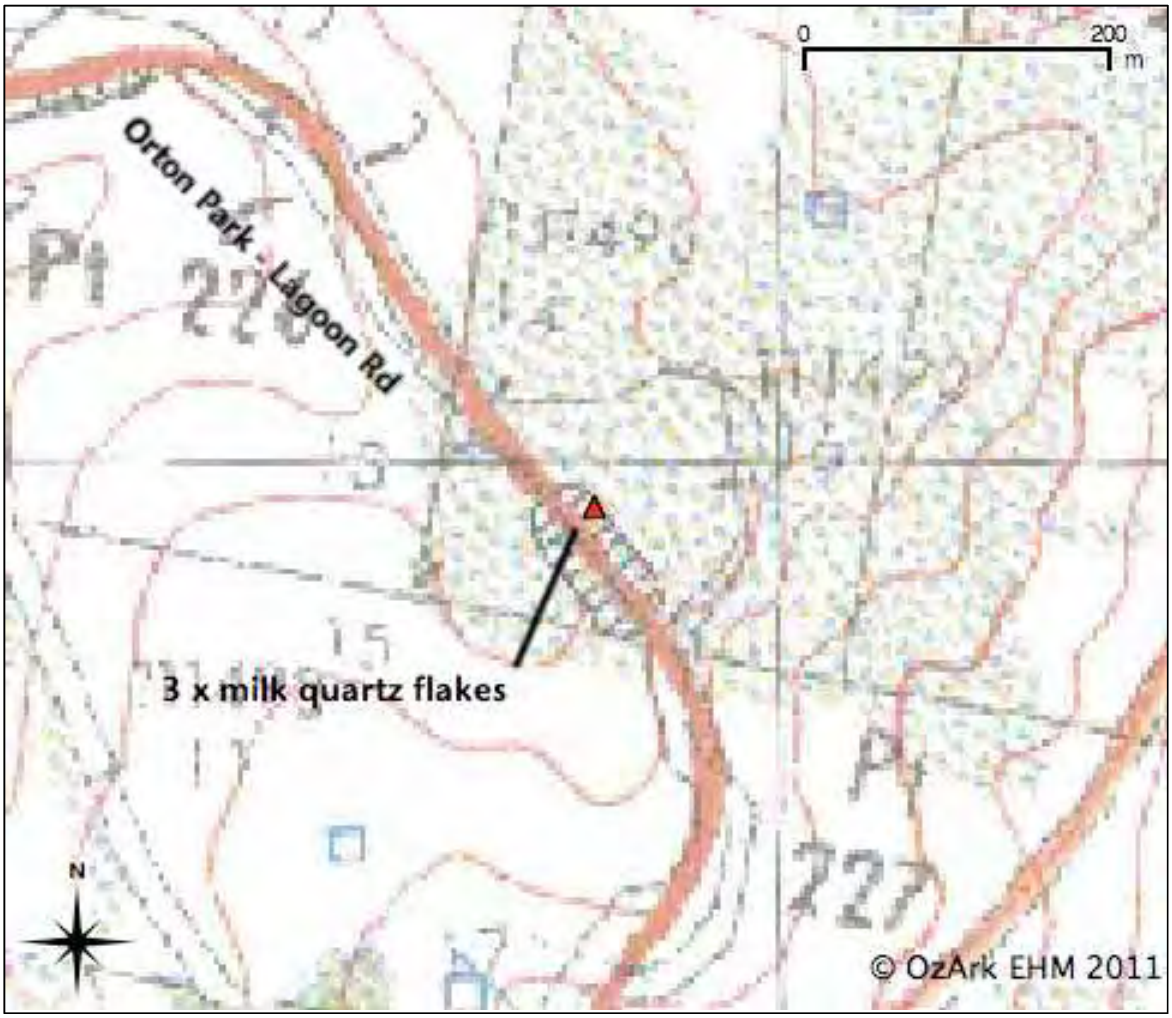


Figure 6: Location of site BP(w)-OS3. Red triangle is the location of the artefacts.



BP(e)-OS4

Site type: Open site;

GPS Coordinates: GDA Zone 55; GR 742292 / 6286039;

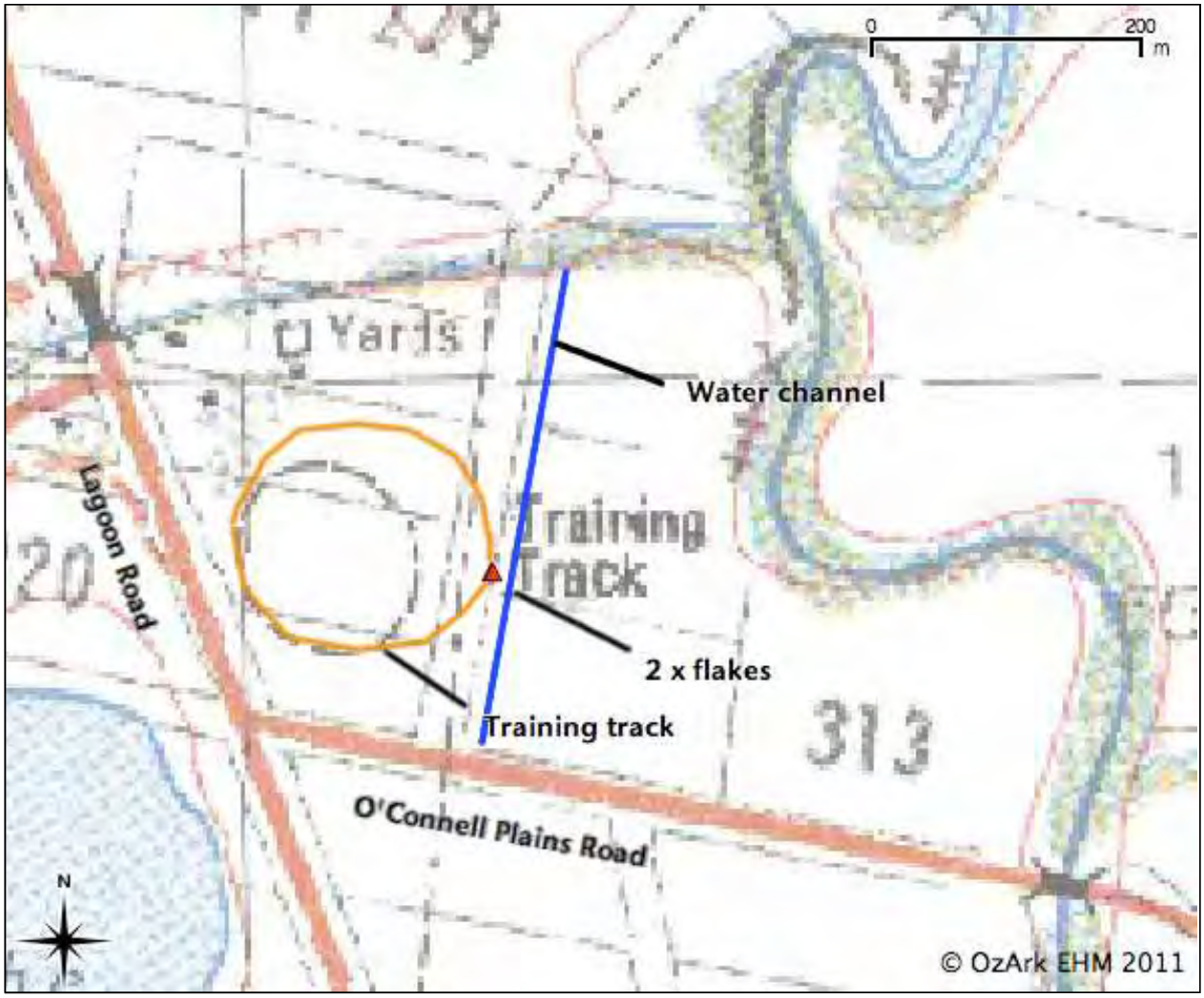
Location of site: Trotting track on flood plain (**Plate 19**), approximately 200 m east of Lagoon Road; situated adjacent to water channel between the boundaries of Lot 2 / Section 42 / DP 758968 and Lot 2 / Section 43 / DP 758968 (Bathurst Regional LGA);

Description of site: BP(e)-OS4 consists of two broken basalt flakes (**Plate 20**) situated on the disturbed trotting track, spaced approximately 1 m apart. **Figure 7** provides localised site location information.

Table 8: Artefacts recorded at BP(e)-OS4.

Serial	Material	Type	Dimensions (L x W x D mm)	Platform	Remarks
1	Basalt	Broken flake	13 x 11 x 6	Broad	
2	Basalt	Broken flake	15 x 18 x 11	Broad	

Figure 7: Location of site BP(e)-OS4. The triangle shows the locations of the two artefacts.



BP(c)-OS5 with PAD

Site type: Open site with Potential Archaeological Deposit (PAD)**;**

GPS Coordinates: GDA Zone 55; GR 742581 / 6284663;

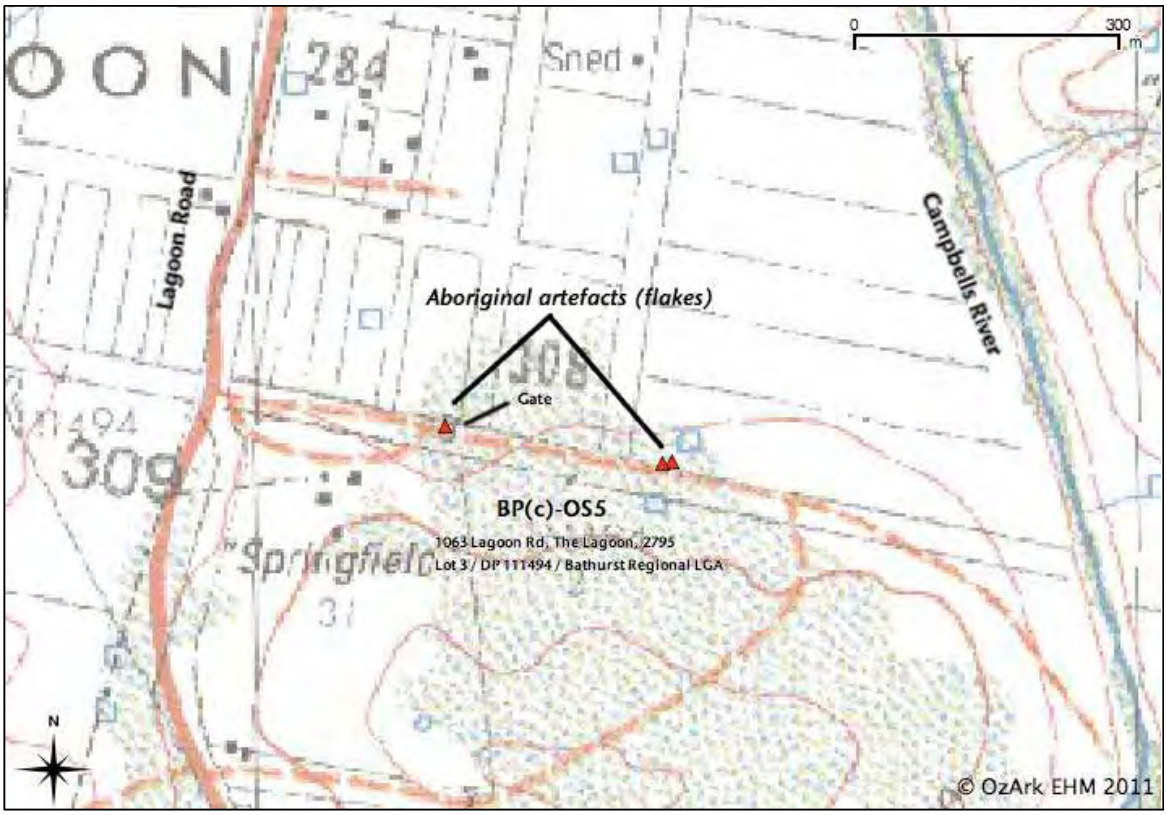
Location of site: Vehicle track in vicinity of paddock gate, Lot 1 / Section 54 / DP 758968 (Bathurst Regional LGA);

Description of site: BP(c)-OS5 with PAD is a small artefact scatter situated on a vehicle track at the base of a knoll (**Plate 21**). The site consists of three (3) flakes (**Plates 22** to **24**). Whilst the surface expression has been disturbed by regular vehicle movement, it is considered likely that relatively undisturbed sub-surface deposits are present. **Figure 8** provides localised site location information.

Table 9: Artefacts recorded at BP(c)-OS5 with PAD.

Serial	Material	Type	Dimensions (L x W x D mm)	Platform	Cortex (%)	Remarks
1	White chert	Flake	24 x 14 x 3	Narrow		Western side of gate.
2	Basalt	Flake	40 x 23 x 12	Narrow	20	4 x negative flakes. Eastern side of gate.
3	River cobble?	Flake	44 x 36 x 10	Broad	50	Eastern side of gate.

Figure 8: Location of site BP(c)-OS5 with PAD. Red triangles are the locations of the two artefacts.



BP(c)-IF1

Site type: Isolated find;

GPS Coordinates: GDA Zone 55; GR 743083 / 6284141;

Location of site: Outcropping rock on low slope, Lot 13 / DP 1099857 (Bathurst Regional LGA) (**Plate 25**);

Description of site: BP(c)-IF1 is a single silcrete flake (**Plate 26**) situated on a rock outcrop amongst rolling hills. No other cultural material was identified in the vicinity of the artefact.

Table 10: Artefacts recorded at BP(c)-IF1.

Serial	Material	Type	Dimensions (L x W x D mm)	Platform	Termination	Remarks
1	Silcrete	Flake	28 x 18 x 9	Broad	Feather	Isolated artefact.

5.3 ABORIGINAL SITES RE-LOCATED

An unsuccessful attempt was made to re-locate the carved tree # 44-6-0011 at GDA Zone 55 743051 / 6284524. No evidence of culturally modified trees was found in the vicinity of the supplied grid reference and it is presumed destroyed.

5.4 DISCUSSION

In accordance with the predictive model outlined in **Section 4.4**, Aboriginal settlement within the Subject Area appears to have been largely focussed on east and north-east facing slopes overlooking the Macquarie and Campbells Rivers (Jeff McSpedden, pers. comm. [5]). Of the six sites identified in the current study, none are located more than 480 m from one of the two rivers. The site with the greatest density – BP(e)-OS2 with PAD – is located on the floodplain/terrace of Campbells River, approximately 320 m to the west of the current stream channel. The occupants of site BP(e)-OS2 with PAD are likely to have made repeated and frequent use of river's water and flora / fauna resources and the site may have been the primary focus of settlement and lithics manufacturing within the immediate area. It is noted that all sites in the Subject Area have been subject to varying forms and levels of disturbance, however site BP(e)-OS2 with PAD demonstrates a significantly higher quantity and density of surface artefacts than the remainder of the sites combined. Finally, whilst GSV was low throughout most of the Subject Area, Jeff McSpedden indicates that when visibility is higher, east-facing slopes overlooking the rivers tend to display higher quantities of Aboriginal artefacts than other landforms in the vicinity. These landforms also tend to be those that have undergone the greatest amount of disturbance from clearing and agricultural land uses, making the definition of any Potential Archaeological Deposits (PADs) throughout this area challenging. Based on the trajectory of the proposed pipeline along the eastern route, there were no areas where disturbance was considered low enough for a PAD to be nominated in the absence of surface material. This does not mean however, that additional archaeological material will not be present along the pipeline route, simply that there is insufficient evidence for the presence of undisturbed locations of high archaeological sensitivity.

Overall, the low ground surface visibility along the eastern and common survey units, as discussed earlier in this chapter, is likely to have had some impact on survey effectiveness,

[5] Jeff McSpedden, property owner, 1107 Lagoon Rd, The Lagoon, NSW, 2795 (Lot 31 / DP 579078 / Bathurst Regional LGA).

although the overall high levels of prior agricultural disturbances to these landforms means that the likelihood of undisturbed Aboriginal sites remaining undetected is nonetheless considered low.

Of the sites identified during the current survey, all are artefact sites with flakes and blades (broken and intact), cores and / or edge-ground implements represented. Raw materials include quartzite, silcrete and FGS, chert and basalt, all of which are local to the region. Such artefacts indicate that stone was both quarried and worked locally.

No culturally modified trees were recorded, however tree clearing during the historical period is likely to have seen the removal of any scarred or carved trees that may once have been present.

5.5 ASSESSMENT OF HERITAGE SIGNIFICANCE

5.5.1 Introduction

The appropriate management of cultural heritage items is usually determined on the basis of their assessed significance as well as the likely impacts of any proposed developments. Cultural, scientific and public significance are identified as baseline elements of significance assessment, and it is through the combination of these elements that the overall cultural heritage values of a site, place or area are resolved.

Cultural significance

This area of assessment concerns the importance of a site or features to the relevant cultural group - in this case the Aboriginal community. Aspects of cultural significance include assessment of sites, items, and landscapes that are traditionally significant or that have contemporary importance to the Aboriginal community. This importance involves both traditional links with specific areas as well as an overall concern by Aboriginal people for their sites generally and the continued protection of these. This type of significance may not be in accord with interpretations made by the archaeologist - a site may have low scientific significance but high Aboriginal significance, or vice versa.

The significance of the archaeological sites located within the Study Area was addressed with the community representatives during survey.

Scientific significance

Assessing a site in this context involves placing it into a broader regional framework, as well as assessing the site's individual merits in view of current archaeological discourse. This type of significance relates to the ability of a site to answer current research questions and is also based on a site's condition (integrity), content and representativeness.

The overriding aim of cultural heritage management is to preserve a representative sample of the archaeological resource. This will ensure that future research within the discipline can be based on a valid sample of the past. Establishing whether or not a site can contribute to current research also involves defining 'research potential' and 'representativeness'. Questions regularly asked when determining significance are: can this site contribute information that no other site can? Is this site representative of other sites in the region? In general terms, any Aboriginal object has the ability to either add to our knowledge about an area's Aboriginal history, comment on the technological developments of a people or may act as potential markers for subsurface deposits.

Open Sites

The scientific significance of open sites is extremely variable and dependent upon several factors relating to:

- **Preservation:** Their integrity and potential to be conclusively proven to be Aboriginal in origin;
- **Representativeness:** Is this the type of site one may expect in this landscape (i.e. does it relate back to the predictive model)?; Do many such sites occur nearby? etc; and
- **Are there artefacts or other sites present** (material, types or combinations thereof) that are rare in the area or unusual concentrations/ or rarity for the area?

Public significance

Sites that have public significance do so because they can educate people about the past. By reducing ignorance about why sites are important to the Aboriginal and scientific community, important sites can be protected from ignorant or inadvertent destruction. Educating the public to understand the need for site preservation should increase the likelihood of maintaining an archaeological resource into the future. For a site to have high public significance it should contain easily identifiable and interpretable elements, and be relatively easily accessed. If an artefact scatter is in some way outstanding (either in terms of spatial size or artefact density) it may be recognisable by the lay-person and hence interpretable, but if not this site type is usually assessed as having low public significance.

Artefact sites are generally difficult for the lay-person to appreciate without interpretative aids.

5.5.2 Assessed significance of the recorded sites

Cultural significance

Tina Petford of BLALC regarded sites BP(c)-IF1 and BP(w)-OS3 as being of low cultural significance.

Correspondence letters from Dhuuluu-Yala and Wiradjuri Traditional Owners Central West Aboriginal Corporation have been received, however neither letter indicates the stakeholders' assessments of cultural significance. A draft of the current report will be forwarded to all three organisations for comment.

Scientific significance

With the possible exception of BP(c)-IF1, the surface expression of all of the recorded sites is regarded as highly disturbed. It is likely that the extant surface artefacts are situated in secondary deposits and that numerous artefacts have been removed shifted within the landscape during the historical period. Additionally, ongoing cultivation is likely to have disturbed the sites' sub-surface deposits. **Table 11** summarises the assessed significance of each site. It is noted that these assessments are preliminary in nature pending further archaeological investigation via test excavations.

Table 11: Impact assessment

Site Number	Type of Site	Disturbance Levels	Archaeological Potential	Preliminary Scientific Significance
BP(e)-OS1 with PAD	Artefact scatter; <10 artefacts; moderate PAD.	High	Moderate-High	Moderate
BP(e)-OS2 with PAD	Artefact scatter; >20 artefacts; moderate PAD.	High	Moderate-High	Moderate
BP(w)-OS3	Artefact scatter; 3 x artefacts; no PAD.	High	Low	Low
BP(e)-OS4	Artefact scatter; 2 x artefacts; no PAD.	High	Low	Low
BP(c)-OS5 with PAD	Artefact scatter; 3 x artefacts; moderate PAD.	Moderate-High	Moderate-High	Moderate
BP(c)-IF1	Isolated find	Low	Low	Low

Public significance

All the recorded open sites (OS) and the isolated find (IF) located during the present survey are assessed as having **low public significance**. With the exception of BP(w)-OS3, all of the open sites and the isolated find are located on privately owned land causing them to be inaccessible to the general public. Similarly, BP(w)-OS3 is located atop a road cutting with very limited safe parking nearby and is thus largely inaccessible. The sites lack features such as hearths / ground ovens and readily identifiable artefacts such as grinding stone fragments and (intact) axe heads. Sites such as these are difficult for the lay person to interpret or access.

5.6 LIKELY IMPACTS TO ABORIGINAL HERITAGE FROM THE PROPOSAL

Impacts to Aboriginal heritage (**Table 12**) are likely to consist of:

- **No impact.** Two (2) sites are currently avoided fully by the project design and will not be harmed by the proposed works; and
- **Partial impact.** Four (4) sites[6] have the potential to be harmed by the project design. Impacts will consist of:
    - Ground-disturbing works (drilling and drainage feature crossing upgrades) associated with pipeline construction. The pipeline will be a narrow, linear disturbance that would transect the site resulting in only partial harm;
    - Disturbance / harm to surface artefacts associated with vehicle movement; and
    - Potentially stockpile / storage locations resulting in disturbance / harm to surface artefacts.

Table 12: Impact assessment.

Site Number	Type of Harm (Direct/Indirect / None)	Degree of Harm (Total/Partial / None)	Consequence of Harm (Total/Partial/No loss of value)
BP(e)-OS1 with PAD	Direct / None*	Partial / None*	Partial / no loss of value *
BP(e)-OS2 with PAD	Direct / None*	Partial / None*	Partial / no loss of value *
BP(w)-OS3	None	None	No loss of value
BP(e)-OS4	Direct / None*	Partial / None*	Partial / no loss of value *
BP(c)-OS5 with PAD	Direct	Partial	Partial
BP(c)-IF1	None	None	No loss of value

* Dependent on route selection.

[6] It is noted that the final number of sites likely to be harmed by the proposal is dependent on the route selection. Of the recorded sites, only BP(c)-OS5 with PAD is common to both proposed routes and is certain to be harmed or disturbed by the proposal. In addition to BP(c)-OS5 with PAD, the Eastern Route would see three (3) additional sites harmed (viz. BP(e)-OS1 with PAD, BP(e)-OS2 with PAD and BP(e)-OS4) whereas the Western Route would see no additional sites harmed.

6 MANAGEMENT AND MITIGATION: ABORIGINAL HERITAGE

6.1 GENERAL PRINCIPLES FOR THE MANAGEMENT OF ABORIGINAL SITES

Appropriate management of cultural heritage items is primarily determined on the basis of their assessed significance as well as the likely impacts of the proposed development. **Sections 5.4** and **5.3** described respectively the significance / potential of the recorded sites and the likely impacts of the development. The following management options are general principles, in terms of best practice and desired outcomes, rather than mitigative measures against individual site disturbance.

- Avoid impact by altering the development proposal or in this case by avoiding impact to a recorded Aboriginal site. If this can be done, then a suitable curtilage around the site must be provided to ensure its protection both during the short-term construction phase of development and in the long-term use of the area. If plans are altered, care must be taken to ensure that impacts do not occur to areas not previously assessed.

- If impact is unavoidable then an Aboriginal Heritage Impact Permit (AHIP) may be applied for from the NSW Office of Environment and Heritage (OEH) and approval will depend on many factors including the site's assessed significance. To obtain an AHIP Aboriginal community consultation will need to occur following the OEH *Aboriginal Cultural Heritage Consultation Requirements* (ACHCRs). If granted, the local Aboriginal communities may wish to collect or relocate any evidence of past Aboriginal occupation (Aboriginal object), whether temporarily or permanently, if necessary[7].

6.2 MANAGEMENT AND MITIGATION OF RECORDED ABORIGINAL SITES

In relation to the current project, impacts to the identified sites are currently unconfirmed. It is recommended that sites be avoided wherever possible. In the event that elements of the Aboriginal heritage resource cannot be avoided, the appropriate management measures are as follows:

- **BP(e)-OS1 with PAD.** An AHIP for destruction will be required incorporating a salvage excavation component;

- **BP(e)-OS2 with PAD.** An AHIP for destruction will be required incorporating a salvage excavation component;

- **BP(w)-OS3.** An AHIP for collection and / or relocation will be required (n.b. it is noted that the current project design avoids this site – no collection / relocation is currently required);

- **BP(e)-OS4.** An AHIP for collection and / or relocation will be required;

- **BP(c)-OS5 with PAD.** An AHIP for destruction will be required incorporating a salvage excavation component; and

[7] The fate of all artefacts remains within the statutory control of the NSW Office of Environment and Heritage (OEH). A care and control permit may be issued to local Aboriginal groups or, with Aboriginal community consent, to other parties, for educational or display purposes.

- **BP(c)-IF1.** An AHIP for collection and / or relocation will be required (n.b. it is noted that the current project design avoids this site – no collection / relocation is currently required).

In the event that sites can be avoided, the appropriate management measures for both locations are as follows:

- Prior to construction, mark the approximate boundaries of the site(s) in the field with suitable high visibility curtilages such that they will not be inadvertently harmed during construction;

- Additionally, all personnel undertaking works should be informed of the locations of the site(s), how they have been identified in the field and the legislative consequences of deliberate or accidental harm to Aboriginal sites without an OEH AHIP. Evidence of all personnel receiving an induction must be kept on file (signed induction sheets etc). Should an incident happen followed by an OEH investigation, this process is likely to reduce the severity of the repercussions to Proponent and is likely to encourage ground crew compliance.

Finally, it is noted that the project design does not yet include locations for stockpile sites or compounds. It is recommended that such sites be located within the surveyed area. It is likely that if stockpile locations or compounds were to be sited outside the current Subject Area they may require further survey prior to works. Furthermore, alterations to the pipeline route may also engender the need for additional survey in order to determine whether sites are present within the new impact footprint(s).

6.3 RELEVANT LEGISLATION

Cultural heritage is managed by a number of State and National Acts. Baseline principles for the conservation of heritage places and relics can be found in the Burra Charter[8], which recognizes that there are places worth keeping because they can enrich our lives on many levels. The significance of such places may be embodied in fabric (physical material), environmental setting, contents, use or its meaning to people, and should be assessed through methodical data collection. Since its adoption in 1979, The Burra Charter has become the standard of best practice in the conservation of heritage places in Australia, and heritage organisations and local government authorities have incorporated the inherent principles and logic into guidelines and other conservation planning documents. The Burra Charter generally advocates a cautious approach to changing places of heritage significance. This conservative notion embodies the basic premise behind legislation designed to protect our heritage, which operates primarily at a State level.

[8] The Burra Charter defines the basic principles and procedures to be followed in the conservation of all kinds of places such as monuments, buildings, Aboriginal sites, roads, archaeological sites, whole districts or even regions. It was first adopted in 1979, based on the Australian ICOMOS (International Council on Monuments and Sites) review (1977) of the 1966 Venice Charter (Australian ICOMOS Inc. 1998).

A number of Acts of parliament provide for the protection of Aboriginal heritage at various levels of government[9]. The three most important statutes in New South Wales are the:

- *Environmental Planning and Assessment Act 1979* (EP&A Act), amended by the *Environmental Planning and Assessment Amendment (Infrastructure and Other Planning Reform) Act 2005* (EP&AA Act).
- *National Parks and Wildlife Act 1974* (NPW Act).
- While at Commonwealth level, the following statute is relevant:
- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) amended by the *Environment and Heritage Legislation Amendment Act (no. 1) 2003*.

6.3.1 State legislation

6.3.1.1 Environmental Planning and Assessment Act 1979 (EP&A Act)

This Act established requirements relating to land use and planning. The four areas controlled by the Act are:

- Part 3: environmental planning instruments, including cultural heritage;
- Part 3A: approvals process for Major Projects;
- Part 4: local government development assessments, including heritage. May include schedules of heritage items; and
- Part 5: environmental impact assessment requirements (for those developments not assessed under Part 3A or requiring consent under Part 4). State owned heritage items listed on LEPs are governed by Part 5.

6.3.1.2 National Parks and Wildlife Act 1974

Amended during 2010, the *National Parks and Wildlife Act 1974* provides for the protection of Aboriginal objects (sites, objects and cultural material) and Aboriginal places. Under the Act (S.5), an Aboriginal object is defined as: any deposit, object or material evidence (not being a handicraft for sale) relating to indigenous and non-European habitation of the area that comprises New South Wales, being habitation both prior to and concurrent with the occupation of that area by persons of European extraction, and includes Aboriginal remains.

An Aboriginal place is defined under the *National Parks and Wildlife Act 1974* as an area that has been declared by the Minister administering the Act as a place of special significance for Aboriginal culture. It may or may not contain physical Aboriginal objects.

As of 1 October 2010, it is an offence under Section 86 of the *National Parks and Wildlife Act 1974* to 'harm or desecrate an object the person knows is an Aboriginal object'. It is also a strict

[9] NSW Heritage Office 1998: *Living with Aboriginal Culture*, p. 3.

liability offence to 'harm an Aboriginal object' or to 'harm or desecrate an Aboriginal place', whether knowingly or unknowingly. Section 87 of the Act provides a series of defences against the offences listed in Section 86, viz.:

- The harm was authorised by and conducted in accordance with the requirements of an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the Act;
- The defendant exercised 'due diligence' to determine whether the action would harm an Aboriginal object; or
- The harm to the Aboriginal object occurred during the undertaking of a 'low impact activity' (as defined in the regulations).

Under Section 89A of the Act, it is a requirement to notify the OEH Director-General of the location of an Aboriginal object. Identified Aboriginal items and sites are registered with the NSW OEH on the Aboriginal Heritage Information Management System (AHIMS).

6.3.2 Commonwealth legislation

6.3.2.1 Environmental Protection and Biodiversity Conservation Act 1999

Amendments in 2003 established the National Heritage List and the Commonwealth Heritage List, both administered by the former Commonwealth Department of the Environment, Water, Heritage and the Arts (DEWHA), now Department of Sustainability, Environment, Water, Populations and Communities (SEWPaC). Ministerial approval is required for proposals involving significant impacts to National/Commonwealth heritage places. Additionally, the Australian Heritage Council maintains the Register of the National Estate (RNE).

6.3.2.2 Australian Heritage Council Act 2003

This Act established the Australian Heritage Council as an independent advisory body regarding National/Commonwealth heritage places. The Council conducts assessments of listing nominations, advises the Minister for Environment and Heritage, maintains the RNE, and promotes the assessment and conservation of heritage items.

7 RECOMMENDATIONS

Under Section 89A of the NPW Act (1974 as amended) the Director General of the NSW OEH must be notified of the location of all Aboriginal sites recorded under any auspices. As a professional in the field of cultural heritage management it is the responsibility of OzArk EHM to ensure this process is undertaken. To this end it is noted that six (6) sites were recorded within the Subject Area.

The appropriate site card been forwarded to OEH for registration on the AHIMS database.

The following recommendations are made on the basis of:

- Legal requirements under the terms of the *National Parks and Wildlife Act of 1974* (as amended) whereby it is illegal to damage, deface or destroy an Aboriginal relic/object without the prior written consent of the Director, OEH;
- The findings of the current investigations undertaken within the Subject Area;
- The interests of the local Aboriginal community.

It is recommended that:

1. Six (6) Aboriginal archaeological sites were recorded during the current survey, of which five (5) were open sites and one (1) was an isolated find. All six sites are located within the Subject Area.
2. Sites BP(w)-OS3 and BP(c)-IF1 are avoided by the proposed works. To ensure no inadvertent impacts in the event that BP(w)-OS3 and BP(c)-IF1 are avoided by the final project design, no-go zones should be established in the vicinity of the sites using nightline, and workers should be inducted to ensure that impacts do not go beyond the delineated impact footprint.
3. Option One (road option) presents the least Aboriginal heritage constraints to the current proposal. None of the sites identified within the Western Survey Unit would be harmed by the construction of the pipeline.
4. Option Two (river bank option) presents a number of Aboriginal heritage constraints to the current proposal. Sites BP(e)-OS1, BP(e)-OS2 and BP(e)-OS4 will be harmed by the proposed works if Option Two is adopted.
5. Both Options One and Two will harm at least one (1) site within the Common Survey Unit, viz. BP(c)-OS5.
6. If any of the Aboriginal sites recorded within the Subject Area cannot be avoided by the proposed works, an Aboriginal Heritage Impact Permit under the NPW Act will be required. This permit application should be submitted to OEH Western Region (Dubbo) and will take at least 8 weeks to process. The *Aboriginal Cultural Heritage Consultation Requirements* (*ACHCRs*) for proponents must also be followed and evidence of adherence to these procedures provided with the application. This process can take up to 2 to 3 months to negotiate.

7. Stockpile sites and compounds should be located within the surveyed Subject Area. If such sites need to be situated outside the Subject Area, it is likely that additional survey may be required.

8. Should any other 'objects' or other Aboriginal sites be identified during the course of construction, work in that area should cease and the OEH Western Region Office be contacted to discuss how to proceed.

9. Two copies of this report should be sent to:

   Office of Environment and Heritage,
   AHIMS Registrar,
   Attention: Cheryl Brown,
   PO Box 1967,
   Hurstville, NSW, 1481.

10. One copy of this report should be sent to each of the following Aboriginal stakeholder groups:

    - Bathurst Local Aboriginal Land Council (BLALC);
    - Mingaan Aboriginal Corporation;
    - Dhuuluu-Yala; and
    - Wiradjuri Traditional Owners Central West Aboriginal Corporation.

REFERENCES

Australia ICOMOS 1998	Understanding the Burra Charter: A guide to the principles of heritage conservation in Australia. Brochure produced for Australia ICOMOS.
Balme 1986	J. Balme 1986. The north-central rivers archaeological research project. A report to NSW National Parks and Wildlife Service.
BOM 2011	Bureau of Meteorology 2011, Climate statistics for Australian Locations, Bathurst Agricultural Station, website viewed 12 Apr 2011, <http://www.bom.gov.au/climate/averages/tables/cw_063005.shtml>.
Bowdler 1983	Bowdler, S. 1983 Aboriginal sites on the Crown timber lands of NSW. Report to the Forestry Commission of NSW.
DECCW 2010	Department of Environment, Climate Change and Water NSW 2010, *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*, Department of Environment, Climate Change and Water NSW, Sydney South.
Horton 2007	D. Horton 2007 (Rev'd Edn), *Aboriginal Australia Wall Map*, Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra.
Jo McDonald CHM 1997	Jo McDonald CHM 1997. *Interim Heritage Management report: ADI Site St Marys. Volume 1*. Report to Lend Lease.
Jo McDonald CHM 1998	Jo McDonald CHM 1998 Aboriginal Archaeology and European Heritage Assessment of Sites along the Proposed Natural Gas Pipeline: Dubbo – Tamworth (& Gunnedah). Report to Manidis Roberts on the behalf of AGL.
Koettig 1985	M. Koettig 1985. Assessment of Aboriginal sites in the Dubbo City area. Report to Dubbo City Council.
Lance and Truscott 1987	A. Lance and M. Truscott 1987, An Archaeological Survey of the Bathurst-Oberon Natural Gas Pipeline. Report for the Pipeline Authority.
McBurney 1995	Y. McBurney 1995, *Road to Orange*, Sydney.
NSW NPWS 2003	NSW National Parks and Wildlife Service 2003, The Bioregions of New South Wales: their biodiversity, conservation and history. NSW National Parks and Wildlife Service, Hurstville.
OEH 2011	Office of Environment and Heritage 2011, South Eastern Highlands – Biodiversity, Last updated 27 February 2011 <http://www.environment.nsw.gov.au/bioregions/SouthEasternHighlands-Biodiversity.htm>.

Pearson 1979 M. Pearson 1979. Aboriginal sites in the Bathurst-Orange development area: A pilot survey. Report to NPWS.

Pearson 1981 Pearson 1981 Pearson, M. 1981. Seen through different eyes: changing land use and settlement patterns in the Upper Macquarie River region of NSW from prehistoric times to 1860. PhD Thesis, Department of Prehistory and Anthropology, Australian National University, Canberra.

Rawson 1997 M. Rawson 1997. A Management Plan for an Aboriginal open camp site at Mt Canobolas Park reserve, near Orange NSW.

Tindale 1974 A. Tindale 1974 *Aboriginal Tribes of Australia.* University of California Press.

Whitehead 2003 J. Whitehead 2003. Tracking and Mapping The Explorers: Volume 1: The Lachlan River Oxley, Evans, and Cunningham. Southern Cross University Printery, Lismore.

Williams and Barber 1994 D. Williams and M. Barber 1994, An Archaeological Survey of the Foreshores of Ben Chifley Dam, near Bathurst, NSW. Report for CMPS & F Environmental Pty. Ltd.

PLATES

Plate 1: Ben Chifley Dam at the southern end of the Subject Area. View to north-east.

Plate 2: Road corridor within the Western Survey Unit. View north.

Plate 3: East-facing slope overlooking Macquarie River in the Eastern Survey Unit. Near Site BP(e)-OS1.

Plate 4: View from east-facing slope overlooking Campbells River in the Common Survey Unit.

Plate 5: Disturbance: View north along Lagoon Road. Note steep sided cutting and bitumen road.

Plate 6: Disturbance: Agricultural property showing cleared and cultivated paddock, vehicle track and power line easement.

Plate 7: Disturbance: Suburbia in the vicinity of the northern extremity of the Subject Area.

Plate 8: Ground surface visibility: Western Survey Unit. Visibility within road corridors was variable, however long grasses tended to obscure much of the ground surface. Exposures exhibited high levels of background noise (gravels).

Plate 9: Ground surface visibility: Eastern Survey Unit. Weeds (pictured), long grasses and crops reduced visibility and mobility throughout much of the Survey Unit.

Plate 10: Ground surface visibility: Common Survey Unit. Long grasses (pictured) and weeds reduced visibility throughout much of the Survey Unit.

Plate 11: Site BP(e)-OS1 with PAD – general site photo.

Plate 12: Site BP(e)-OS1 with PAD – FGS flake.

Plate 13: Site BP(e)-OS1 with PAD – Silcrete core.

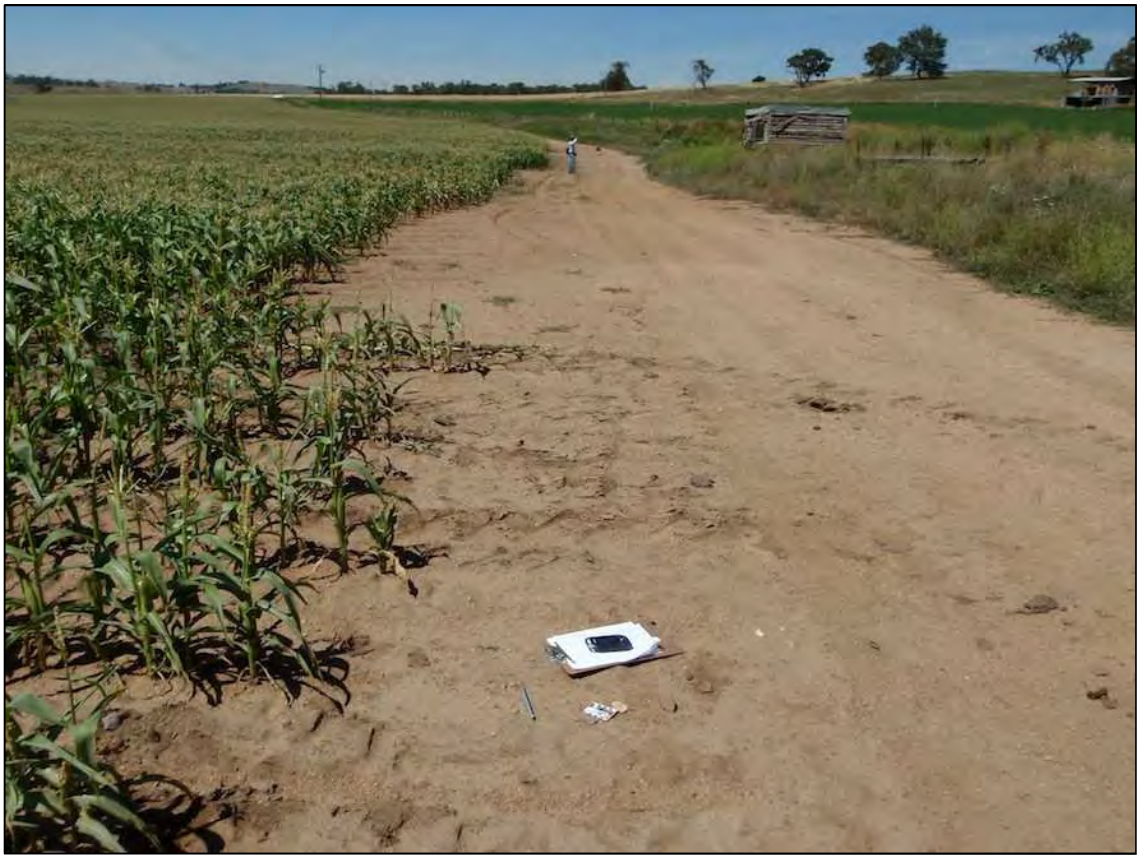


Plate 14: Site BP(e)-OS2 with PAD – general site photo.

Plate 15: Site BP(e)-OS2 with PAD – flake.

Plate 16: Site BP(e)-OS2 with PAD – ground implement.

Plate 17: Site BP(w)-OS3 – general site photo. View from north-west.

Plate 18: Site BP(w)-OS3 – white chert flakes.

Plate 19: Site BP(e)-OS4 – general site photo. View from north.

Plate 20: Site BP(e)-OS4 – broken basalt flakes.

Plate 21: Site BP(c)-OS5 with PAD – general site photo. View from west.

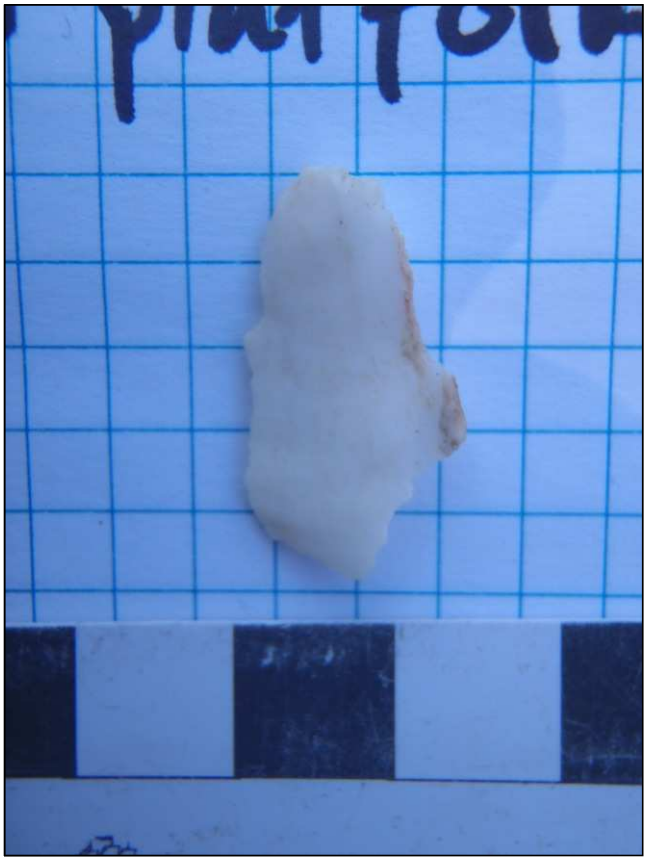


Plate 22: Site BP(c)-OS5 with PAD – White chert flake.

Plate 23: Site BP(c)-OS5 with PAD – basalt flake.

Plate 24: Site BP(c)-OS5 with PAD – flake.

Plate 25: Site BP(c)-IF1 – general site photo. View from south.

Plate 26: Site BP(c)-IF1 – artefact.

APPENDIX 1: COMMUNITY CORRESPONDENCE LOG

Table 13: Community consultation log.

CHIFLEY DAM - COMMUNITY CONSULTATION				
Date	**Organisation /**	**Contact Name**	**Comment**	**OzArk staff/ method**
04.11.10	Western Advocate	classifieds.westernadvocate@ruralpress.com' - Tracey	place advert - will appear in SATURDAY 6TH NOVEMBER edition of newspaper EOI CLOSURE DATE - MONDAY 22ND NOVEMBER	CB- email / phone
Aboriginal Community Consultation Stage 1				
04.11.10	Office of The Registrar, ALRA	Courtney Field 11-13 Mansfield Street Glebe NSW 2037	mailed Stage 1 letter requesting information re: relevant groups who may wish to register interest - RESPONSE DUE FRIDAY 19TH NOVEMBER	cb - mail
04.11.10	NTSCORP	Admin/Notification Team PO box 2105 Strawberry Hills 2012	mailed Stage 1 letter requesting information re: relevant groups who may wish to register interest - RESPONSE DUE FRIDAY 19TH NOVEMBER	cb - mail
04.11.10	DECCW	Paul Houston DECCW PO Box 2111 Dubbo 2830	mailed Stage 1 letter requesting information re: relevant groups who may wish to register interest - RESPONSE DUE FRIDAY 19TH NOVEMBER	cb - mail
04.11.10	Bathurst Regional Council	Mr D Shirley General Manager Bathurst Regional Council 158 Russell Street (PMB 17) Bathurst NSW 2795	mailed Stage 1 letter requesting information re: relevant groups who may wish to register interest - RESPONSE DUE FRIDAY 19TH NOVEMBER	cb - mail
04.11.10	National Native Title Tribunal	Admin/Notification Team GPO Box 9973 Sydney NSW 2001	mailed Stage 1 letter requesting information re: relevant groups who may wish to register interest - RESPONSE DUE FRIDAY 19TH NOVEMBER	cb - mail
04.11.10	Central West CMA	Attn: Cultural Heritage Officer Central West CMA 13/36 Darling Street (PO Box 2105) Dubbo NSW 2830	mailed Stage 1 letter requesting information re: relevant groups who may wish to register interest - RESPONSE DUE FRIDAY 19TH NOVEMBER	cb - mail
04.11.10	Bathurst LALC	Members – Bathurst LALC c/- Mr W Peckham 149 Russell Street (PO Box 1500) Bathurst NSW 2795	mailed Stage 1 letter inviting registration and informing BLALC of project. RESPONSE DUE FRIDAY 19TH NOVEMBER	cb - mail / email
Aboriginal Community Consultation Stage 1 Round 2				
05.11.10	Bathurst LALC	Mr Wal Peckham 'bathlalc2@bigpond.com'	received email from Toni-Lee with attachment letter registering interest from BLALC	CB - EMAIL
08.11.10	NNTT	Kashana Cohen-McMeekin National Native Title Tribunal	received email with advise of 2 Native Title Claims, search of LGA. Gundungurra Tribal Council Ab.Corp relevant to this area, Wellington Valley Wiradjuri People map shows Chifley Dam not in claim area.	cb - email
10.11.10	DECCW	Paul Houston DECCW PO Box 2111 Dubbo 2830	received letter via post recommending the following organisations may be interested in the project: Dhuula-Yala Ab.Corp *Wiradjuri TOCW Ab. Corp *Mingaan Ab. Corp *NEW *Bill Allen *WCE * Gundungurra Ab.Herit.Assoc *Warrabinga NTCAC *Bathurst LALC *Gundungurra Tribal CAC	

CHIFLEY DAM - COMMUNITY CONSULTATION				
Date	**Organisation /**	**Contact Name**	**Comment**	**OzArk staff/ method**
11.11.10	Dhuuluu-Yala	c/- Mr Scott Franks PO Box 76 Carringbah NSW 1495 Rochelle Dawes 63 Stanley Street Bathurst 2795 e: dhuuluuyala@westnet.com.au' 'yarrawalk@tpg.com.au'	emailed copy of Stage 1 R2 letter advising DECCW had recommended OzArk contact this organisation as they may have an interest in the project & wish to register interest. EOI Closure date 29th November 2010.	
11.11.10	Wiradjuri TOCW Ab.Corp	Brian Grant 14 Duramana Rd Eglington 2795 'wiradjuritocw@westnet.com.au'	emailed copy of Stage 1 R2 letter advising DECCW had recommended OzArk contact this organisation as they may have an interest in the project & wish to register interest. EOI Closure date 29th November 2010.	
11.11.10	Mingaan Ab.Corp	Helen Riley / Jill Bower 38 Tweed Rd Lithgow 2790 mingaan.lithgow@ymail.com' / 'helenriley44@yahoo.com	emailed copy of Stage 1 R2 letter advising DECCW had recommended OzArk contact this organisation as they may have an interest in the project & wish to register interest. EOI Closure date 29th November 2010.	
11.11.10	North - East Wiradjuri	Members – North East Wiradjuri c/- Ms L Syme PO Box 29 Kandos NSW 2848 E: 'lsyme@aapt.net.au'	emailed copy of Stage 1 R2 letter advising DECCW had recommended OzArk contact this organisation as they may have an interest in the project & wish to register interest. EOI Closure date 29th November 2010.	
11.11.10	Wiradjuri Council of Elders	Members – Wiradjuri Council of Elders c/- Mr R Clegg 3 Loretta Place Glendenning NSW 2761 E: 'rclegg55@gmail.com'	emailed copy of Stage 1 R2 letter advising DECCW had recommended OzArk contact this organisation as they may have an interest in the project & wish to register interest. EOI Closure date 29th November 2010.	
11.11.10	Warrabinga NTCAC	Members – Warrabinga NTCAC c/- Ms W Lewis 525 Pheasants Nest Road Pheasants Next NSW 2574 E: 'lsyme@aapt.net.au'	emailed copy of Stage 1 R2 letter advising DECCW had recommended OzArk contact this organisation as they may have an interest in the project & wish to register interest. EOI Closure date 29th November 2010.	
11.11.10	Gundungurra Tribal Council Aboriginal Corporation	Members – Gundungurra Tribal Council Aboriginal Corporation c/- Chairperson 14 Oak Street Katoomba NSW 2780 CC: 'en@eddyneumann.com.au	emailed copy of Stage 1 R2 letter advising DECCW had recommended OzArk contact this organisation as they may have an interest in the project & wish to register interest. EOI Closure date 29th November 2010.	

CHIFLEY DAM - COMMUNITY CONSULTATION				
Date	**Organisation /**	**Contact Name**	**Comment**	**OzArk staff/ method**
11.11.10	Bill Allen	Mr B Allen 75 Cory Place Windradyne NSW 2795	mailed copy of Stage 1 R2 letter advising DECCW had recommended OzArk contact this organisation as they may have an interest in the project & wish to register interest. EOI Closure date 29th November 2010.	
11.11.10	Gundungurra Aboriginal Heritage Association Inc.	Members – Gundungurra Aboriginal Heritage Association Inc. c/- Chairperson PO Box 31 Lawson NSW 2783	mailed copy of Stage 1 R2 letter advising DECCW had recommended OzArk contact this organisation as they may have an interest in the project & wish to register interest. EOI Closure date 29th November 2010.	
11.11.10	Mooka Traditional Owners	Members – Mooka Traditional Owners c/- Mr N Williams PO Box 70 Cowra NSW 2794	mailed copy of Stage 1 R2 letter advising DECCW had recommended OzArk contact this organisation as they may have an interest in the project & wish to register interest. EOI Closure date 29th November 2010.	
11.11.10	Gundungurra Tribal Council Aboriginal Corporation	Eddy Nueman 'en@eddyneumann.com.au	emailed response requesting two hard copies be sent.	
11.11.10	Wiradjuri Council of Elders	Rob Clegg E: 'rclegg55@gmail.com'	emailed response Cheryl I hope this mail finds you in good health. The Wiradjuri Council of Elders do have an interest in this area and any survey's undertaken, should the Archaeologist undertake a survey we ask that the Traditional custodians of that area participate. The traditional Custodians can be contacted through Bill Allen of Bathurst, the contact number for Mr Allen is 0450110568 any other contact number can be found at the Local Aboriginal Land Council. Robert Clegg Wiradjuri Council of Elders	
11.11.10	Dhuuluu-Yala	Rochelle Dawes e: dhuuluuyala@westnet.com.au' 'yarrawalk@tpg.com.au' (read receipt)	Dear Cheryl, We wish to register an expression of interest to participate in the Aboriginal consultation process for the Proposed pipeline from Chifley Dam to Bathurst Water Treatment Plant The membership of the corporation is made up of Traditional Owners who have an interest in the area described in the proposal. Regards Rochelle Dawes	

CHIFLEY DAM - COMMUNITY CONSULTATION				
Date	**Organisation /**	**Contact Name**	**Comment**	**OzArk staff/ method**
11.11.10	Wiradjuri TOCW Ab.Corp	Brian Grant 'wiradjuritocw@westnet.com.au'	Dear Cheryl We wish to register an expression of interest to participate in the Aboriginal consultation, archaeological survey and heritage assessment of the proposed pipeline from the Chifley Dam to Bathurst project. The membership of the corporation is made up of Traditional Owners who have an interest in the area of proposed development. Can you post a hard copy of the correspondence please. Regards - Brian Grant	
11.11.10	North - East Wiradjuri Warrabinga NTCAC	E: 'lsyme@aapt.net.au' received 'read receipt'	received 'read receipt'	
12.11.10	Mingaan Ab.Corp	Helen Riley 'helenriley44@yahoo.com	Hi Cheryl Thanks for the info. You can send me a hard copy if you like. Helen	
17.11.10	Shawn Williams (Individual)	95 Ballandella Road Toongabbie NSW 2146 ph: 0407 176 179	Mr Williams registered interest in the project as an individual, he is familiar with the Bathurst area. Queried when the FW may be and was advised potentially in the New Year and that he would need to be covered by insurance if he was interested in participating in the survey.	
19.11.10	Central West CMA	Mike Nolan Central West CMA 13/36 Darling Street (PO Box 2105) Dubbo NSW 2830	received response from Central West CMA advising the Aboriginal Reference Group (ARG) would like to register interest. Noted two Bathurst representatives from the ARG - Warwick Peckham & Shirley Scott for contacts.	
22.11.10	Neville Williams (Mooka TO)	PO Box 70 Cowra 2794 ph: 0447 841 560	Neville phoned on behalf of himself & Sharon & Wayne Williams to express interest in the project and wishes to be included in the consultation process.	
Aboriginal Community Consultation Stage 2 / 3 notification & methodology				
17.01.11	Neville Williams	PO Box 70 Cowra 2794 ph: 0447 841 560	posted correspondence outlining methodology and copy of project summary. Two Indigenous site officers per day will be participating in the FW. Invited comment on methodology and to share any Aboriginal cultural heritage knowledge relevant to the proposed study area. EOI date 16 Feb 2011	
17.01.11	Sharon Williams	c/ - PO Box 70 Cowra 2794 ph: 0447 841 560	posted correspondence outlining methodology and copy of project summary. Two Indigenous site officers per day will be participating in the FW. Invited comment on methodology and to share any Aboriginal cultural heritage knowledge relevant to the proposed study area. EOI date 16 Feb 2011	

CHIFLEY DAM - COMMUNITY CONSULTATION				
Date	**Organisation /**	**Contact Name**	**Comment**	**OzArk staff/ method**
17.01.11	Shawn Williams (Individual)	95 Ballandella Road Toongabbie NSW 2146 ph: 0407 176 179	posted correspondence outlining methodology and copy of project summary. Two Indigenous site officers per day will be participating in the FW. Invited comment on methodology and to share any Aboriginal cultural heritage knowledge relevant to the proposed study area. EOI date 16 Feb 2011	
17.01.11	Wayne Williams	c/ - PO Box 70 Cowra 2794 ph: 0447 841 560	posted correspondence outlining methodology and copy of project summary. Two Indigenous site officers per day will be participating in the FW. Invited comment on methodology and to share any Aboriginal cultural heritage knowledge relevant to the proposed study area. EOI date 16 Feb 2011	
17.01.11	Wiradjuri Council of Elders	Members – Wiradjuri Council of Elders Mr R Clegg E: 'rclegg55@gmail.com'	emailed correspondence outlining methodology and copy of project summary. Two Indigenous site officers per day will be participating in the FW. Invited comment on methodology and to share any Aboriginal cultural heritage knowledge relevant to the proposed study area. EOI date 16 Feb 2011	
17.01.11	Gundungurra Tribal Council Aboriginal Corporation	Eddy Nueman 'en@eddyneumann.com.au Sharon Brown e: 'sharonbrown@gundungurra.org.au'	emailed correspondence outlining methodology and copy of project summary. Two Indigenous site officers per day will be participating in the FW. Invited comment on methodology and to share any Aboriginal cultural heritage knowledge relevant to the proposed study area. EOI date 16 Feb 2011	
18.01.11	Dhuuluu-Yala	Rochelle Dawes e: dhuuluuyala@westnet.com.au' 'yarrawalk@tpg.com.au' (read receipt)	emailed & mailed correspondence outlining methodology and copy of project summary. Two Indigenous site officers per day will be participating in the FW. Invited comment on methodology and to share any Aboriginal cultural heritage knowledge relevant to the proposed study area. Advised dates to invite Site Officer. EOI date 16 Feb 2011	
18.01.11	Mingaan Ab.Corp	Helen Riley 'helenriley44@yahoo.com	emailed & mailed correspondence outlining methodology and copy of project summary. Two Indigenous site officers per day will be participating in the FW. Invited comment on methodology and to share any Aboriginal cultural heritage knowledge relevant to the proposed study area. Advised dates to invite Site Officer. EOI date 16 Feb 2011	
18.01.11	Wiradjuri TOCW Ab.Corp	Brian Grant 'wiradjuritocw@westnet.com.au'	emailed & mailed correspondence outlining methodology and copy of project summary. Two Indigenous site officers per day will be participating in the FW. Invited comment on methodology and to share any Aboriginal cultural heritage knowledge relevant to the proposed study area. Advised dates to invite Site Officer. EOI date 16 Feb 2011	
18.01.11	Bathurst LALC	Mr Wal Peckham 'bathlalc2@bigpond.com'	emailed & mailed correspondence outlining methodology and copy of project summary. Two Indigenous site officers per day will be participating in the FW. Invited comment on methodology and to share any Aboriginal cultural heritage knowledge relevant to the proposed study area. Advised dates to invite Site Officer. EOI date 16 Feb 2011	

CHIFLEY DAM - COMMUNITY CONSULTATION				
Date	**Organisation /**	**Contact Name**	**Comment**	**OzArk staff/ method**
24.01.11	Dhuuluu-Yala	Rochelle Dawes e: dhuuluuyala@westnet.com.au' 'yarrawalk@tpg.com.au' (read receipt)	Hi Cheryl Re the upcoming assessment work for the 8th February 2011. Please find attached the Government's policy under the workers compensation act regarding exempt employers. This Corporation has not exceeded the $7500.00 dollar threshold having only paid less than $1000.00 in wages this financial year and is exempt from taking out a Workers comp policy. Under the act we are deemed to hold a policy, in the event of a claim a fee is paid and a provider is appointed. Regards Rochelle Dawes	
24.01.11	Wiradjuri TOCW Ab.Corp	Brian Grant 'wiradjuritocw@westnet.com.au'	Hi Cheryl The Corporation has not reached the threshold for the need to take out a separate worker compensation policy for the field work on 9th February 2011. We rely on the documentation provided that $7500.00 in wages is required to be paid before the need to have a separate W/C policy. At this stage the income of the corporation is less that 50% of the set sum. Regards Brian Grant Director and Heritage Officer Wiradjuri Traditional Owners Central West Aboriginal Corporation.	
04.02.11	Bathurst LALC	Toni-lee Scott PH: 6332 6835 e: ''bathlalc2@bigpond.com'	spoke with Toni-lee (at of office at present, phone diverted) and advised I will email and was after name & contact details for BLALC site officer next Tuesday 8th Feb.	
04.02.11	Dhuuluu-Yala	Rochelle Dawes e: dhuuluuyala@westnet.com.au' ph: 6331 7315	left message on answer phone emailed requesting details of site officer. Advised meeting place for Tuesday and contact numbers for OzArk team in email.	
04.02.11	Wiradjuri TOCW Ab.Corp	Brian Grant 'wiradjuritocw@westnet.com.au'	emailed requesting details of site officer. Advised meeting place for Wednesday and contact numbers for OzArk team in email.	
04.02.11	Mingaan Aboriginal Corp	Sharon / Helen Riley ph: 6352 2473 e: 'mingaan.lithgow@ymail.com'	spoke to both Sharon and Helen to confirm date and also check insurances. Helen advised that Mingaan does not pay over $7500 in wages and I requested they send this information through with confirmation of who their site officer will be. Emailed sample letter and details of meeting time and place.	
FW PARTICIPATION				
08.02.11	Bathurst LALC	Tina Petford	Participated in survey of the BCP	
08.02.11	Dhuuluu-Yala	John Phillips	Participated in survey of the BCP	
09.02.11	Wiradjuri TOCW Ab.Corp	Brian Grant	Participated in survey of the BCP	

CHIFLEY DAM - COMMUNITY CONSULTATION				
Date	**Organisation /**	**Contact Name**	**Comment**	**OzArk staff/ method**
09.02.11	Mingaan Aboriginal Corp	Invited but did not attend	No representative attended on the day, although one was expected.	
Response to survey				
22.2.11	Wiradjuri TOCW Ab.Corp	Brian Grant 'wiradjuritocw@westnet.com.au'	Received a letter from Brian via email in relation to the survey findings	Email
26.2.11	Dhuuluu-Yala	Rochelle Dawes	Received a letter from Rochelle in relation to the survey findings	
Draft report sent out				
28.09.11	Bathurst LALC	Members – Bathurst LALC c/- Ms T Scott 149 Russell Street (PO Box 1500) Bathurst NSW 2795	draft report released by client and sent to Stakeholders, via post - copy on CD. Comments are due **Friday 28 October,** stakeholders asked to advise if they cannot open file so that OzArk can arrange an alternate copy of draft report.	CB - MAIL
28.09.11	Dhuuluu-Yala	Rochelle Dawes 63 Stanley Street Bathurst 2795	draft report released by client and sent to Stakeholders, via post - copy on CD. Comments are due **Friday 28 October,** stakeholders asked to advise if they cannot open file so that OzArk can arrange an alternate copy of draft report.	CB - MAIL
28.09.11	Gundungurra Tribal Council Aboriginal Corporation	c/ - Sharon Brown 14 Oak Street Katoomba 2750	draft report released by client and sent to Stakeholders, via post - copy on CD. Comments are due **Friday 28 October,** stakeholders asked to advise if they cannot open file so that OzArk can arrange an alternate copy of draft report.	CB - MAIL
28.09.11	Mingaan Ab.Corp	Helen Riley / Jill Bower 38 Tweed Rd Lithgow 2790	draft report released by client and sent to Stakeholders, via post - copy on CD. Comments are due **Friday 28 October,** stakeholders asked to advise if they cannot open file so that OzArk can arrange an alternate copy of draft report.	CB - MAIL
28.09.11	Neville Williams	PO Box 70 Cowra 2794	draft report released by client and sent to Stakeholders, via post - copy on CD. Comments are due **Friday 28 October,** stakeholders asked to advise if they cannot open file so that OzArk can arrange an alternate copy of draft report.	CB - MAIL
28.09.11	Sharon Williams	c/ - PO Box 70 Cowra 2794	draft report released by client and sent to Stakeholders, via post - copy on CD. Comments are due **Friday 28 October,** stakeholders asked to advise if they cannot open file so that OzArk can arrange an alternate copy of draft report.	CB - MAIL
28.09.11	Shawn Williams (Individual)	95 Ballandella Road Toongabbie NSW 2146	draft report released by client and sent to Stakeholders, via post - copy on CD. Comments are due **Friday 28 October,** stakeholders asked to advise if they cannot open file so that OzArk can arrange an alternate copy of draft report.	CB - MAIL

CHIFLEY DAM - COMMUNITY CONSULTATION				
Date	**Organisation /**	**Contact Name**	**Comment**	**OzArk staff/ method**
28.09.11	Wayne Williams	c/ - PO Box 70 Cowra 2794	draft report released by client and sent to Stakeholders, via post - copy on CD. Comments are due **Friday 28 October,** stakeholders asked to advise if they cannot open file so that OzArk can arrange an alternate copy of draft report.	CB - MAIL
28.09.11	Wiradjuri Council of Elders	Rob Clegg 3 Loretta Place Glendenning NSW 2761	draft report released by client and sent to Stakeholders, via post - copy on CD. Comments are due **Friday 28 October,** stakeholders asked to advise if they cannot open file so that OzArk can arrange an alternate copy of draft report.	CB - MAIL
28.09.11	Wiradjuri TOCW Ab.Corp	Brian Grant 14 Duramana Rd Eglington 2795	draft report released by client and sent to Stakeholders, via post - copy on CD. Comments are due **Friday 28 October,** stakeholders asked to advise if they cannot open file so that OzArk can arrange an alternate copy of draft report.	CB – MAIL
Responses to draft report				
			No responses were received.	

APPENDIX 2: COMMUNITY CORRESPONDENCE

Advertisement that appeared in the Western Advocate

Expression of Interest
Cultural Heritage Management

OzArk Environmental & Heritage Management P/L seeks registration of Aboriginal groups or individuals who are interested in being consulted about the cultural heritage assessment for the selection of a route for the proposed pipeline from Ben Chifley Dam to Bathurst Water Treatment Plant. The Study Area(s) have the potential to be impacted by construction of the pipeline, and this cultural heritage assessment will assist Bathurst Regional Council to identify and manage any cultural heritage present along the selected route.

Both pipeline route options are along the Campbell's River approximately 19 km south-east of Bathurst, with Option 1 along existing roads and Option 2 generally along the Campbell and Macquarie Rivers.

If you hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects or places in the proposed Study Area(s), please register your interest by fax: 02 6882 0630, post: OzArk EHM PO Box 2069 Dubbo NSW 2830, or by phoning OzArk between 9.00am and 5.00pm week days on 02 6882 0118.

All submissions should be received no later than 5pm on xxx November 2010.

Sample Stage 1 Letter to agencies

Environment & Heritage Management P/L

ABN: 59 104 582 354

3rd November 2010

Mr P Houston
DECCW North West
PO Box 2111
Dubbo NSW 2830

Dear Paul

Re: Aboriginal Heritage Assessment for the proposed pipeline from Ben Chifley Dam to Bathurst Water Treatment Plant.

OzArk Environmental & Heritage Management P/L is seeking knowledge of any Aboriginal groups, stakeholders or traditional knowledge holders in the Bathurst area, with an interest in the management of Indigenous heritage matters.

We are currently undertaking Indigenous heritage consultation as per the DECCW "*Aboriginal cultural heritage consultation requirements 2010*", for the selection of a route for the proposed pipeline from Ben Chifley Dam to Bathurst Water Treatment Plant. The Study Area(s) (see attached **Figure 1**) have the potential to be impacted by construction of the pipeline, and the cultural heritage assessment will assist Bathurst Regional Council (The Proponent) to identify and manage any cultural heritage present along the selected route.

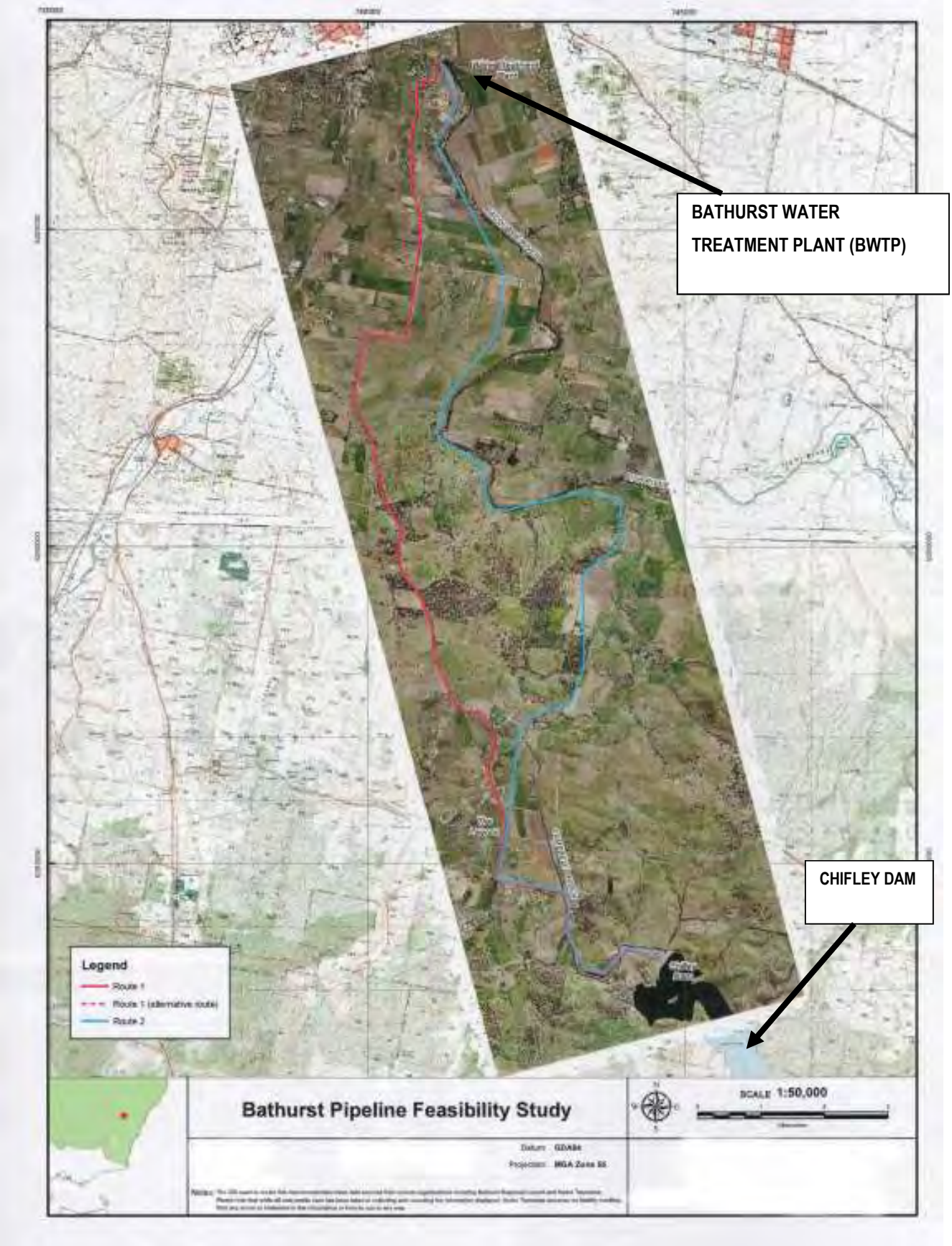
If DECCW can recommend and provide contact details for any known Aboriginal groups with a cultural interest in this area we can then include them in the consultation process with regard to potential Indigenous heritage issues.

We would appreciate it if you could provide any feedback regarding these Indigenous stakeholder groups by **Friday 19th November 2010.**

Yours truly

Cheryl Burke
Office Administration

Figure 1: Proposed Pipeline Routes Option 1 (delineated by red line) and Option 2 (blue line).



OzArk Environmental & Heritage Management P/L – 145 Wingewarra St / PO Box 2069 DUBBO 2830
Tel: 6882 0118; Fax: 6882 0630; Mob: 0403 763 504 / 0423 198 898
E-mail: jodie@ozarkehm.com.au / phil@ozarkehm.com.au / cheryl@ozarkehm.com.au
WEB: ozarkehm.com.au

Sample letter sent to possible interested groups

Environment & Heritage Management P/L

ABN: 59 104 582 354

11th November 2010

Members – Dhuuluu-Yala Aboriginal
Corporation c/- Yarrawalk
c/- Mr Scott Franks
PO Box 76
Carringbah NSW 1495
E: 'dhuuluuyala@westnet.com.au' 'yarrawalk@tpg.com.au'

Dear Scott

Re: Aboriginal Heritage Assessment for the proposed pipeline from Ben Chifley Dam to Bathurst Water Treatment Plant.

As you may be aware, the Proponents of development projects, or consulting archaeologists acting on their behalf, are required to provide written notification to Aboriginal individuals and organisations that may have an interest within a given project study area for the purpose of establishing a Registered Stakeholder group for consultation over potential Aboriginal heritage issues.

Hence, OzArk Environmental & Heritage Management P/L is currently seeking Expressions of Interest from relevant Aboriginal Groups and individuals in the Bathurst area, to form a consultation group to assist in the cultural heritage evaluation for the selection of a route for the proposed pipeline from Ben Chifley Dam to Bathurst Water Treatment Plant. The Study Area(s) (see attached **Figure 1**) have the potential to be impacted by construction of the pipeline, and the cultural heritage assessment will assist Bathurst Regional Council (The Proponent) to identify and manage any cultural heritage present along the selected route. Both pipeline route options are along the Campbell's River approximately 19 km south-east of Bathurst, with Option 1 along existing roads and Option 2 generally along the Campbell and Macquarie Rivers.

The Department of Environment, Climate Change and Water (*DECCW*) have recommended to our office your organisation be advised of this project. If you hold appropriate cultural heritage knowledge relevant to determining the cultural significance of Aboriginal objects and / or places as relevant to the proposed Study Area(s) in the Bathurst region, please register your interest by contacting our office. The closing date for expressions of interest for this project will be **Monday 29th November, 2010.**

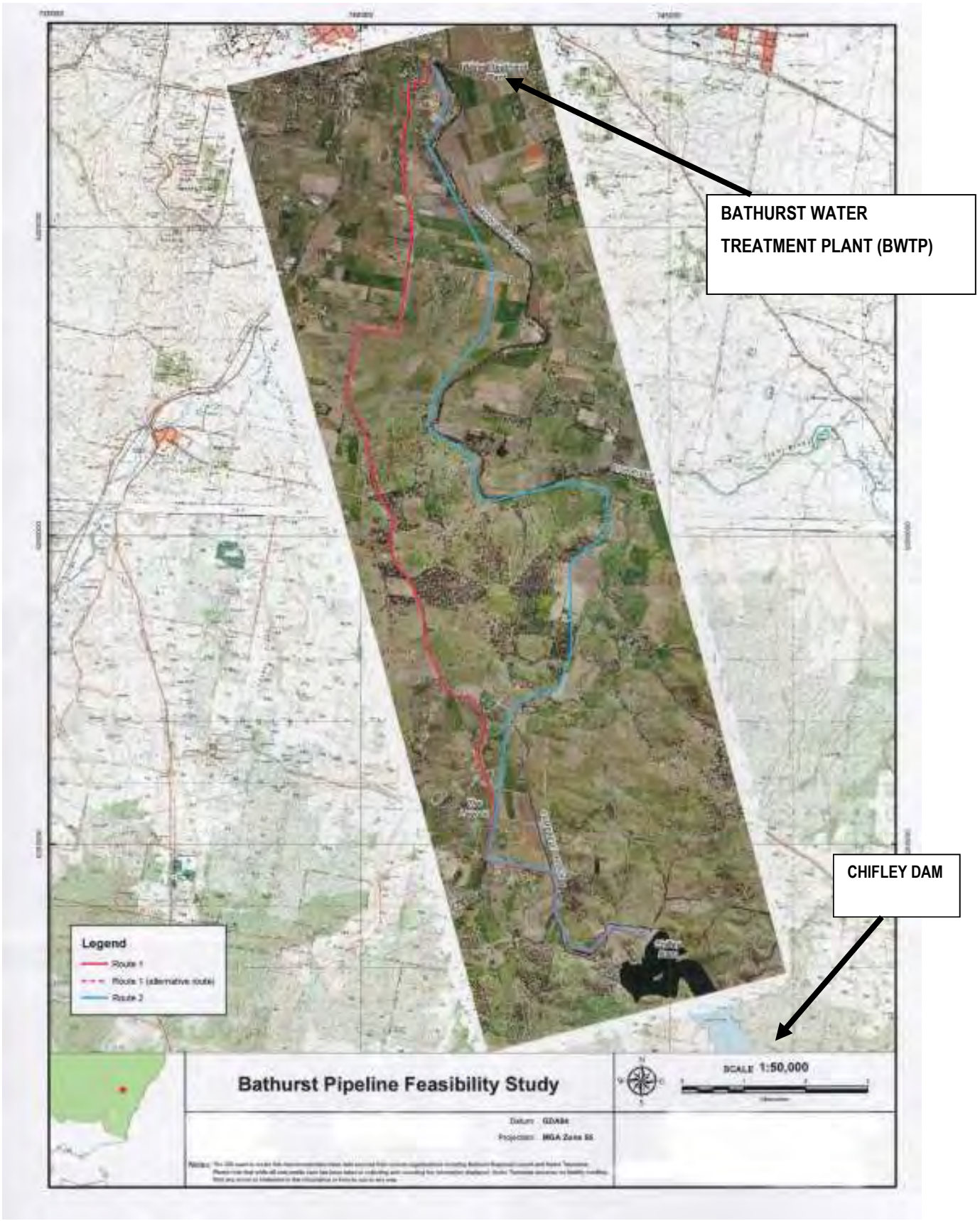
If your organisation wishes to register interest it is noteworthy that as per the DECCW "*Aboriginal cultural heritage consultation requirements 2010*" we are required to provide your details to the DECCW and the Bathurst Local Aboriginal Land Council (BLALC) unless advised you do not wish your details to be released.

Once relevant groups and individuals have been identified, they will form part of the formal consultation and evaluation process for the project.

Yours truly

Cheryl Burke / Office Administration

Figure 1: Proposed Pipeline Routes Option 1 (delineated by red line) and Option 2 (blue line).



Responses to Expressions of interest notifications

Bathurst Local Aboriginal Land Council

149 Russell Street Bathurst NSW 2795
PO Box 1500 Bathurst NSW 2795
Ph: 02 6332 6835 Fax: 02 6332 3623

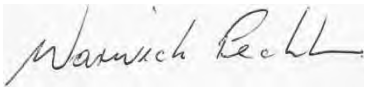
OzArk Environmental & Heritage
Management P/L
145 Wingewarra Street
Dubbo NSW 2830

Dear Cheryl,

Re: Aboriginal Heritage Assessment for the proposed pipeline from Ben Chifley Dam to Bathurst Water Treatment Plant

The Bathurst Local Aboriginal Land Council would like to register an interest for an Aboriginal Archaeology & Cultural evaluation for the proposed pipeline from Ben Chifley Dam to Bathurst Water Treatment Plant.

Yours truly,



Warwick Peckham
CEO
5th November 2010

Central West Catchment Management Authority
Level 1, 211 Macquarie St
PO Box 2105
DUBBO NSW 2830

T (02) 6881 3400
F (02) 6881 3401
www.cw.cma.nsw.gov.au

Cheryl Burke
OzArk Environmental & Heritage Management
Po Box 2069
Dubbo NSW 2830

Contact: Mike Nolan
Phone: (02)68 813416
Mobile: 0427 117 803
Fax: (02) 6881 3401
Email: mike.nolan@cma.nsw.gov.au

File: CMA0000401

Friday, 19 November 2010

Dear Cheryl,

Subject: Heritage Assessment, Ben Chifley Dam to Bathurst Water Treatment Plant

Thank you for your letter dated 3rd of November 2010, in relation to the proposed pipeline from Ben Chifley Dam to Bathurst Water Treatment Plant. The Central West CMA has an Aboriginal Reference Group (ARG) with representatives from across the Central West catchment including Bathurst. The ARG would like to register our interests and request that the ARG be included in any consultations.

We would also like to identify the following two Bathurst representatives from the ARG and request that you contact them individually;

Warwick Peckham and Shirley Scott Ph: (02) 633 26835.

If you require any further information please do not hesitate to contact me.

Yours sincerely

Mike Nolan
Catchment Officer, Aboriginal Communities,

OFFICE OF THE REGISTRAR
ABORIGINAL LAND RIGHTS ACT 1983 (NSW)

11-13 Mansfield Street
Glebe NSW 2037
PO Box 112, Glebe NSW 2037
T 02 9563 6567 F 02 9564 6350

Ms Cheryl Burke
Office Manager, Ozark
Environment & Heritage Management P/L
PO Box 2069
Dubbo NSW 2830

Dear Cheryl

Re: Request - Search for Registered Aboriginal Owners

I refer to your letter dated 3 November 2010 regarding an Aboriginal heritage assessment in the Bathurst area, NSW.

I have searched the Register of Aboriginal Owners and the subject land does not appear to have Registered Aboriginal Owners pursuant to Division 3 of the *Aboriginal Land Rights Act 1983*.

I trust you are in contact with the Bathurst Local Aboriginal Land Council. The land council may able be to assist you with information and contact details for other interested groups.

Regards,

per Courtney Field
Assistant Research Officer
Office of the Registrar, *Aboriginal Land Rights Act 1983*.

17 November 2010

National Native Title Tribunal

New South Wales and Australian Capital Territory Registry
Level 25, 25 Bligh Street
Sydney NSW 2000
GPO Box 9973
Sydney NSW 2000
Telephone (02) 9235 6300
Facsimile (02) 9233 5613

8 November 2010

Cheryl Burke
Oz Ark Environmental & Heritage Management P/L
PO Box 2069
DUBBO NSW 2830

Our Reference: 3899/10kc

Dear Cheryl

Native Title Search Results of Bathurst Local Government Area

Thank you for your letter of 3 November 2010.

My search on 8 November 2010 found:

Register Type	NNTT Reference Numbers
National Native Title Register	Nil.
Register of Native Title Claims	NC09/4 & NC97/7
Unregistered Claimant applications	Nil.
Register of Indigenous Land Use Agreements	Nil.

I have included extracts from the Register of Native Title Claims, mapping of the application areas and a NNTT Registers fact sheet to help you understand the search result.

Please note that there may be a delay between a native title determination application being lodged in the Federal Court and its transfer to the Tribunal. As a result, some native title determination applications recently filed in the Federal Court may not appear on the Tribunal's databases.

Resolution of native title issues over land and waters.

Freecall 1800 640 501
www.nntt.gov.au

If you need more information please call me on 1800 640 501.

Yours sincerely

Kashana Cohen-McMeekin
Receptionist/Search Coordinator
Telephone (02) 9235 6300
Facsimile (02) 9235 5613
Email Kashana.Cohen-McMeekin@nntt.gov.au

Encl

NSW GOVERNMENT Environment, Climate Change & Water

Your reference Ben Chifley
Our reference DOC10/50115
Contact Paul Houston 68835361

OZARK
PO BOX 2069
DUUBO NSW 2380
Att: Cheryl Burke

9th November 2010

Dear Cheryl,

WRITTEN NOTIFICATION AS REQUIRED UNDER DECCW ABORIGINAL CULTURAL HERITAGE REQUIREMENT FOR PROPONENTS 2010 – for the proposed pipeline from Ben Chifley Dam to Bathurst Water Treatment Plant

I refer to your letter dated 3rd November 2010 to the Department of Environment Climate Change and Water (DECCW) regarding the above matter.

A list of known Aboriginal parties that DECCW feels is likely to have an interest in this development is attached as Attachment 1 (overleaf). Please note this list is not necessarily an exhaustive list of all interested Aboriginal parties and receipt of this list does not remove the requirement of a proponent/consultant to advertise in local print media and contact other bodies seeking interested Aboriginal parties, in accordance with the Interim Requirements.

If you wish to discuss any of the above matters further please contact me, at your earliest convenience, on (02) 6883 5361

Yours sincerely

Paul Houston
Aboriginal Heritage Planning Officer
EPRG North- West Branch

The Department of Environment and Climate Change is now known as
The Department of Environment Climate Change and Water

PO Box 2111, Dubbo NSW 2830
48-52 Wingewarra St Dubbo NSW
Tel: (02) 6883 5330 Fax: (02) 6884 9382
www.environment.nsw.gov.au

ATTACHMENT 1

DECC LIST OF ABORIGINAL STAKEHOLDER GROUPS WITHIN THE BATHURST LGA - AREA THAT MAY HAVE AN INTEREST IN THE PROJECT; PROVIDED AS PER THE 'INTERIM COMMUNITY CONSULTATION REQUIREMENTS FOR APPLICANTS'.

Organisation/Affiliation	Name/Title	Address
Dhuuluu-Yala Aboriginal Corporation		63 Stanley Street Bathurst 2795.
Wiradjuri traditional Owners Central West Aboriginal Corporation	Chairperson	14 Duramana Rd, Eglington NSW 2795
Mingaan Aboriginal Corporation		38 Tweed Rd Lithgow NSW 2790
North-East Wiraduri	Lyn Syme	PO Box 29 KANDOS NSW 2848
Bill Allen		75 Cory Pl , Windradyne NSw 2795
Wiradjuri Council of Elders	Robert Clegg	3 Loretta Pl, Glendenning NSW 2761
Mooka	Neville Williams	Po Box 70 Cowra NSW 2794
Gundungurra Aboriginal Heritage Association inc	Chairperson	PO Box 31 Lawson NSW 2783
Warrabinga Native Tittle Claimants Aboriginal Corporation		535 Pheasants Nest Road Pheasant Nest NSW 2574
Bathurst LALC	Chairperson	149 Russell Street BATHURST NSW
Gundungurra Tribal Council Aboriginal Corporation	Chairperson	14 Oak St, Katoomba, NSW, 2780

The Department of Environment and Climate Change is now known as
The Department of Environment Climate Change and Water

PO Box 2111, Dubbo NSW 2830
48-52 Wingewarra St Dubbo NSW
Tel: (02) 6883 5330 Fax: (02) 6884 9382
www.environment.nsw.gov.au

Post-survey letter from Wiradjuri Traditional Owners Central West Aboriginal Corporation.

WIRADJURI TRADITIONAL OWNERS

CENTRAL WEST ABORIGINAL CORPORATION

HERITAGE ASSESSMENT REPORT

FOR THE PROPOSED PIEPLINE

FROM BEN CHIFLEY DAM TO BATHURST

WATER TREATMENT PLANT

CONDUCTED ON

9 FEBRUARY 2011

I would like to confirm that I attend the Field Survey on the 9 February 2011 to conduct an Aboriginal Heritage Field Assessment for the proposed pipeline from Ben Chifley Dam to Bathurst Water Treatment Plant.

The area surveyed on the day consisted of a power line easement which passes through a number of farming properties in line with route No2 near Bidgeeribbon and Lagoon Roads The Lagoon NSW

At the time of the assessment the ground cover was in my opinion down to around 10 to 15% visibility from over growth.

This being the case we could not find any ground artefacts such as stone tools, flake or any physical evidence of occupation on a permanent basis.

Only two potential sites were located one site consisted of a considerable amount of raw material, mainly large cores of quarts. The site may yield material of interest when excavated for the pipeline as it is an elevated area facing east towards the river in close proximity to other sites recorded by the survey team on the day.

The other is a drain line which is located midway between properties and consists of pockets of material that may yield artefacts if screened.

There appears to have been a lot of early European impact with old growth trees being removed, possibly for fencing, and heating.

There is evidence of consistent farming of the area over a considerable period.

Local Wiradjuri oral history of the area states that the surrounding areas were used as open camp sites with a close association to the Fish and Campbell River systems.

Brian Grant

Director and Heritage Officer.

16 February 2001

Post-survey letter from Dhuuluu-Yala Aboriginal Corporation.

Dhuuluu-Yala Aboriginal Corporation
63 Stanley Street Bathurst NSW 2795
ICN 4519

Phone: 02 6331 7315
Email: dhuuluuyala@westnet.com.au

OzArk Environmental and Heritage Management P/L
145 Wingewarra Street
Dubbo NSW 2830

26 February 2011.

Dhuuluu-Yala Aboriginal Corporation report on the Aboriginal Heritage Assessment for the proposed pipeline from Ben Chifley Dam to Bathurst Water Treatment Plant.

The Corporation field office John Phillips conducted the survey on 8th February 2011.

He reports that together with Dr Jodie Benton they walked the Macquarie River area at Gorman's Hill from the near Dees Close to near Montavella Road.

He then went with the American Archaeologist to the Macquarie River area near Lagoon Road Perthville.

On the day of the assessment the ground cover was in his opinion down to around to 15% visibility from over growth and area of dense Scotch Thistle from 30 cm to over 150.cm tall.

This being the case no Aboriginal artefacts or any evidence of occupation on a permanent basis was located by us.

Yours sincerely

Rochelle Dawes
Public Officer.

APPENDIX 3: SITE TYPE DEFINITIONS

Open camp sites

Often called stone artefact scatters, these sites (for the purposes of the OEH AHIMS database) were in the past defined by the presence of two or more stone artefacts located within 50 m of one another. Current guidelines, however, delineate no hard and fast determinations on requisite artefact numbers, more loosely describing these campsites as places exhibiting evidence of past human activity. This can be, and is most frequently, in the form of stone artefacts, but may also include other evidence such as hearths or midden material. Such sites provide evidence for the range of activities that may have been undertaken at a particular place, including the production of stone tools and the preparation of food including the butchering of animals or grinding of seeds. However, the distinction between a single, isolated artefact versus a place where numerous artefacts have been recorded together provides a necessary division in terms of the possible information that a site can reveal about past activities. Further information recorded about open sites includes assessments of the sites' integrity (how intact the site is) and subsequently whether sub-surface deposits are thought to be present.

Isolated Finds

An artefact, usually of stone, but possibly of other materials, that is located but has no relationship to other identifiable archaeological features.

Rockshelter sites (with art and/or deposit)

Rockshelter sites can only occur where this is suitable topographic and geological factors present, forming overhangs or caves in the eroding bedrock. The size (both horizontal and vertical dimensions) of the space available, the aspect of the opening and the proximity to resources will determine the length and intensity of human occupation. Art in the form paintings may be found in caves, but often suffer considerably from erosion of the sandstone.

Axe Grinding Grooves

Aboriginal axe heads were usually made from very hard igneous rock, which was first flaked roughly to the appropriate shape and then pecked or ground to an even surface. To keep the edges of these axes sharp, they were ground on the surface of a relatively softer stone (usually sandstone). As the axe is rubbed repeatedly in the same location a groove forms to fit the shape of the axe. This groove has a roughly elliptical shape and a smooth, regular surface along its base. Arrowheads may also have been sharpened in grooves, which generally appear narrower and deeper.

Grinding groove sites are most often located on the floodplains of rivers and creeks, although they can be in elevated positions above water as well. Sometimes, sandstone flats near water may exhibit hundreds of such grooves, and it is thought that once an axe blank has its edge ground in a groove, then it can only be sharpened in the same groove. Hence, if the owner of

the axe is away from its place of origin, then a new groove has to be created for the sharpening of that particular axe head[10]. Grooves are also frequently recorded in smaller groups, especially along more ephemeral water courses.

Scarred Trees

This site type results from the deliberate removal of bark (and sometimes wood) from trees, for the purpose of obtaining raw material for the manufacture of various items of material culture — i.e. shields, coolamons, shelters, canoes, and cradles. They may also result from foraging and hunting - for instance, toe holes cut in trees to allow access to upper branches and hollows, and axe marks around natural hollows for the extraction of small tree-living fauna (such as possums or birds) or honey.

The identification and interpretation of a scar as being Aboriginal in origin can often be difficult, as bark can be removed from trees by a variety of means e.g. animal and bird foraging, the natural breaking off of tree limbs, lightning strikes to the tree, the result of machinery damage to trunks and the removal of bark by Europeans to define land boundaries. To assist archaeologists in the accurate identification of Aboriginal scarred trees, the OEH Western region provides a set of criteria against which each scar must be assessed.

These diagnostic criteria are as follows:

- *The scar must not touch the ground* — (scars resulting from fire, fungal attack or lightning nearly always reach the ground). Such a termination does not necessarily preclude an Aboriginal origin. Ethno-historic accounts of canoe manufacture occasionally demonstrate scarring to ground level. If the scar does run to the ground, the sides must be relatively parallel (i.e. not triangular). It must be noted that discussion with Native Title from other areas suggests that scars may indeed extend to the ground, especially when the bark is planned for use in a shelter. This information is derived from oral histories recorded in Dubbo and observations from further afield;
- *The ends of the scar should be squared off or evenly tapered* — Different shapes at the top and bottom (e.g. pointed at top, squared at bottom; round at top, flaring at bottom) are suggestive of natural processes (e.g. branch loss);
- *The sides of the scar should be parallel or symmetrical* — Few natural scars are likely to have these properties, with the possible exception of fire scars which may be symmetrical but are usually wider at their base. Modern surveyors' marks are typically triangular, and often adzed. These also (regardless of shape) usually have a number carved in the wood, within the scar;
- *The length of the scar must be on the same axis as the tree and not oblique or slanting across the tree or the branch* — Scars which are natural in origin tend to have irregular outlines, sometimes have irregular regrowth and may occur against the axis of the tree.

[10] As read at the Terramungamine Reserve grinding groove interpretation sign.

- *The tree should be reasonably old — i.e. over 100 years* — The tree upon which the scar is found should be old enough (i.e. of sufficient age) to have been used by Aboriginal people in (at least) a semi-traditional manner. This means the tree should be at least approximately 100 years old. The age of the scar should also be reflected in the thickness of the regrowth. Young scars (e.g. some natural scars caused by branches falling or birds or horses gnawing, have characteristically thin regrowth);
- *There must be no obvious natural or other artificial cause* such as a branch rip, lightening strike, cockatoo chewed bark or healed bark tears from machinery damage or car impact — Any signs that the scar may not be Aboriginal should be carefully assessed; and,
- *The tree must not be an introduced species* – For obvious reasons, the tree upon which the scar is found should be endemic to the region, i.e. this excludes historic (exotic) plantings.
- Also helpful in scarred tree identification, but not within the OEH criteria are the following points:
- *Axe or adze marks* — A scar with cut marks on the original wood is likely to be anthropogenic in nature (i.e. as a result of human actions). The location and shape/size may lend support to the scar's origin. For example stone axe marks would indicate an Aboriginal origin, while steel axe marks post-date the arrival of Europeans. These of course could still have been made by an Aboriginal person in the post-contact era; and,
- *The presence of epicormal growth* — Many scars of Aboriginal origin tend to have an epicormal shoot originating at the base of the scar. This is a new branch shooting from the point of damage and is part of the trees self preservation mechanism.

As noted in the OEH criteria, any tree that does not fit these rules cannot be accepted as likely to be of Aboriginal origin. This may mean that a few authentic scars are omitted from the Aboriginal Sites register, but it is the only means to establish consistency in identification.

However, even when applied, the above criteria cannot always provide a definitive classification, and a natural origin for the scar cannot be ruled out. For this reason interpretations of Aboriginal origin are qualified by the recorders degree of certainty. The following categories are used:

- DEFINITE ABORIGINAL SCAR

This is a scar which conforms to all of the criteria stated above and/or has in addition a feature or characteristic that provides definitive identification, such as diagnostic axe or adze marks, or a historical identification. All conceivably natural causes of the scar can be reliably discounted.

- ABORIGINAL SCAR

This is a scar which conforms to most of the criteria, and where an Aboriginal origin is considered to be the most likely. Despite this, a natural origin cannot be completely ruled out.

- POSSIBLE ABORIGINAL SCAR

This is a scar which conforms to most of the criteria but where an Aboriginal origin would appear unlikely.

For the purposes of the current study, on the advice of OEH Western Region, only scars of the first two categories have been recorded as sites to be entered into the OEH AHIMS. As a general rule, the “Aboriginal scar” and “Probable Aboriginal scar” categories have been collapsed into one, called “Aboriginal scar”.

Natural Mythological or Cultural/Ceremonial sites

Natural mythological sites can be any natural feature and like a cultural/spiritual are not detectable without the traditional knowledge of specific areas.

APPENDIX 4: FIELD SURVEY NOTES

Table 14: Eastern Survey Unit: Observations of disturbance, sensitivity and ground surface visibility.

Serial	Easement	Landform	Disturbance	Sensitivity	Remarks
1					Industrial area – heavily disturbed.
2		Flood plain	Ploughed	Low – Mod; 0 – 10% GSV	
3		Flood plain	?	Low – Mod	
4		Flood plain – Terrace	Quarry / dump material.	Low – Mod Mod	
5	From dirt road to south fence edge terrace.	Terrace		Section 1: Mod (low in artificial areas) Section 2: Mod – High	
6		Flood plain	? Hydro	Low – Mod	
7		Flood plain	Intensive ploughing	Flood plain	
Area of no access					
8a	From Montevilla Rd to silos	Flat plain, minor toe slope	Varied, agricultural ploughing	Mod / Low Low	Low GSV: 0 – 20% Very recent ploughing: 90% GSV
8b	Silos to tree clump	Flat plain / flood plain Flood plain to toe slope by southern section	Ploughed	Mod / Low	0% GSV; numerous thorns.
8c	Toe slope to property boundary	Toe slope			BP(e)-OS1 with PAD GR 741146 / 6292016 to 741107 / 6291813 (GDA Zone 55)
9	Property boundary	Toe slope, quite steep Low hill slope	Grazed	Low – Mod	0% GSV Goes through Apple Tree Lane.
10	Flood plain / toe slope	Property fence to track beyond corn paddock	Ploughed / Grazed	High	Under crop. Property owner has collected artefacts from this area for safe-keeping. Survey followed track around crop, adjacent to easement.
11			Ploughed / Grazed	High	GSV: 0 – 10% with pockets of exposure 50 – 70%.

Table 15: Western Survey Unit: Observations of disturbance, sensitivity and ground surface visibility.

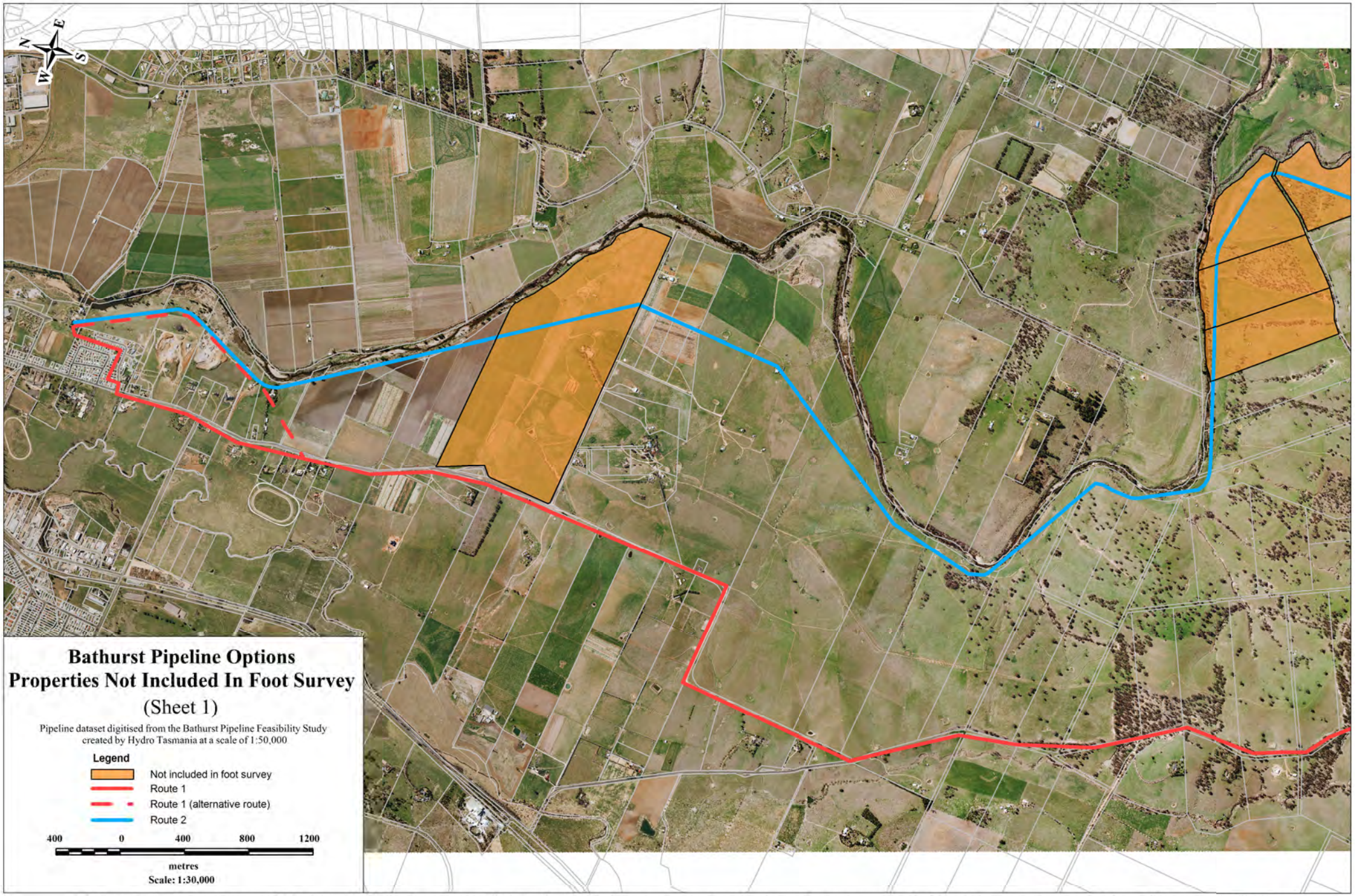
Serial	Easement	Landform	GSV (%)	Disturbance	Sensitivity	Remarks
1A	Bathurst WFP to Gormans Hill Road.	Spur	0	Very High	Low	Urban.
1B	Gormans Hill Road Corridor to GR 740708 / 6293756.	Undulating	10	High	Low	Spot check: GPS 001. cutting. cobbles and gravels, nil arch.
2	Within Gormans Hill	Undulating	10	Very High	High	Transect recorded at

Serial	Easement	Landform	GSV (%)	Disturbance	Sensitivity	Remarks
	Road Corridor. GR 740708 / 6293756 to Lagoon Road at GR 739779 / 6292254.					bend of road 500m east of 3 AHIMS sites. nil arch.
3	Within Lagoon Road Corridor. GR 739779 / 6292254 to treeline at GR 740308 / 6290699.	Undulating	10	Very High	Moderate	Transect recorded
4	Within Lagoon Road Corridor. From treeline at GR 740308 / 6290699 to treeline at GR 740468 / 6289925.	Undulating	20	Very High	Moderate	Eucalyptus: too young. transect recorded.
5	Within Lagoon Road Corridor. From treeline at GR 740468 / 6289925 to intersection of Lagoon Road and Bidgeeribbin Road at GR 740959 / 6288915.	Undulating	10	High	Moderate	
6	Within Lagoon Road Corridor. From intersection of Lagoon Road and Bidgeeribbin Road at GR 740959 / 6288915 to intersection of Lagoon Road and Samuel Way at GR 741422 / 6287554.	Undulating	10	High	Low - Moderate	Transect recorded.
7	Within Lagoon Road Corridor. From intersection of Lagoon Road and Samuel Way at GR 741422 / 6287554 to treeline at GR 741898 / 6287274.	Undulating	0 - 30	High	Moderate	Highly disturbed by road construction / cuttings.
8	Within Lagoon Road Corridor. From treeline at GR 741898 / 6287274 to treeline at GR 742029 / 6287080.	Crest	50	High	Low - Moderate	Site BP(w)-OS3 on hill crest with road cutting.
9	Within Lagoon Road Corridor. From treeline at GR 742029 / 6287080 to Deep Creek at GR 742013 / 6286243.	Undulating	10	High	Low - Moderate	
10A	Within Lagoon Road Corridor. From Deep Creek at GR 742013 / 6286243 to road bend at GR 742235 / 6285622.	Flat	20	High	Moderate - High	

Table 16: Common Survey Unit: Observations of disturbance, sensitivity and ground surface visibility.

Serial	Easement	Landform	GSV (%)	Disturbance	Sensitivity	Remarks
10B	Within Lagoon Road Corridor. From road bend at GR 742235 / 6285622 to property entrance at GR 742074 / 6284750.	Flat	20	High	Moderate - High	
11	Private property. From property entrance at GR 742074 / 6284750 to Campbells River at GR 743048 / 6284566.	Undulating	On exposure: 100%, Off exposure: 20%	Moderate	High	BP(c)-OS5 with PAD.
12	Private property along Campbells River. From GR 743048 / 6284566 to GR 743133 / 6284288.	Terrace	0 – 10%	Low	Moderate	
13	Private property. From Campbells River bend at GR 743133 / 6284288 to Campbells River bend at GR 743162 / 6283894.	Stream Channel	0 – 10%	Low	High	BP(c)-IF1.
14	Private property along Campbells River. From river bend at GR 743162 / 6283894 to river bank at GR 743937 / 6283461.	Terrace	0 – 10%	Moderate	High	Virtually no GSV, weeds are thick and tall.
15	BCD property from river bank at GR 743937 / 6283461 to dam at GR 744600 / 6283489.	Undulating	30	High	Moderate	Much of this landform is built on fill from the dam.

APPENDIX 5: FIGURES A AND B LOCATING ABORIGINAL SITES RECORDED DURING THE ASSESSMENT



Bathurst Pipeline Options
Properties Not Included In Foot Survey
(Sheet 1)

Pipeline dataset digitised from the Bathurst Pipeline Feasibility Study created by Hydro Tasmania at a scale of 1:50,000

Legend

- Not included in foot survey
- Route 1
- Route 1 (alternative route)
- Route 2

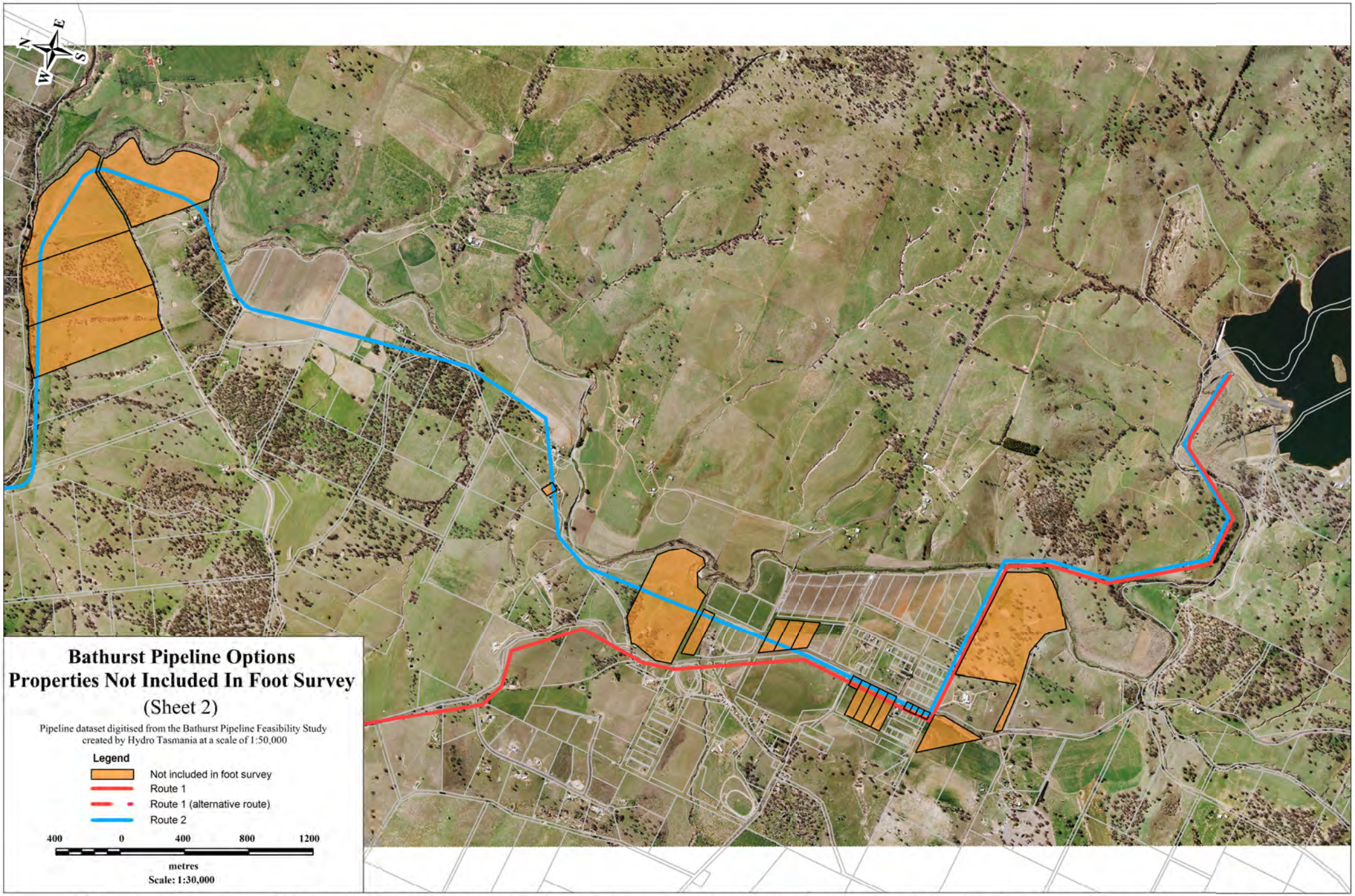
400 0 400 800 1200

metres

Scale: 1:30,000

Date 21/02/2011

Note: The colours on this Plan do not indicate landuse zones under the Bathurst Regional (Interim) Local Environment Plan 2005.



Date 21/02/2011

Note: The colours on this Plan do not indicate landuse zones under the Bathurst Regional (Interim) Local Environment Plan 2005.