



**THE NORTHERN ROAD UPGRADE STAGE 3
Jamison Road, Penrith to Glenmore Parkway, Glenmore Park**

Aboriginal Cultural Heritage Assessment Report

Prepared for Roads and Maritime Services

Penrith Local Government Area

September 2016

Ref. 1454

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Document Summary

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Executive Summary

Roads and Maritime Services (Roads and Maritime) propose to upgrade 4 km of The Northern Road between Jamison Road, Penrith and the Glenmore Parkway, Glenmore Park (the project). The proposed upgrade works are required to improve safety, increase road capacity and cater for expected future traffic growth.

Roads and Maritime engaged Kelleher Nightingale Consulting Pty Ltd (KNC) to prepare an Aboriginal Cultural Heritage Assessment Report (CHAR) for Aboriginal archaeological sites within the project area as part of the Review of Environmental Factors (REF) for the project.

The CHAR complies with Stage 3 requirements of the Roads and Maritime *Procedure for Aboriginal Cultural Heritage Consultation and Investigation* (PACHCI).

Two Aboriginal archaeological sites will be impacted by the project. Both archaeological sites are highly disturbed from modern land use and erosion and considered to have low archaeological significance.

The two identified archaeological sites will be completely impacted by the proposed road works.

Mulgoa Mulgoa 1	45-5-0408	Artefact	Low Significance	Total Impact
Northern Road	45-5-2484	Artefact	Low Significance	Total Impact

An Aboriginal Heritage Impact Permit (AHIP) is required for the land within the project boundary and specifically for Aboriginal objects within the impacted sites.

No mitigation is required for the impacted archaeological sites due to the identified highly levels of disturbance and low levels of significance.

This CHAR has been prepared to support the application for an AHIP. It builds on the results of previous assessments and consultation regarding the proposal.

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1 Introduction

1.1 Proponent and consultants

The Australian and NSW governments are planning to upgrade The Northern Road as part of the Western Sydney Infrastructure Plan road investment program. The Northern Road Upgrade, about 35km in length, from The Old Northern Road at Narellan to Jamison Road at Penrith, is being planned in four stages. As part of the Stage 3 upgrade Roads and Maritime Services (Roads and Maritime) propose to upgrade 4 km of The Northern Road between Jamison Road, Penrith and the Glenmore Parkway, Glenmore Park (the project). The proposed upgrade works are required to improve safety, increase road capacity and cater for expected future traffic growth.

Kelleher Nightingale Consulting Pty Ltd (KNC) was engaged by Roads and Maritime to prepare an Aboriginal Cultural Heritage Assessment Report (CHAR) for Aboriginal heritage within the project area as part of the Review of Environmental Factors (REF) for the project.

1.2 Location and scope of activity

The proposed works for the project cover approximately 4 km between the intersection of Parker Street and Jamison Road and the intersection of The Northern Road, Glenmore Parkway and Wentworth Road. The project is located approximately 50 km west of the Sydney CBD within the Penrith local government area (LGA) and traverses the suburbs of Glenmore Park, Kingswood, Orchard Hills, Penrith and South Penrith (Figure 1).

The project comprises the following key features:

- An eight-lane divided road (three general traffic lanes and a kerbside bus lane in each direction) separated by a raised concrete median from about 500 m south of Glenmore Parkway, Glenmore Park to Jamison Road, Penrith
- An upgrade to the M4 interchange, including:
 - Removal of the existing bridge over the M4 Motorway
 - Construction of a new two span bridge over the M4 Motorway widened to the east of the existing bridge to accommodate additional through and turning lanes
 - Ramp widening to accommodate future SMART Motorway requirements
- Signalising the intersection at Frogmore Road, maintaining existing traffic movements
- Changed intersection arrangements, including removal of existing right turn movements at:
 - Homestead Road, Orchard Hills
 - Castle Road, Orchard Hills
- Local road upgrades, in support of the local access strategy including:
 - An upgrade of Cross Road, providing a connection between Wentworth Road and Homestead Road
 - A new roundabout at the Frogmore Road/Simeon Road intersection
- Removal of the roundabout at the intersection of Maxwell Street and Aspen Street, and replacement with a right turn bay. This removes right turns movements out of Aspen Street, requiring traffic to turn left, and make a U-turn at Fragar Road roundabout
- An upgrade to the intersection of Glenmore Parkway/Wentworth Road and The Northern Road
 - Traffic signals to replace the existing roundabout allowing all movements
 - Separate left turn lanes on both approach roads to The Northern Road
 - Additional right turn capacity from both approach roads onto The Northern Road
 - A dedicated U-turn facility west of the intersection on Glenmore Parkway allowing westbound traffic to turn around and head east
- New pedestrian and cyclist facilities which include:
 - A shared path along the western side of The Northern Road
 - A shared path along the eastern side of The Northern Road between Wentworth Road and Bringelly Road
 - A footpath on the eastern side of The Northern Road between Bringelly Road and Jamison Road
- New signalised pedestrian crossings at:
 - Glenmore Parkway/Wentworth Road intersection
 - M4 Interchange
 - Frogmore Road/Tukara Road intersection
 - Jamison Road intersection
- Construction of new retaining walls at:
 - Eastern side of The Northern Road just south of Smith Street
 - Eastern side of The Northern Road just south of Bringelly Road
 - The M4 Motorway bridge abutments
- Upgraded drainage infrastructure
- Two new permanent variable message signs (VMS) signs near the M4 Motorway interchange
- New street lighting
- New vegetation and landscaping
- Relocation of utility services affected by the works
- Changes to bus stops

- New northbound bus stop in the vicinity of Glenmore Parkway
- Relocation of northbound bus stop from near Maxwell St to near Smith St
- Retain existing northbound bus stops in the vicinity of Tukara Rd and Castle Rd
- Two new southbound bus stops north and south of Smith St
- Consolidation of two southbound bus stops in the vicinity of Bringelly Rd to a single bus stop
- New southbound bus stop near Glenmore Parkway
- Retain existing southbound bus stop near Frogmore Rd
- Changes to property access along The Northern Road (all existing accesses retained, generally left in, left out only)
- Establishment of temporary site compounds during construction
- Strip acquisition of land, generally along the eastern side of The Northern Road from north of the Defence Establishment Orchard Hills to Bringelly Road
- Adjustments to private properties, including driveways and fencing to suit the proposed upgrade.

1.3 Statutory controls and development context

The proposal is for road infrastructure carried out by Roads and Maritime to be assessed under Part 5 of the *Environmental Planning and Assessment Act 1979*. Aboriginal objects will be harmed by the upgrade of The Northern Road and an application for an Aboriginal Heritage Impact Permit (AHIP) is being made under section 90A of the *National Parks and Wildlife Act 1974*.

This Aboriginal CHAR has been prepared to support the AHIP application. It has been prepared in accordance with the Office of Environment and Heritage (OEH) *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011). The CHAR complies with the Roads and Maritime *Procedure for Aboriginal Cultural Heritage Consultation and Investigation* (PACHCI) (Roads and Maritime 2011).

1.4 National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act) is the primary statutory control dealing with Aboriginal heritage in New South Wales. Items of Aboriginal heritage (Aboriginal objects) or Aboriginal places (declared under section 84) are protected and regulated under the NPW Act.

Under the Act, an “Aboriginal object” is defined as “any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction and includes Aboriginal remains”. As such, Aboriginal objects are confined to physical evidence and are commonly referred to as Aboriginal sites.

Aboriginal objects are protected under section 86 of the Act. It is an offence to harm or desecrate an Aboriginal object, either knowingly [section 86 (1)] or unknowingly [section 86 (2)].

There are offences and penalties relating to harm to, or desecration of, an Aboriginal object or declared Aboriginal place. Harm includes to destroy, deface, damage or move. Penalties are tiered according to offences, which include:

- a person must not harm or desecrate an Aboriginal object that the person knows is an Aboriginal object;
- a person must not harm an Aboriginal object (strict liability offence);
- a person must not harm or desecrate an Aboriginal place (strict liability offence);
- failure to notify Office of Environment and Heritage of the location of an Aboriginal object (existing offence and penalty); and
- contravention of any condition of an AHIP.

Section 87 (2) of the Act provides a defence against prosecution under section 86 (2) if “the defendant exercised due diligence to determine whether the act or omission constituting the alleged offence would harm an Aboriginal object and reasonably determined that no Aboriginal object would be harmed”.

Under section 87 (1) it is also a defence if “(a) the harm or desecration concerned was authorised by an Aboriginal heritage impact permit and (b) the conditions to which that Aboriginal heritage impact permit was subject were not contravened”.

Section 89A of the Act relates to the notification of sites of Aboriginal objects, under which it is an offence if the location of an Aboriginal object is not notified to the Director-General in the prescribed manner within a reasonable time.

Under section 90 (1) of the Act “the Director-General may issue an Aboriginal heritage impact permit”. The regulation of Aboriginal heritage impact permits is provided in Part 6 Division 2 of the Act, including regulations relating to consultation (section 90N). An AHIP is required for an activity which will harm an Aboriginal object.



Figure 1. General location of project area

1.5 Objectives of the CHAR

The objectives of the Aboriginal cultural heritage assessment are in accordance with the Roads and Maritime PACHCI. The results of detailed consultation and assessment are integrated into this report. The report comprises:

- a description of the location and scope of the proposed project, including ancillary works (chapter 1);
- description and map of the project area (chapters 1 and 2);
- details of Aboriginal stakeholder identification, consultation and participation in the cultural and archaeological assessments (chapter 4);
- description of the methodologies and results of the archaeological assessments (chapter 3);
- statement of significance, incorporating assessed cultural and archaeological values (chapter 6);
- an assessment of the potential impacts of the proposed upgrade works on identified cultural heritage values (chapter 7); and
- management and mitigation measures recommended for cultural and archaeological values identified through the assessment (chapters 8, 9 and 10).

The project area contains Aboriginal objects (sites) which would be impacted by the proposal. Approval obtained under the *National Parks and Wildlife Act 1974* is required before impacting or harming these Aboriginal objects. The proponent is applying for an AHIP under section 90A of the Act.

In accordance with clause 80D of the *National Parks and Wildlife Regulation 2009* an application for an Aboriginal heritage impact permit is required to be accompanied by a cultural heritage assessment report. The cultural heritage assessment report is to provide information on:

- the significance of the Aboriginal objects or Aboriginal places that are the subject of the application
- the actual or likely harm to those Aboriginal objects or Aboriginal places from the proposal that is the subject of the application
- any practical measures that may be taken to protect and conserve those Aboriginal objects or Aboriginal places
- any practical measures that may be taken to avoid or mitigate any actual or likely harm to those Aboriginal objects or Aboriginal places.

The OEH *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011) provides further guidance on the preparation of a cultural heritage assessment report. This report has been prepared in accordance with the requirements of the *National Parks and Wildlife Regulation 2009* and the OEH guide.

This CHAR has been prepared to accompany an application for an AHIP made by Roads and Maritime for Aboriginal objects within the proposed road upgrade corridor.



Figure 2. Detail of the project area

2 Landscape Context

2.1 Landform, geology and soils

The project area is located on the Cumberland Plain, a low lying and gently undulating subregion of the Sydney Basin. The Sydney Basin is a large geological feature stretching from Batemans Bay in the south to Newcastle in the north and Lithgow in the west. The formation of the basin began between 250 to 300 million years ago when river deltas gradually replaced the ocean that had extended as far west as Lithgow (Clark and Jones 1991).

The project area is situated on the western side of a north-south oriented ridge and is characterised by moderately inclined slopes with narrow to broad crests and drainage lines (Figure 3). The ridge forms a watershed separating the catchment areas of South Creek in the east and the Nepean River in the west. Drainage within the project area comprises modified 1st and 2nd order drainage lines which flow north west into Surveyors Creek and Peach Tree Creek or north east into Claremont Creek and Werrington Creek.

The underlying geology of the project area is predominantly Bringelly Shale (Rwb) which underlies the crests, slopes and drainage lines (Figure 4). Bringelly Shale (Rwb) is part of the Late Triassic Wiannamatta Group of shales and is composed of shale, carbonaceous claystone, claystone, laminate, fine to medium-grained lithic sandstone, rare coal and tuff (Clark and Jones 1991).

Cranebrook Formation geology (Qpc) is present along the low lying areas adjacent to tributaries of Surveyors Creek in the south of the project area and is characterised by a basal layer of pebble and cobble clast gravels below sand, silt and clay. The gravels comprise clasts of quartz, quartzite, chert, porphyry, granite, hornfels, sandstone and silcrete. Cranebrook Formation geology contains raw material types that were utilised by past Aboriginal people. Areas where these materials were exposed at the surface, such as within creek channels, are likely to have been exploited by past Aboriginal people.

The basal geology is overlain by South Creek soils within the immediate vicinity of major creeks, transitioning to Blacktown soils south of the M4 Motorway and Luddenham soils north of the M4 Motorway (Figure 5). The alluvial South Creek soil landscape is characterised by flat landforms with incised channels that are subject to frequent episodes of inundation, erosion and aggradation. The landscape contains deep structured loams and clays overlying bedrock or relict soils. The South Creek soil landscape may retain archaeological deposit but due to its location on active floodplains, integrity of deposit may be compromised due to repeated episodes of erosion and deposition caused by fluvial activity.

The residual Blacktown soil landscape is located on gently undulating rises with broad rounded ridges and crests with gently inclined concave slopes. The landscape is characterised by shallow to moderately deep red and brown podzolic soils on crests grading to yellow podzolic soils on lower slopes and drainage lines. Erosional susceptibility of this soil landscape is relatively low, but is increased where surface vegetation is not maintained (Bannerman, Hazleton, and Tille 1990). Blacktown soils are conducive to artefact survivability, however their acid chemistry quickly removes organics and their deflationary tendency often results in a temporal collapse, where archaeological objects from multiple time periods accumulated within a single cultural soil layer.

The erosional Luddenham soil landscape is situated on low rolling to steep hills with narrow convex ridges and crests, moderately inclined slopes and narrow drainage lines. The landscape comprises shallow dark podzolic soils or massive earthy clays on crests, moderately deep red podzolic soils on upper slopes and moderately deep yellow podzolic soils and prairie soils on lower slopes and drainage lines. The Luddenham soil landscape has a high erosional susceptibility with moderate surface movement potential. The steeper hill slopes of the Luddenham Soil Landscapes are subject to minor gully erosion and moderate sheet erosion in areas that have been stripped of vegetation. Aboriginal sites within these areas are likely to be disturbed low density scatters exposed by the eroding landscape. However, landforms and vegetation that create stability for the soil landscape could have preserved Aboriginal sites. The landforms associated with this soil landscape are generally the furthest away from water sources and associated resources. It is therefore likely that these areas were utilised in a different way to other landforms in the project area.

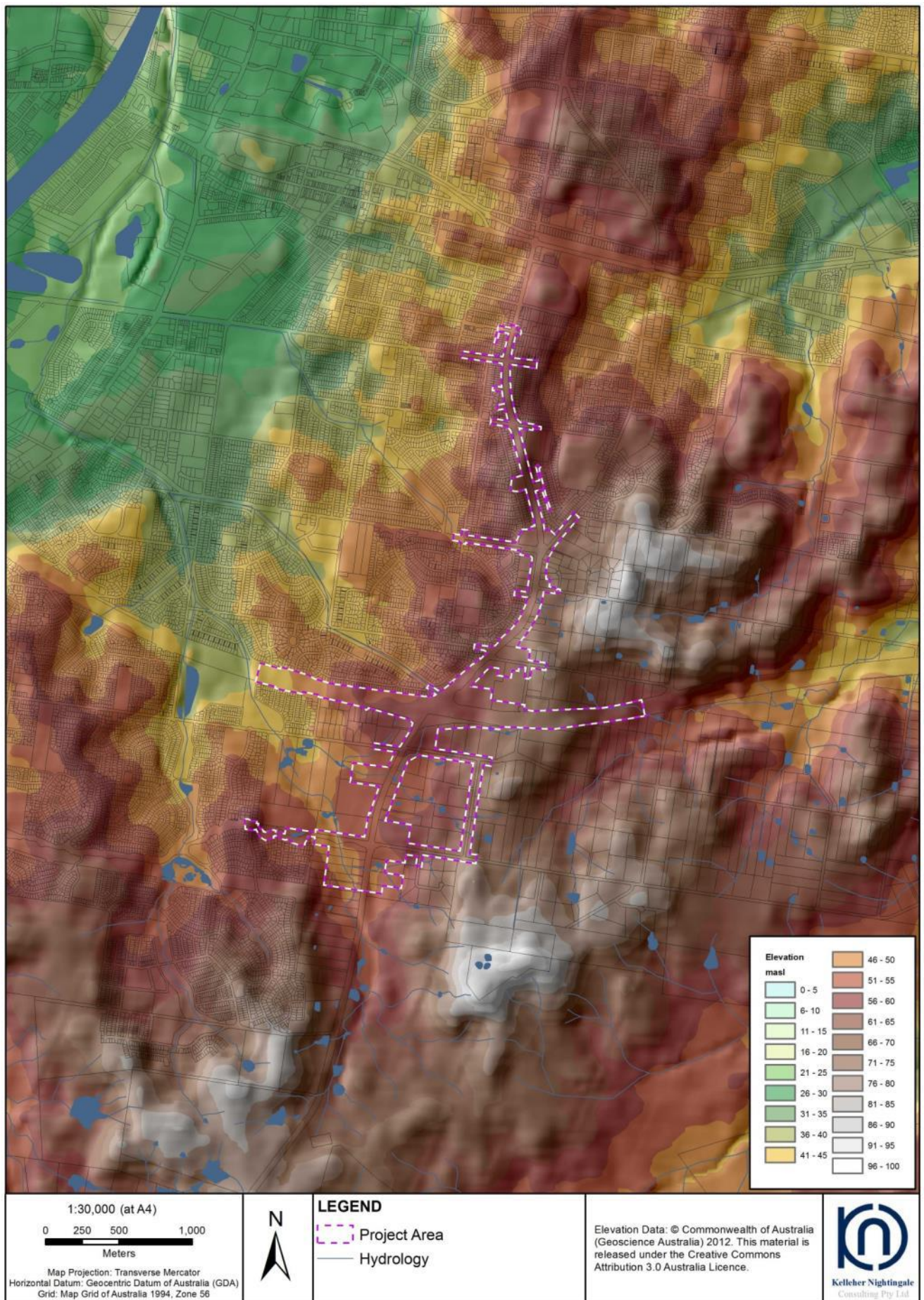


Figure 3. Landforms and elevation of the project area

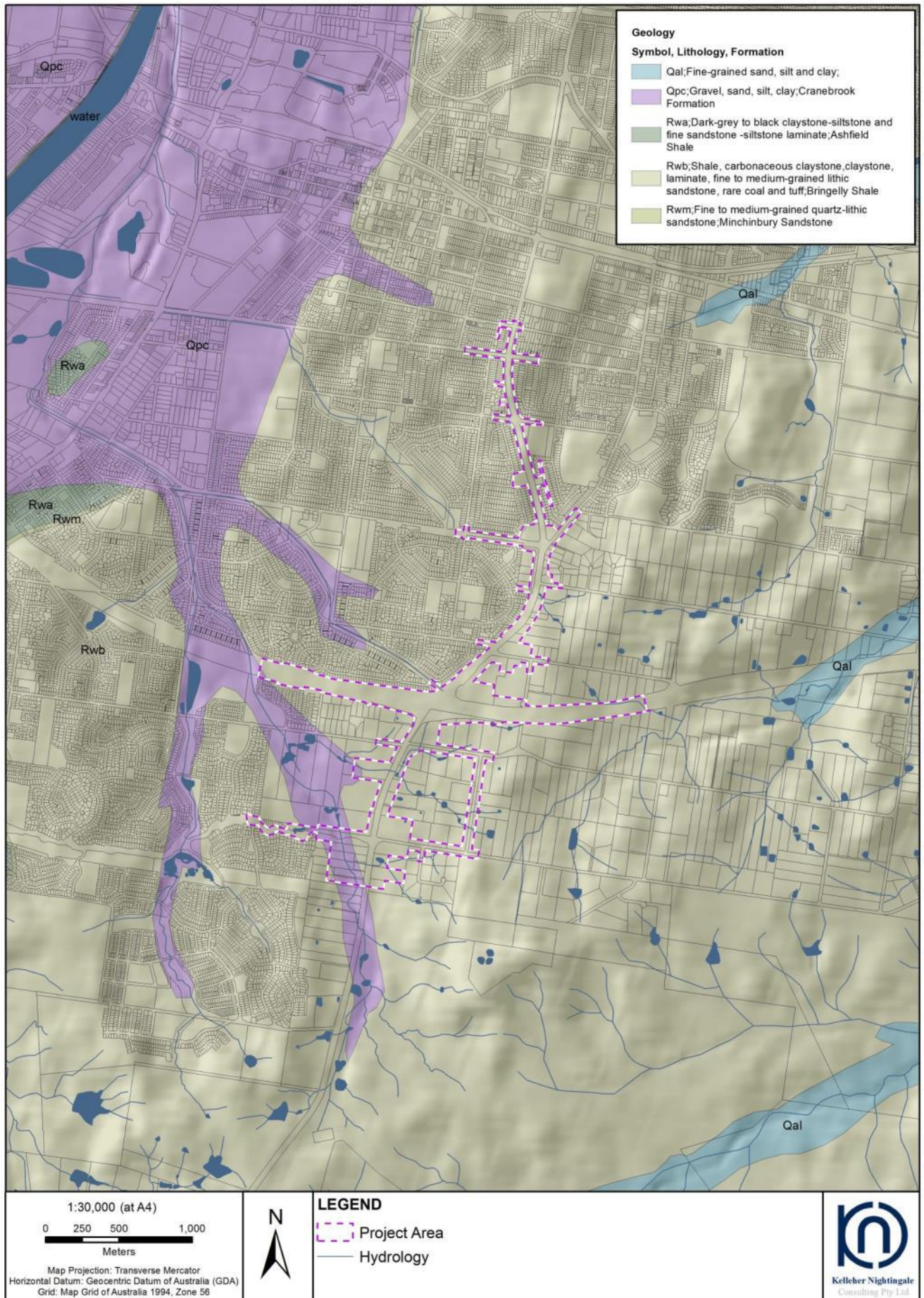


Figure 4. Geology of the project area

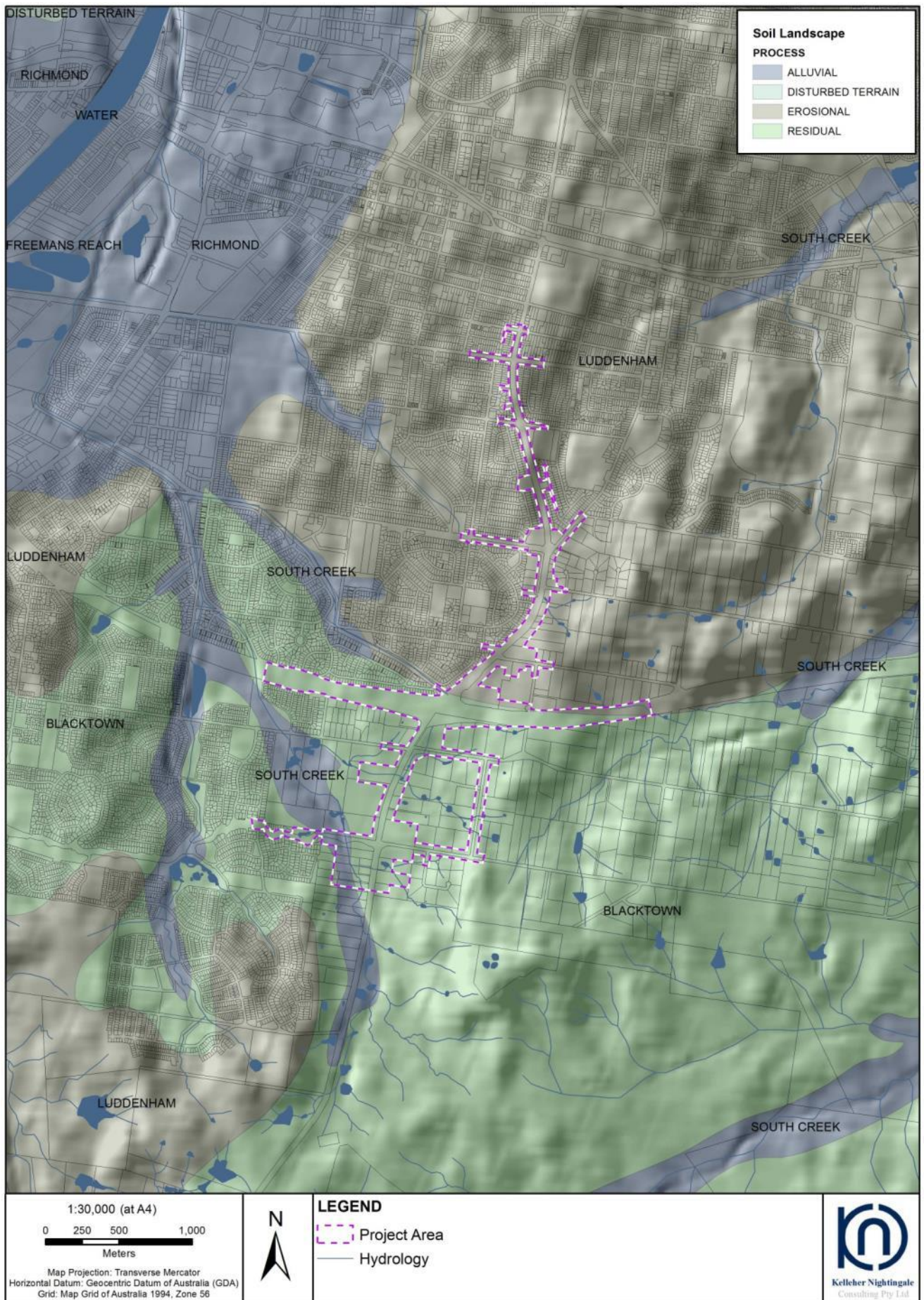


Figure 5. Soil landscapes of the project area

2.2 Vegetation and landuse history

The distribution of native vegetation within the project area has been affected by historic and contemporary European landuse practices in the region. Prior to 1788, a mixture of native vegetation communities would have extended across the entirety of the Cumberland Plain with distribution determined by a combination of factors including soil, terrain and climate (NSW National Parks and Wildlife Service (NPWS) 2002). The clearance of native vegetation across the majority of the project area by European settlers has left only small areas of native vegetation. These areas are classified as Shale Plains Woodlands, Shale Hills Woodland and Alluvial Woodland (Department of Environment 2010).

Shale Plains Woodland is the most widely distributed native vegetation community on the Cumberland Plain and generally occurs on flat to gently sloping terrain and low elevation with soils derived from Wianamatta Shale or well drained Holocene Alluvium geology. Shale Plains Woodland is characterised by a canopy dominated by *Eucalyptus moluccana* (grey box) and *E. tereticornis* (forest red gum), a shrub stratum dominated by *Bursaria spinose* (blackthorn) and a ground stratum comprising a mixture of grasses.

Shale Hills Woodland generally occurs on higher elevations and steeper terrain than Shale Plains Woodland with soils derived from Wianamatta Shale geology. Shale Hills Woodland is characterised by a canopy dominated by *E. moluccana* (grey box) and *E. tereticornis* (forest red gum), a small tree stratum of *Acacia implexa* (lightwood) and commonly occurring *Eucalyptus* species, a shrub stratum dominated by *Bursaria spinose* (blackthorn) and a ground stratum of grasses and herbs.

Alluvial Woodland is found adjacent or in close proximity to minor watercourses with draining soils derived from Wianamatta Shale geology. Alluvial Woodland commonly includes an upper tree stratum of *E. amplifolia* (cabbage gum) and *E. tereticornis* (forest red gum), a small tree stratum of *Acacia parramattensis* (Parramatta green wattle) and *Casuarina glauca* (swamp she-oak), an often sparse shrub stratum dominated by *Bursaria spinose* (blackthorn) and an often dense ground stratum of grasses.

European settlement of the area began in the early 19th century when land grants were made to free settlers, members of the military and some officials (Thorp 1986: 12). The first grants were made in the Mulgoa Valley which began with 1000 acres being granted to Captain Daniel Woodruff in 1804. The land grants were primarily utilised for agriculture and widespread native vegetation clearance was conducted in order to prepare the land for growing wheat and cattle grazing. By 1817 the foundations for the landscape of the present day were developing with the establishment of the Western Road (now the Great Western Highway) and a township at Penrith.

Landuse practices have had a variable impact on the landscape within the project area. Public and private road corridors have modified the landscape by creating cuttings and artificial embankments in addition to modifying the course of several waterways. Below ground utilities have also been constructed within the project area and where trenching has taken place this has modified the landscape and disturbed subsurface deposits.

The properties on the eastern side of The Northern Road are predominantly cleared of native vegetation and utilised for grazing cattle and cultivating crops. A number of large dams have been constructed throughout the area within former creek channels, altering the area's hydrology and drainage patterns. Low density residential, agricultural and commercial structures are also present and associated construction activities are likely to have modified the landscape and disturbed subsurface deposits.

Urban development has taken place along the majority of the western side of The Northern Road and is characterised by low density housing and associated infrastructure. The project area also contains a portion of the Penrith Golf and Recreation Club. Construction activities within these areas have extensively modified the landscape through the modification of watercourses, construction and bulk earth works including cuttings and artificial embankments.

2.3 Ethnohistoric context

The project area lies within a landscape which was important to, and intensively used by, past Aboriginal peoples (Attenbrow 2002). The arrival of European settlers began a cataclysmic series of events which radically changed the lifestyle of Aboriginal people on the Cumberland Plain. Contact with Europeans introduced diseases, such as smallpox, that drastically altered the size and structure of the Aboriginal population, whilst the expansion of settlements and establishment of farmland subsumed the traditional areas used to meet subsistence needs (Attenbrow 2002).

After their arrival in Sydney Cove in 1788, the British set about exploring the surrounding area. In the first three years of settlement many areas of the region were explored including Broken Bay, Botany Bay, Rose Hill (Parramatta), Prospect Hill and overland to the Nepean, Hawkesbury and Georges Rivers. During these explorations some of the British Officers, including Governor Phillip and Captain Watkin Tench, made a number of written observations regarding the local Aboriginal people that they met and travelled with (Attenbrow 2002:13). Early historical observations described the Cumberland Plain as a mosaic of Aboriginal groups associated with particular areas of land. These groups were described as 'tribes' in many historical observations, when in fact they were more likely small territorial clans or local clans consisting of extended family groups, forming larger land-using bands linked through marriage and communal participation in subsistence gathering activities (Attenbrow 2002:22, Brook and Kohen 1991:2). The British noted a difference between the dialect of the Aboriginal people along the coast compared with those further inland on the Cumberland Plain. Captain Tench observed when two Aboriginal men from the coast conversed with an Aboriginal man further inland "they conversed on a par and understood each other perfectly, yet they spoke different dialects of the same language; many of the most common and necessary words used in life bearing no similitude, and others being slightly different" (Tench 1793:122).

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

As well as differences in the dialect spoken between the coastal inhabitants and those further inland, the British also observed differences in subsistence activities. Brook and Kohen (1991:3) noted that "the Dharug people were apparently divided into two distinct sub-tribes: those along the coast, who lived on fish; those inland, who were frequently referred to as the 'woods tribes'". Tench recorded differences in the food eaten and methods used to acquire these resources between the inhabitants of the coast and those to the west of Rose Hill (Parramatta). On one occasion Tench observed a method of climbing trees for animals that involved cutting notches in the trunk and using these as toe-holds to climb the tree (Tench 1793:82).

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

The British began subdivision surveys on the eastern side of the Nepean River from 1803 and land grants were made to free settlers, members of the military and some officials (Thorp 1986: 12). The earliest land grants were made in the Mulgoa Valley with 1000 acres granted to Captain Daniel Woodruff in 1804. Successive grants to the mid-1820s, including Dr Thomas Jamison (1805) John Jamison (1817-1822) and members of the Cox family resulted in the Mulgoa Valley being populated by European settlers by the 1830s and the subsequent formation of the Mulgoa town (Watson 1917:169-173).

Reports of conflict with Aboriginal groups in the Mulgoa Valley occurred during this period of settlement, primarily between 1814 and 1816. The Sydney Gazette reported in May 1814 that 'Mr Cox's people have been several times attacked by the natives at Mulgoa this month'. It appears that the Darug inhabitants of the Mulgoa Valley, the 'Mulgoa Tribe', did not take part in this conflict with reports of the "mountain natives", identified as the Gundungarra, being responsible for many of the attacks. The 1826 Sydney Gazette reported that the 'Mulgoa Tribe' and the European settlers of the Mulgoa Valley shared a relatively amiable relationship on Cox's estate, including acknowledgement of the hard work of the Mulgoa people and the people camping nearby.

3 Archaeological Assessment

3.1 Previous archaeological investigations

The project area and adjacent lands have been subject to several archaeological investigations. In general, these investigations have included portions of the project area as part of the residential developments at Glenmore Park and Mulgoa Rise or upgrade and maintenance works for the M4 Motorway. Archaeological investigations encompassing the entirety of the project area (and directly related to the current project) have been undertaken as part of the Stage 2 PACHCI assessment for the proposed Northern Road Upgrade. The results of investigations pertinent to the current assessment are presented below.

Glenmore Park/Mulgoa Rise

Dallas undertook an archaeological survey of the South Penrith Development Site (the future suburb of Glenmore Park) in 1981. The survey encompassed an area of approximately 800 hectares on the southern side of the Western Motorway between Mulgoa Creek and The Northern Road. The survey identified 20 surface artefact scatters and seven isolated artefacts. The sites were located on elevated locations or hills adjacent to School House Creek or an unnamed tributary of Surveyors Creek. Modern land-use practices such as ploughing were found to have disturbed many of the identified sites along Surveyors Creek while sites near School House Creek were found to be more intact. Low density artefact scatters with five or less artefacts constituted half the identified sites and most sites had less than 10 artefacts. Artefacts were predominantly flakes and flaked pieces made from chert and silcrete with some examples of mudstone and quartz. One basalt edge-ground hatchet was also identified.

An investigation of an area bound by the Nepean River in the west, the M4 Motorway in the north, Wallacia in the south and a ridge running parallel to The Northern Road in the east was undertaken by Kohen in 1982. The review included a limited archaeological survey that inspected cleared areas within 100 m of roads within the area. The survey identified two new artefact scatters, including Mulgoa Mulgoa 1 which is located within the current project area (see Figure 6). The site was very badly disturbed by modern landuse practices and assessed as containing no scientific value.

Dallas and Steele conducted an Aboriginal archaeological survey and assessment of a portion of Lot 6800 DP 1013970, Glenmore Park (Dallas and Steele 2001a). No Aboriginal stone artefacts or culturally modified trees were identified during the survey. The slopes adjacent to Surveyors Creek were considered to have been disturbed by landuse practices and were assessed as having low archaeological potential; however, one area of potential archaeological sensitivity was identified within the Surveyors Creek corridor.

A subsurface testing program of the area of potential archaeological sensitivity was subsequently undertaken in 2001 (Dallas and Steele 2001b). The program comprised 18 1m x 1m test trenches that were excavated in successive 10cm spits using a backhoe fitted with a flat (batter) bucket and five 1x1m test squares which were manually excavated in 5cm spits using hand tools. Soil profiles were found to be relatively uniform across the area with a depth between 20cm and 40cm. A total of 73 stone artefacts were recovered during the program. The artefacts were predominantly made from silcrete with smaller quantities of tuff and quartz also recovered. Artefacts recovered during the excavation were predominantly flakes and flake fragments. Backed artefacts, cores, broken hatchet head fragments, retouched fragments and a scraper were also found. Artefacts were distributed in low densities across the tested area; however, one area contained a relatively higher artefact density and was interpreted as a knapping location.

The recovered stone material included a large volume of fragments which could not be attributed to a formal artefact type. These fragments represented a stone type not naturally occurring within the soil profile and were considered likely to be the remains of (artefactual) flaked material. The low density spatial distribution of artefacts and large quantities of stone fragments outside the knapping location were interpreted as reflecting the effect of natural process such as inundation from floodwaters and possible redeposition of material from upstream (Dallas and Steele 2001b: 47-48).

The Glenmore Park Southern Release Area, encompassing approximately 225 hectares west of the Northern Road, south of Ridgetop Drive and Mulgoa Nature Reserve, was assessed by Navin Officer in 2003. The assessment included a review of background information and a field survey. The survey identified eight archaeological sites and two areas of potential archaeological deposit (PAD). The sites were generally low density artefact scatters or isolated artefacts located on low hills or elevated positions adjacent to creeks. The artefacts were predominantly made from silcrete with minor quantities of chert, tuff and volcanic material also identified. Artefact types were primarily flakes and flaked pieces. A single backed artefact, scraper, core, grindstone and ground edge hatchet were also found.

Much of the original landscape of Glenmore Park was considered to have been drastically altered by past landuse practices. The central portion of Glenmore Park was disturbed through the quarrying operations and subsequent regeneration of the Mulgoa Quarry. Historical landuse for agricultural and pastoral purposes had resulted in widespread vegetation clearance of much of the land, with some remnant vegetation in the south and isolated possible old growth trees across the landscape.

M4 Motorway

An archaeological survey for Aboriginal sites within the M4 Motorway corridor between Parramatta and Emu Plains was conducted in 1996 (Brayshaw and Haglund 1996). The archaeological survey identified 20 Aboriginal archaeological sites that were predominantly low density artefact scatters (less than five artefacts) and isolated artefacts. Much of the road corridor was found to be heavily disturbed, resulting in an archaeological record that was not considered to be reflective or representative of past Aboriginal occupation and use of this area; however, two artefact scatters located near South Creek were found to have relatively high artefact density and low disturbance. These sites were located in close proximity to major waterways on defined topography such as terraces or level hills/ridges with limited disturbance from modern landuse practices and protection from fluvial activity and erosion.

Silcrete artefacts dominated the recorded assemblages, with lower numbers of indurated mudstone, quartz, quartzite and igneous materials also identified. The assemblage comprised 70% flakes or flake fragments and 30% cores or core fragments. The high proportion of broken or damaged artefacts was considered to be the result of disturbance and post-discard breakage.

An Aboriginal archaeological survey and cultural heritage assessment of the M4 Motorway corridor was undertaken by KNC as part of the M4 Managed Motorway (M4MM) project (KNC 2013; KNC 2016a). The investigation, a follow-up from the 1996 Brayshaw and Haglund assessment, included a review of background information, including identification of previously recorded Aboriginal sites registered on the Aboriginal Heritage Information Management System (AHIMS), sites known to the local Aboriginal community or others and any archaeologically sensitive landforms or areas or potential archaeological deposit in the project area.

The investigation identified 33 Aboriginal archaeological sites within the M4MM corridor including two previously unrecorded artefact scatters. The survey revisited the previously recorded sites to assess subsequent disturbance and archaeological potential. The majority of sites were found to be highly disturbed with no intact archaeological deposit due to modern landuse practices and natural processes.

Three of the Aboriginal archaeological sites identified during the 1996 Brayshaw and Haglund survey are located within the current project area (M4-17A Northern Road East, M4-17B Northern Road East and M4-17C Northern Road East) (see Figure 6). Roads and Maritime are seeking a separate AHIP for the entire M4MM corridor (M4MM AHIP Application Area, Figure 6), which is therefore excluded from this CHAR's AHIP area (M4 Project AHIP Area, see Figure 6).

3.2 The Northern Road Upgrade - Stages 3 and 4: Aboriginal archaeological survey report

An Aboriginal archaeological survey assessment of the project area was undertaken as part of the Stage 2 PACHCI assessment for Stages 3 and 4 of The Northern Road Upgrade (KNC 2016b). A full coverage survey of the project area was carried out in 2015 by a team comprising representatives from the Deerubbin Local Aboriginal Land Council and archaeologists from KNC.

The team closely inspected exposed ground, such as unsealed tracks or eroded surfaces, for artefacts and any old growth trees for evidence of Aboriginal bark removal. The survey also focused on establishing a detailed appreciation of archaeologically sensitive landforms to assist in identifying the full spatial extent of identified archaeological sites.

As a result of the survey, six Aboriginal archaeological sites were identified within the vicinity of current project area. The sites comprised four artefact scatters (TNR AFT 32, Mulgoa Mulgoa 1, M4-17A Northern Road East, Northern Road) and two isolated artefacts (M4-17B Northern Road East and M4-17C Northern Road East) (see Table 2 and Figure 6). The sites were predominantly found on the crests and slopes of a north-south running ridge line. Site locations are shown in Figure 6. Artefacts were predominantly silcrete and chert with one indurated mudstone artefact also found. Artefact types included cores, flakes and flaked pieces. Most

Ground surface visibility was generally high within the road corridors and in areas where the vegetation had been removed by modern landuse practices such as excavated drainage channels, damming, vehicle and cattle tracks or natural process such as erosion and fluvial activity. In the remaining portions of the project area, ground surface visibility was generally low due to vegetation and modern structures.

Five of the identified archaeological sites within the project area were in highly disturbed contexts with low archaeological potential. Urbanisation, infrastructure and erosion had all strongly impacted on the archaeological deposit. Only a minute remnant of the archaeological record exists for these disturbed archaeological sites. In most cases the sites exist as objects (one or two) devoid of all scientific context.

One site TNR AFT 32 however was assessed as exhibiting in situ archaeological material and moderate archaeological potential. The Aboriginal value of this site was considered by Roads and Maritime, which adjusted the concept design to avoid impact to site TNR AFT 32.

3.3 Summary – Aboriginal Archaeological Sites within the Project Area

Background assessment and survey of the project area identified six Aboriginal archaeological sites (Table 2). Four of the six Aboriginal archaeological sites are outside of the proposed AHIP project area (which is smaller than the project area). Two of the Aboriginal archaeological sites are within the proposed AHIP project area (see Figure 6).

Outside proposed AHIP project area:

- Three of the sites are located within the M4MM corridor and are being addressed by a separate M4MM AHIP application (M4-17A Northern Road East, M4-17B Northern Road East and M4-17C Northern Road East). The M4MM AHIP application area and all associated sites are excluded from The Northern Road Upgrade AHIP project area (Figure 6).
- TNR AFT 32 was avoided by Roads and Maritime adjusting the boundary of the project.

Within proposed AHIP project area

- Two sites (Mulgoa Mulgoa 1 and Northern Road) are located within the AHIP project area (Figure 6).

Table 1. Identified Aboriginal sites within the project area

Site Name	AHIMS Number	Site Features	Easting (GDA Zone 56)	Northing (GDA Zone 56)	Comments
M4-17A Northern Road East	45-5-4573	Artefact	288360	6259155	Within M4MM AHIP Application Area
M4-17B Northern Road East	45-5-4574	Isolated Artefact	288260	6259140	Within M4MM AHIP Application Area
M4-17C Northern Road East	45-5-4571	Isolated Artefact	287881	6259154	Within M4MM AHIP Application Area
TNR AFT 32	tbc	Artefact	286990	6258675	Outside project boundary – no impact. Project boundary redesigned to conserve site
Mulgoa Mulgoa 1	45-5-0408	Artefact	287000	6258800	Highly disturbed location. No intact deposit
Northern Road	45-5-2484	Artefact	288100	6260285	Highly disturbed location. No intact deposit

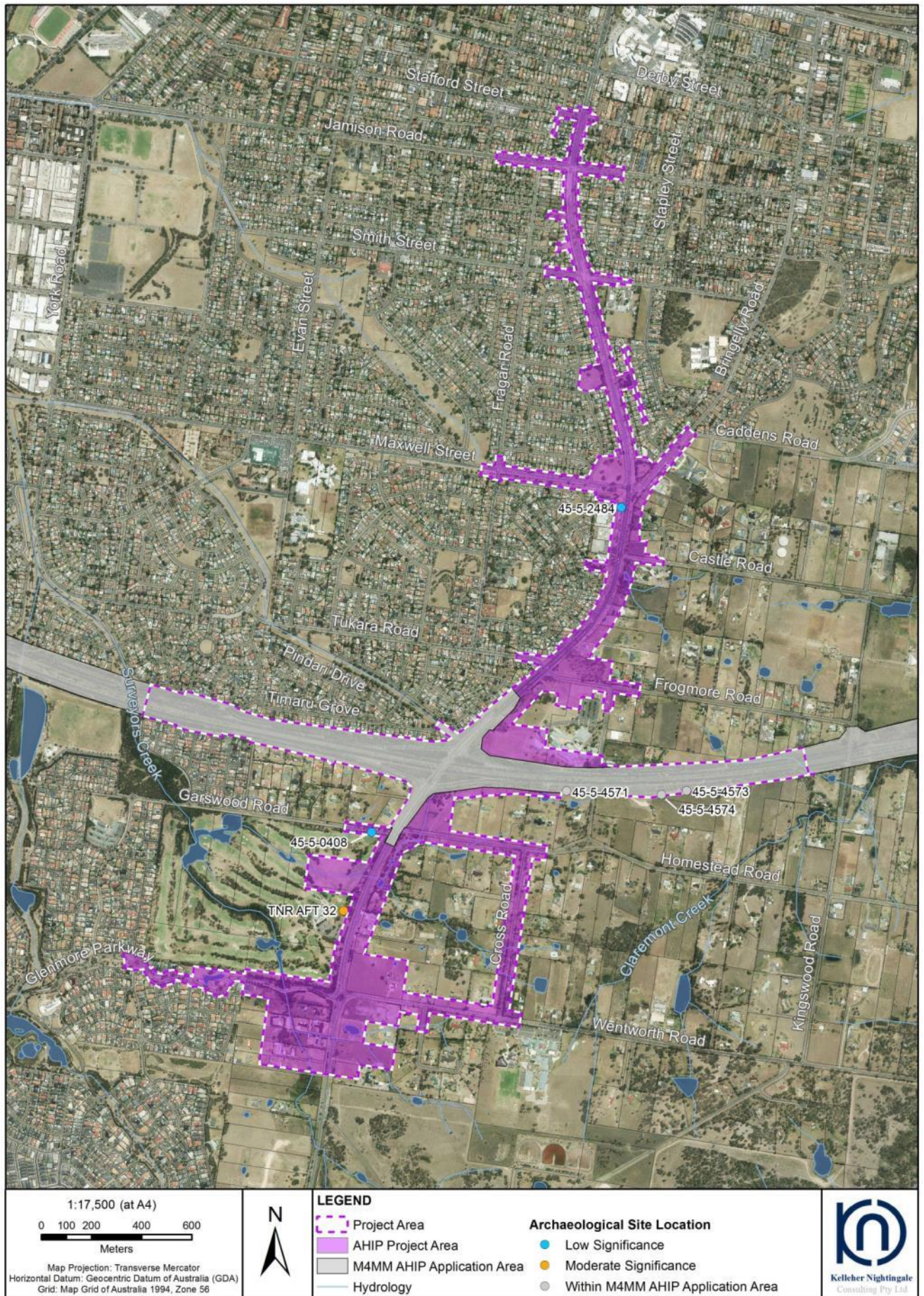


Figure 6. Location of identified Aboriginal archaeological sites within the project area

4 Aboriginal Community Consultation

4.1 Aboriginal stakeholder consultation

Roads and Maritime is committed to effective consultation with Aboriginal communities regarding Roads and Maritime activities and their potential for impact on Aboriginal cultural heritage. The Roads and Maritime PACHCI was developed to provide a consistent means of effective consultation with Aboriginal communities regarding activities which may impact on Aboriginal cultural heritage and a consistent assessment process for Roads and Maritime activities across NSW.

The aim of consultation is to integrate cultural and archaeological knowledge and ensure registered stakeholders have information to make decisions on Aboriginal cultural heritage. For the preparation of this CHAR, consultation with Aboriginal people has been undertaken in accordance with the OEH *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (OEH 2010) and the requirements of Clause 80C of the *National Parks and Wildlife Regulation 2009*.

Roads and Maritime advertised in local media (Appendix A) and contacted potential Aboriginal stakeholders identified from government agency notification responses. Roads and Maritime invited Aboriginal people who hold knowledge relevant to determining the cultural heritage significance of Aboriginal objects and Aboriginal places in the area in which the proposed activity was to occur to register an interest in a process of community consultation. Investigations for The Northern Road Upgrade Stage 3 have included consultation with the 61 Aboriginal community groups and individuals as listed in Table 1 below.

Table 2. Registered Aboriginal stakeholders

REGISTERED STAKEHOLDER GROUPS AND INDIVIDUALS			
Group	Representative / Contact	Group	Representative / Contact
A1 Indigenous Services	Carolyn Hickey	Gunjeewong Cultural Heritage Aboriginal Corporation	Cherie Carroll Turrise
Aboriginal Archaeology Services	Andrew Williams	Gunyuu	Darlene Hoskins-McKenzie
Amanda Hickey Cultural Services	Amanda Hickey	Kamilaroi-Yankuntjatjara Working Group	Phil Khan
Biamanga	Seli Stoer	Kullila Site Management	Paul Charles
Bidawal	Richard Andy	Liverpool City Councils Aboriginal Consultative Committee	Norma Burrows
Bilinga	Ms Wandai Kirkbright	Munyunga	Suzanne McKenzie
Bilinga	Simalene Carriage	Muragadi Heritage Indigenous Corporation	Jesse Johnson
Corroboree Aboriginal Corporation	Steve Johnson	Murramarang	Roxanne Smith
Cubbitch Barta Native Title Claimants Aboriginal Corporation	Glenda Chalker	Murri Bidgee Mullangari Aboriginal Corporation	Darleen Johnson
Cullendulla	Corey Smith	Murrin	Tarlarra Te-kowhai
Darug Aboriginal Cultural Heritage Assessments	Gordon Morton	Murrumbal	Levi McKenzie-Kirkbright
Darug Aboriginal Land Care	Des Dyer	Murrumbul	Levi McKenzie
Darug Custodian Aboriginal Corporation	Justine Coplin	National Koori Management	Ali Maher
Darug Land Observations	Gordon Workman	Ngarigo	Newton Bond
Darug Land Observations	Jamie Workman	Ngunawal	Dean Delponte
Darug Tribal Aboriginal Corporation	John Riley	Ngunawal	Edward Stewart
Deerubbin LALC	Kevin Cavanagh	Nundagurri	Newton Carriage
Djiringanji	Keith Nye	Rane	Tony Williams
Duncan Falk Consultancy	Duncan Falk	Tharawal LALC	Rebecca Ede
Galaga	Wendy Smith	Thauaira	Shane Carriage
Gandangara LALC	Brad Maybury	Tocomwall	Danny Franks
Gangangarra	Kim Carriage	Walbunja	Hika Te Kowhai
Goobah Developments	Basil Smith	Walgalu	Ronald Stewart
Gundungurra Tribal Technical Services	Peter Foster	Wandandian	William Bond

REGISTERED STAKEHOLDER GROUPS AND INDIVIDUALS			
Group	Representative / Contact	Group	Representative / Contact
Gundungurra Tribal Technical Services	Christopher Payne	Warragil	Aaron Slater
Gundungurra Tribal Technical Services	Larry Hoskins	Warragil Cultural Services	Aaron Slater
Gundungurra Tribal Technical Services	David Bell	Widescope Indigenous Group	Steven Hickey
Gundungurra Tribal Technical Services	Pimmy Johnson Bell	Wingikara	Robert Brown
Gundungurra Tribal Technical Services	Teangi Mereki Foster	Wingikara	Robert Brown
Gundungurra Tribal Technical Services	Sam Wickman	Wingikara	Hayley Bell

*One additional Aboriginal group/individual has registered for consultation on this project and has chosen to withhold their details in accordance with item 4.1.5 of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*

The formal consultation process has included:

- advertising for registered stakeholders (refer Appendix A);
- government agency notification letters;
- notification of closing date for registration;
- provision of proposed archaeological assessment methodology (20/01/2016) (allowing 28 day review) outlining the methodology to prepare the CHAR;
- ongoing compilation of registrants list, through continuing to register individuals and groups for consultation on the project;
- provision of draft CHAR for review (18/04/2016);
- Aboriginal focus group meeting to discuss assessment methodology, investigation results, CHAR and detailed mitigation strategies (27/04/16);
- ongoing consultation with the local Aboriginal community.

4.2 Review of draft CHAR

The draft CHAR was provided to registered Aboriginal stakeholders for review and comment on 18 April 2016. All registered Aboriginal stakeholders were provided a 28 day period for review (closure of comment period on 23 May 2016). Comments and information received from stakeholders during this period are attached in full in Appendix B.

4.3 Aboriginal cultural values

It has been identified during the current consultation process that the project area has cultural heritage value to the local Aboriginal community. Some of the Aboriginal cultural heritage values expressed by stakeholders include:

- strong association with the land;
- Cultural pathways;
- responsibility to look after the land, including the heritage sites, plants and animals, creeks and the land itself;
- artefact sites and landscape features;
- creek lines;
- Indigenous plants and animals; and
- general concern for burials, as their locations are not always known and they can be found anywhere.

Aboriginal community consultation has identified potential cultural pathways along the north-south ridgelines associated with The Northern Road, south of the project area. The links appear to be strongest around 1 km south of the project area, associated with the Defence lands.

Formal responses to the draft CHAR and proposed salvage excavation methodology were received from Cubbitch Barta Native Title Claimants Aboriginal Corporation and Kamilaroi-Yankuntjatjara Working Group.

Cubbitch Barta Native Title Claimants Aboriginal Corporation stated that they had no issues with The Northern Road Upgrade Stage 3 works proceeding as planned and recommended that the land owners of the property in which TNR AFT 32 was located should be notified of the site and their obligations under the NPSW Act (letter dated 28/04/2016).

Kamilaroi-Yankuntjatjara Working Group stated that they had reviewed and were happy with the CHAR. Kamilaroi-Yankuntjatjara Working Group indicated their interest in being involved in future work on this project (letter dated 11/05/2016).

No specific cultural values attached to sites within the study area have been identified by the Aboriginal community to date.

5 Summary and analysis of background information

Analysis of the background information presented in sections 2, 3 and 4 allows an assessment of the cultural heritage values within the project area to be made. Combining data from historical/ethnographic sources, Aboriginal community consultation, landscape evaluation and archaeological context provides an insight into how the landscape around the project area was used and what sort of events took place in the past.

Historical accounts from the early years of the colony documented Aboriginal people's use of the local landscape and local clan groupings such as the Mulgoa Tribe of the Mulgoa Valley. Archaeological evidence of past Aboriginal occupation and use of the landscape shows the types and preservation of archaeological sites in the vicinity of the project area are highly influenced by geology, soil landscapes and ground surface disturbance. Archaeological site types in the vicinity of the project area comprise open artefact scatters and isolated finds. The raw stone materials used to make the artefacts found at these sites is locally available within Cranebrook Formation geology which occurs within low lying areas adjacent to tributaries of Surveyors Creek.

Archaeologically, open artefact scatters with stratigraphic integrity provide the most archaeological research potential. The residual soil landscapes present within the project area are generally favourable for the preservation of in situ archaeological material. The erosional and alluvial soil landscapes within the project area are more vulnerable to natural processes which disturb the stratigraphic integrity of sites where additional factors which create stability are lacking. Modern landuse practices have also had a detrimental effect on the preservation of archaeological sites in the project area and reduced their archaeological potential.

The archaeological values of the project area were previously assessed as part of the PACHCI Stage 2 archaeological assessment (KNC 2016b). The assessment included a review of background information, identification of previously recorded Aboriginal sites registered on the AHIMS database, predictive modelling, Aboriginal community consultation and a full coverage archaeological field survey.

The PACHCI Stage 2 archaeological assessment identified two Aboriginal archaeological sites within the AHIP project area. Two Aboriginal archaeological sites (Mulgoa Mulgoa 1 and Northern Road) were located within highly disturbed contexts with no possibility for in situ archaeological material. The ground at these locations had been modified by landuse practices and natural processes which have removed the upper layers of soil. Significance assessment, impact assessment and management recommendations for these two sites are outlined in the following chapters. Locations of identified Aboriginal objects within the project area are shown on Figures 6 and 7, with site descriptions in section 5.1.

5.1 Aboriginal sites within the project area – site descriptions

Site name: Mulgoa Mulgoa 1
AHIMS site ID: 45-5-0408

Site Mulgoa Mulgoa 1 was a low density artefact scatter that was situated on a low rise approximately 50 m east of a minor drainage channel (Figure 6). The site was located within the Garswood Road corridor approximately 80 m west of The Northern Road. Two silcrete cores were identified within a road cutting on the northern side of Garswood Road. The site was assessed as having no intact archaeological deposit and low archaeological potential due to extensive disturbance from modern land use practices.



Plate 1. Mulgoa Mulgoa 1 site area, adjacent built up road way and adjacent golf course, facing west



Plate 2. Mulgoa Mulgoa 1 exposures, facing west

Site name: Northern Road
AHIMS site ID: 45-5-2484

Site Northern Road was situated on a west facing slope approximately 50 m south west of a minor drainage channel (Figure 6). The site was located within Lot 1 DP264332 approximately 70 m south west of the intersection of Bringelly Road, Maxwell Street, Parker Street and The Northern Road. Two chert flaked pieces were identified on an eroded surface exposure measuring 50 x 4 m. The site was assessed as having low archaeological potential due to extensive disturbance from construction, landscaping and erosion. The site was assessed as having no intact archaeological deposit and low archaeological potential due to extensive disturbance from modern land use practices.



Plate 3. Northern Road site area, facing south west



Plate 4. Northern Road site area, within Rotary Park, facing north west

6 Cultural Heritage Values and Statement of Significance

6.1 Significance assessment criteria

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

The assessment of significance is a key step in the process of impact assessment for a proposed activity as the significance or value of an object, site or place will be reflected in resultant recommendations for conservation, management or mitigation.

The *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010) requires significance assessment according to criteria established in the Australia ICOMOS Burra Charter, 1999 (Australia ICOMOS 1999). The Burra Charter and its accompanying guidelines are considered best practice standard for cultural heritage management, specifically conservation, in Australia.

Guidelines to the Burra Charter set out four criteria for the assessment of cultural significance:

- Aesthetic value - relates to the sense of the beauty of a place, object, site or item;
- Historic value - relates to the association of a place, object, site or item with historical events, people, activities or periods;
- Scientific value - scientific (or research) value relates to the importance of the data available for a place, object, site or item, based on its rarity, quality or representativeness, as well as on the degree to which the place (object, site or item) may contribute further substantial information; and
- Social value - relates to the qualities for which a place, object, site or item has become a focus of spiritual, political, national or other cultural sentiment to a group of people. In accordance with the OEH Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW, the social or cultural value of a place (object, site or item) may be related to spiritual, traditional, historical or contemporary associations. "Social or cultural value can only be identified through consultation with Aboriginal people" (OEH 2011:8).

The assessment of these values are brought together to form a comprehensive assessment of significance.

6.2 Statement of significance

The project area has cultural value for the local Aboriginal community. The identified cultural value is a feeling of attachment and responsibility for the land. These values become tangible when tied to identified Aboriginal objects found at the archaeological sites. In this way, the Aboriginal objects can be seen as exhibiting both scientific information and cultural meaning, knowledge about the past tied with social values and belief systems.

The AHIP project area contains two identified Aboriginal archaeological sites. The two Aboriginal archaeological sites are assessed as being of low significance. This assessment is based on a consideration of the research value, connectivity (association with other sites), representativeness, intactness and rarity of the sites in a local and regional context. Significance of sites within the project area is outlined below.

Mulgoa Mulgoa 1 (AHIMS # 45-5-0408)

Site Mulgoa Mulgoa 1 is a low density artefact scatter that was situated on a low rise approximately 50 m east of a minor drainage channel. The site has been extensively disturbed by modern land use practices and is a poor example of the artefact scatter/open campsite site type. Site features are not rare or unique. The site demonstrated low scientific value and it is unlikely that further investigation would contribute to our understanding of Aboriginal landscape use in the region. Based on the intactness, representativeness and research potential of the site, Mulgoa Mulgoa 1 is determined to have low archaeological significance.

Northern Road (AHIMS # 45-5-2484)

Site Northern Road is a low density artefact scatter that was situated on a west facing slope approximately 50 m south west of a minor west flowing drainage channel. The site has been extensively disturbed by construction, landscaping and erosion and is a poor example of the artefact scatter/open campsite site type. Site features are not rare or unique. The site demonstrated low scientific value and it is unlikely that further investigation would contribute to our understanding of Aboriginal landscape use in the region. Based on the intactness, representativeness and research potential of the site, Northern Road is determined to have low archaeological significance.

7 Proposed activity and impact assessment

Roads and Maritime propose to upgrade 4 km of The Northern Road between Jamison Road, Penrith and the Glenmore Parkway, Glenmore Park. The entirety of the project area will be impacted by road construction and associated activities.

Two Aboriginal archaeological sites would be impacted by the proposal (and are not addressed by a separate AHIP application). Assessed impacts to sites identified within the project area detailed in Table 3 and shown in Figure 7.

Table 3. Impact assessment

Site Name	AHIMS ID	Type of harm	Degree of harm	Consequence of harm	Significance of harm
Mulgoa Mulgoa 1	45-5-0408	Direct	Total	Total loss of value	Low
Northern Road	45-5-2484	Direct	Total	Total loss of value	Low

8 Avoiding and/or mitigating harm

All identified Aboriginal cultural and archaeological sites identified within or near the project area have been considered by Roads and Maritime in relation to the proposed road upgrade and associated activities. While conservation is the best approach when considering Aboriginal heritage, some level of impact is unfortunately unavoidable due to the requirements of the road upgrade. An AHIP issued by OEHS under section 90(1) of the *National Parks and Wildlife Act 1974* is required prior to any activity which may harm an Aboriginal object.

The CHAR evaluated the potential harm of the project on Aboriginal archaeological heritage in terms of Ecologically Sustainable Development (ESD). The ESD assessment of Aboriginal heritage evaluated: long-term and short-term considerations, precautionary environmental impacts, maintenance and enhancement for future generations and cost/benefit of impacting on archaeological objects. In this regard, alternative designs and conservation principles have been considered by Roads and Maritime to limit the cumulative harm of Aboriginal heritage.

The early identification of archaeological sites and adjustment of the concept design has enabled the avoidance of the one (and only) site of moderate significance (TNR AFT 32) thereby reducing the accumulated impact on archaeological heritage to sites with low significance. In sum, the only site of scientific value was able to be conserved by Roads and Maritime.

Mitigation measures for archaeological sites with low significance are not warranted as they are highly disturbed and are unlikely to yield any further information on Aboriginal use of the area. Sites Mulgoa Mulgoa 1 and Northern Road do not require archaeological mitigation as they are of low assessed archaeological value.

9 Summary of Aboriginal sites for which an AHIP is being sought

Two Aboriginal archaeological sites are located within the proposed AHIP project area for The Northern Road Upgrade Stage 3 Jamison Road, Penrith to Glenmore Parkway, Glenmore Park project (Figure 7). An AHIP is being sought for the land and Aboriginal objects within the boundaries of the road upgrade. The recommended mitigation measures for impacted Aboriginal archaeological sites within the project area are shown in Table 4.

Table 4. Impact of project and mitigation measures

Site Name	AHIMS ID	Assessed Significance	Impact Assessment	Mitigation Strategy
Mulgoa Mulgoa 1	45-5-0408	Low	Direct / Total	Archaeological mitigation not required. AHIP required prior to commencement of works affecting the site.
Northern Road	45-5-2484	Low	Direct / Total	Archaeological mitigation not required. AHIP required prior to commencement of works affecting the site.

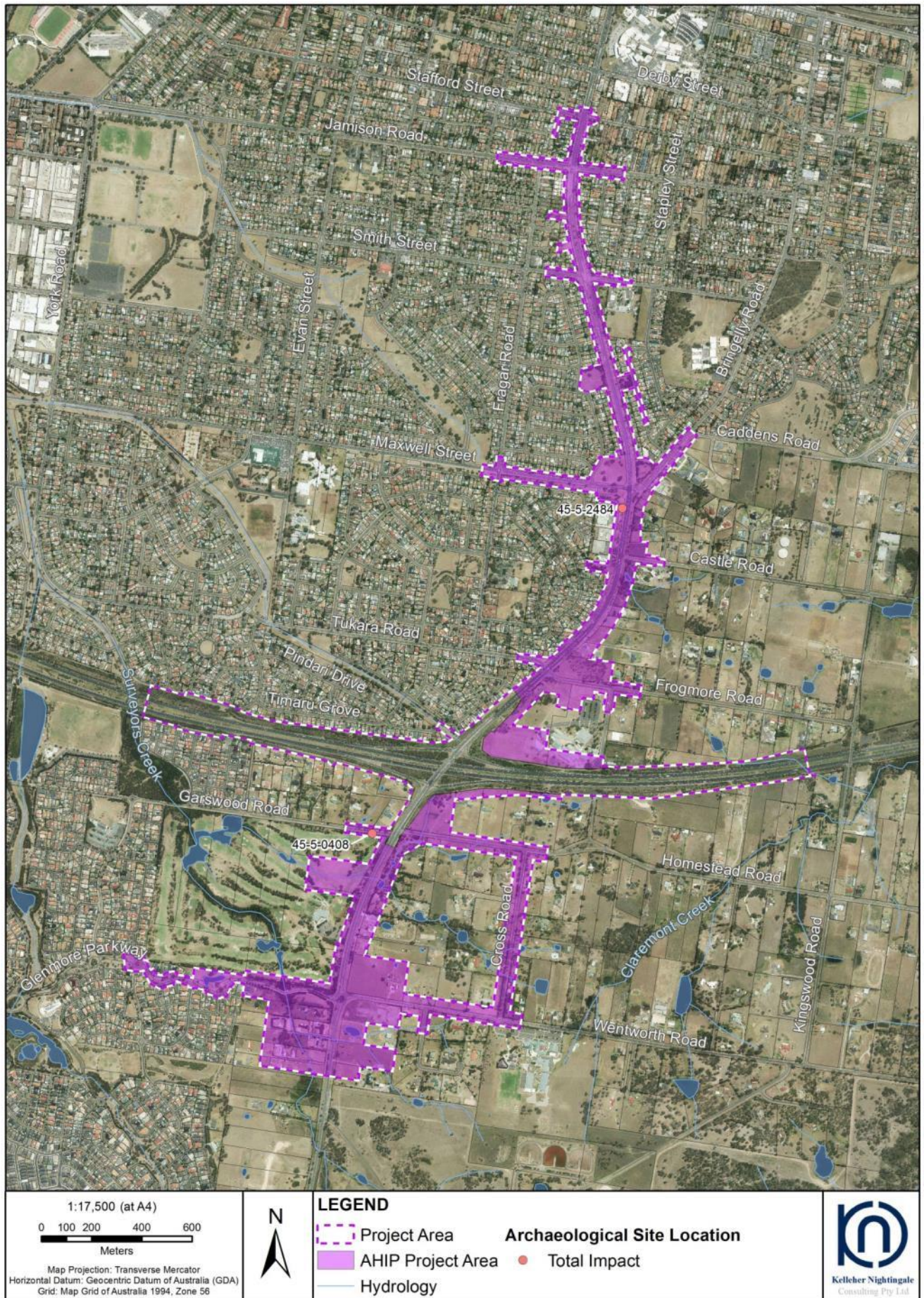


Figure 7. The Northern Road Upgrade Stage 3 - Jamison Road, Penrith to Glenmore Parkway, Glenmore Park – AHIP Project Area and location of impacted Aboriginal archaeological sites

10 Recommendations

Two Aboriginal sites are located within the proposed impact area for The Northern Road Upgrade Stage 3 – Jamison Road, Penrith to Glenmore Parkway, Glenmore Park project.

AHIP

An application for an AHIP should be made under section 90A of the *National Parks and Wildlife Act 1974* for two Aboriginal archaeological sites.

An AHIP is sought for the land and associated objects within the boundaries of the construction corridor.

The land to which the AHIP application applies is shown on Figure 8.

The AHIP is also sought for the specified Aboriginal sites and objects contained within the sites listed in Table 5.

Table 5. Known archaeological sites requiring AHIP and degree of harm

Site Name	AHIMS Number	Degree of Harm	Consequence of Harm	Significance of harm	Mitigation
Mulgoa Mulgoa 1	45-5-0408	Whole	Total loss of value	Low	Disturbed - no mitigation warranted
Northern Road	45-5-2484	Whole	Total loss of value	Low	Disturbed - no mitigation warranted



Figure 8. AHIP application area

Table 6. AHIP application coordinate points

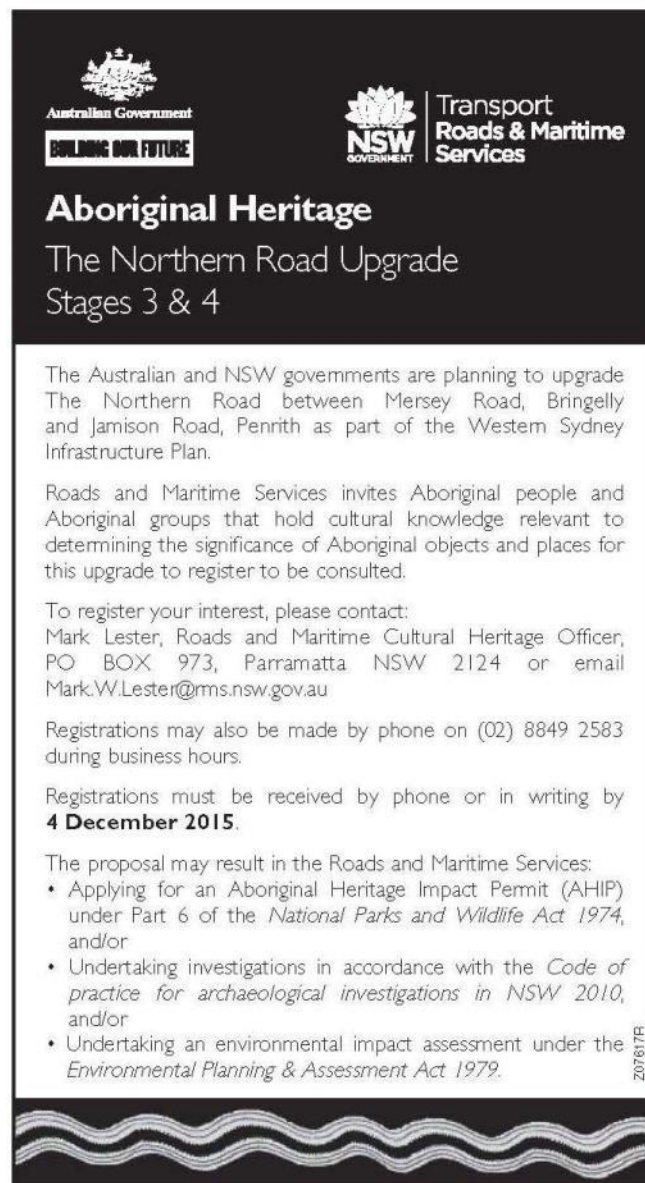
ID	Easting	Northing	ID	Easting	Northing	ID	Easting	Northing
1	287955	6261883	37	287996	6260318	73	286314	6258388
2	288002	6261835	38	287603	6260396	74	286256	6258371
3	287949	6261749	39	287541	6260437	75	286216	6258398
4	288110	6261619	40	287619	6260489	76	286168	6258440
5	287929	6261476	41	288009	6260491	77	286116	6258482
6	287952	6261327	42	288064	6260651	78	286139	6258515
7	288138	6261184	43	287929	6260764	79	286198	6258498
8	288035	6261004	44	287964	6261038	80	286231	6258452
9	288115	6260934	45	287795	6261229	81	286296	6258438
10	288155	6260794	46	287902	6261279	82	286361	6258421
11	288198	6260621	47	287839	6261306	83	286396	6258455
12	288131	6260630	48	287878	6261391	84	286600	6258444
13	288203	6260484	49	287808	6261457	85	286934	6258393
14	288380	6260591	50	287867	6261549	86	286963	6258556
15	288224	6260355	51	287603	6261688	87	286972	6258553
16	288174	6260221	52	287890	6261722	88	287034	6258739
17	288202	6260153	53	287827	6261765	89	286836	6258766
18	288269	6260067	54	287843	6261861	90	286854	6258901
19	288142	6259986	55	287859	6259135	91	287113	6258915
20	288048	6259790	56	287425	6259067	92	286998	6259014
21	288065	6259671	57	287679	6258956	93	287118	6259017
22	288173	6259556	58	287800	6258907	94	287179	6258939
23	288045	6259474	59	287709	6258650	95	287235	6259008
24	287815	6259550	60	287697	6258238	96	287351	6259144
25	287737	6259500	61	287505	6258241	97	287549	6259169
26	287805	6259401	62	287302	6258193	98	287676	6258895
27	288085	6259252	63	287257	6258267	99	287584	6258297
28	287877	6259251	64	287210	6258216	100	287230	6258351
29	287573	6259297	65	287076	6258191	101	287249	6258477
30	287546	6259368	66	287191	6258083	102	287073	6258504
31	287665	6259565	67	287049	6258006	103	287228	6258907
32	287683	6259692	68	286656	6258065	104	287306	6258951
33	287854	6259748	69	286691	6258328	23a	288014	6259551
34	288001	6259913	70	286571	6258395	23b	287964	6259528
35	287958	6260061	71	286492	6258333	23c	287883	6259489
36	288061	6260186	72	286383	6258375			

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Appendix A Advertisement for registration of interest



Australian Government
BUILDING OUR FUTURE

NSW GOVERNMENT

Transport Roads & Maritime Services

Aboriginal Heritage

The Northern Road Upgrade Stages 3 & 4

The Australian and NSW governments are planning to upgrade The Northern Road between Mersey Road, Bringelly and Jamison Road, Penrith as part of the Western Sydney Infrastructure Plan.

Roads and Maritime Services invites Aboriginal people and Aboriginal groups that hold cultural knowledge relevant to determining the significance of Aboriginal objects and places for this upgrade to register to be consulted.

To register your interest, please contact:
Mark Lester, Roads and Maritime Cultural Heritage Officer,
PO BOX 973, Parramatta NSW 2124 or email
Mark.W.Lester@rms.nsw.gov.au

Registrations may also be made by phone on (02) 8849 2583 during business hours.

Registrations must be received by phone or in writing by **4 December 2015**.

The proposal may result in the Roads and Maritime Services:

- Applying for an Aboriginal Heritage Impact Permit (AHIP) under Part 6 of the *National Parks and Wildlife Act 1974*, and/or
- Undertaking investigations in accordance with the *Code of practice for archaeological investigations in NSW 2010*, and/or
- Undertaking an environmental impact assessment under the *Environmental Planning & Assessment Act 1979*.

201617A

Appeared in: *Penrith City Gazette* (19/11/2015, page 24 – closing date 2/12/2015)
Penrith Press (19/11/2015, page 15 – closing date 4/12/2015)
The Koori Mail (18/11/2015, page 11 – closing date 2/12/2015)
The Western Weekender (20/11/2015, page 24 – closing date 4/12/2015)

Appendix B Aboriginal Stakeholder Comments

Cubbitch Barta Native Title Claimants
Aboriginal Corporation
55 Nightingale Road,
PHEASANTS NEST, N.S.W. 2574.
28th April, 2016.

Kelleher Nightingale Consulting Pty Ltd.
Level 10, 25 Bligh Street,
SYDNEY, N.S.W. 2000..

Dear Matthew,

RE: NORTHERN ROAD'S STAGE 3

Thank you for the opportunity of commenting on the draft ACHAR for this project. The meeting yesterday was informative, for not only this stage but the section from Mersey Road to Jamison Road, which I believe does not have an ACHAR at this point in time.

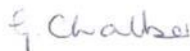
There are no issues with the stage 3, proceeding as planned, apart from notifying the land owners that there is an Aboriginal site on their property and their obligations under the NPWS Act. It is no good the RMS is avoiding a site and calling it an area of conservation, if that is not what it is going to be into the future. There is reasonable cause to apply for an AHIP with site TNRAFT32, being avoided by any impact.

The stage from Mersey Rd to Jamison Rd, is hard to put into proper perspective without information that is not yet available. Not having participated in the survey, I can only rely on yesterdays information. A couple of points to note:

1. Any sites that have been recorded as part of this project, that will not be impacted or partially impacted, the landowners need to be informed that there is one or more Aboriginal sites on their property, and their obligations under the NPWS Act.
2. A draft report of the results of the salvage should be made available to those who ask for it to be made available to them. I have participated in many salvages, and because of the roster system now, am not aware of the results of the salvage. Once upon a time when we had the opportunity of being on site every day, we were much more aware of the findings of the salvage. To date I have never received a report of any kind with the results of any salvage. We need to be given the courtesy of receiving this information.
3. I note that there are 60 RAPs that have registered for this project, and I would also like noted that there only about 10 that have any traditional connection to this country.

I may be in a better position when the ACHAR for this stage is available to make further comments.

Yours faithfully,



Glenda Chalker
Phone/Fax 0246841129 0427218425
kgchalker@bigpond.com

Pollowan Phillip Khan
78 Forbes Street
Emu Plains NSW 2750
11.05.16,
mobile: 0434545982

Kelleher Nightingale
Consulting Pty Ltd
Level 10,25 Bligh Street , Sydney NSW 2000



your ref 1454

Dear Matthew Kelleher

Thank you for the Northern Road Upgrade Stage 3 Aboriginal Cultural Heritage Assessment Report Jamison Rd, Penrith, to Glenmore Park. I have read your report and am happy with it and am looking forward to be working with you and your team on this project in protecting our cultural heritage regards Phillip Khan

As Senior Aboriginal person who has for the past forty of so years (40) actively participated in the Protection Aboriginal Cultural Heritage throughout the Sydney Basin , and particularly throughout Western Sydney, I, on behalf of the Kamiloroi- Yankuntjatjara Working Group, wish to provide to you my organisations' registration of interest.

Information in my registration of Interest:

1. I am a Senior Aboriginal and Principal of the Kamiloroi -Yankuntjatjara Working Group, and all Aboriginal entity (ABN33979702507).
2. I prefer communicating by, Mail, Telephone, and; and I am, the Principal, person to contact, and;
My contact details are:
Phillip Khan
78 Forbes Street, Emu Plains NSW 2750
Mobile 043 4545 982
3. I wish to be involved and participate in all levels of consultation/project involvement. I wish to attend all meetings, and, participate in available field work; and would receive a copy of the report.
4. I attach to this letter a copy of Kamiloroi- Yankuntjatjara Working Group's; GIO Public Liability Insurance; GIO Workers Compensation Certificate.

Should you wish me to provide further information, please do not hesitate to contact me on 0434545982.

Yours Sincerely,

Pollowan Phillip Khan



Meeting minutes

Name of meeting: Aboriginal Focus Group Meeting 1

Location of meeting: Novotel Parramatta

Meeting facilitator: Mark Lester

Date: 27th April 2016

Time: 10am – 1pm

Attendees: Gordon Morton, Philip Khan, Steven Hickey, Darleen Johnson, Fiona Ryan, Carolyn Hickey, A. Williams, N. Burrows, Glenda Chalker, Libby Coplin, Barry Gunther, Mark Lester, Matthew Kelleher, Vernon Stanton, Anthony Broekhuyse, Dexter Isaaks, Shirley Luong, Nicholas Psaila, Christine Koutsantonis

Subject: The Northern Road Upgrade Mersey Road to Jamison Road

MEETING MINUTES

1) Introduction

- ML introduction and apologies
- GM – acknowledgment of traditional land owners
- All attendees introduced themselves

2) Objectives of meeting

- ML – explained The Northern Road was broken up into various stages but advised that to avoid confusion the stages should be ignored and the road be viewed as one section from Mersey Road to Jamison Road.

3) Project Proposal

- VS – explained which sections of The Northern Road were covered in each CHAR report.
- VS – presented TNR3 proposal. Covered key dates including lodging an AHIP mid 2016, obtaining project approval around November 2016.
- TW – raised a question regarding impacts to Adams Rd and Mersey Rd
- VS – advised the question would be answered in the section covered by DI
- No further questions were raised for TNR3.
- DI - presented TNR proposal for Mersey Road to Glenmore Parkway
- TW – Questioned if the 6-8 lanes were primarily to service the area?
- DI – Answered by explaining that whilst the airport was a primary factor, the growth centres also contributed to the lane capacity proposed.
- TW – Questioned what infrastructure was planned for the area suggesting several major developments he had heard of including light rail and a science park
- DI – confirmed a science park has been proposed north of the airport. TfNSW are managing a rail strategy for the area.

- DI – Regarding the earlier question TW asked referring to the impacts on Adams Rd, a bridge will be built over Adams Road.
 - Glenda – wanted some details on the M12
 - DI – a proposed motorway that would link the airport that is connected to the M7 and TNR
 - VS & CK – leave after confirming there are no further questions for TNR3.
- 4) Field Survey report results, proposed Archaeological investigation methodologies and proposed AHIP application
- MK – explained that the process of determining potential routes considered the impacts on Aboriginal Heritage. All options considered had similar impacts on Aboriginal Heritage.
 - MK - Reinforced what ML spoke about earlier that the focus needs to be on one area despite two reports being prepared.
 - MK - A total of 33 sites identified, 31 from Mersey Road to Glenmore Parkway and 2 from Glenmore Parkway to Jamison Road
 - MK - Spoke of the history behind TNR, being a route for Aboriginals and then European settlers as a result of being located on a ridge.
 - MK – fly through video of the site providing a quick overview of the study area – including key features and outlining Aboriginal Heritage sites.
 - MK – confirmed that the M4 contained Aboriginal Heritage sites but they were covered in a separate AHIP.
 - MK – covered the first two sites north of Glenmore Parkway. Including one that was located within the property boundary of Penrith Golf and Recreation Club.
 - Glenda – raised concerns about the Golf Club being made aware of the site
 - MK – confirmed the site has been registered and a recommendation can be made to the RMS to notify the Golf Course.
 - BG – RMS will inform the golf course of their legislative requirements.
 - TW – recommended soil samples be taken because there could be petrification
 - MK – nothing old as petrification.
 - Norma – arrives and introduces herself.
 - MK – continues to cover remaining sites.
 - BG – questions a site that has been split in two by a road and asks whether it should be classed as one or two sites.
 - MK – explains that as it originally was one site it should still be classed as one site despite the road dividing it into two sections.
 - Glenda – where is all the excess soil taken from the road construction
 - MK – road designers try to minimise any soil import/export but balancing cut/fill to minimise costs.
 - BG – when was TNR built
 - SH – 1850
 - MK – it was being used prior to 1850 but just as a track
 - MK – explains that the new alignment for TNR by deferring into greenfields experiences a different higher density of Aboriginal Heritage.

- MK – reveals sandstone was found south of Elizabeth Drive which has the potential to lead to tools being found as sandstone was used for tool grinding and sharpening but no evidence was found of such activities.
- MK – explained the largest and best preserved sites were found at sites 24, 26 & 27.

5) Community comments/ Cultural Values

- BG – Did you reveal the impacts to each site?
- MK – explained that not all sites were completely located in the study area.
- Glenda- suggested all private owners be contacted by RMS and be made aware of the site and their legislative responsibilities.
- BG – wanted MK to confirm if some would be salvaged.
- MK – all the sites presented today are recommended for salvage or mitigation.
- BG – How long will the salvage take?
- MK – it depends on how many excavation teams but approximately several months.
- ML – how many Aboriginal representatives would be needed?
- MK – until it is determined and what will be salvaged it is difficult to determine how many people will be needed. The quantity of people needed will depend on how the project is staged. Ideally two teams of 4 Aboriginal representatives each meaning a total of 8 representatives. There won't be any work for at least a year.
- TW – raised concerns about non-local Aboriginal works applying for work
- ML – we try to use local Aboriginals but we are not required by legislation to.
- MK – to TW if you have any valuable information regarding sites please bring it forward.
- SH – is there any potential for an Aboriginal Offset.
- BG – it's difficult because of such a diverse community. A framework needs to be setup first.
- PC – if Aboriginal Groups don't attend salvage works can RMS make sure they call someone in to replace them so there is still Aboriginal representatives present.
- ML – confirmed that if Aboriginal representatives don't attend salvage they try their best to replace them. Key factor is the amount of notice given.
- Glenda – 60 stakeholders have registered how do you determine which ones get work
- BG – preference is given to local people and people who have attended today have shown they are committed. RMS tries to be fair in the amount of work given.
- NB – raised concerns about loss of information through different salvage groups sharing information. Suggested a booklet or log book be used so the information and knowledge can be shared between groups. Also believed that it would assist when developing the final report.
- MK – said they have tried using log books in the past with mixed success but recommended NB send in comments and effort can be made to try to incorporate the suggestions.
- SH- wanted to confirm what the responsibility of a site officer was.
- BG – they are to assist with the labour work and bring cultural knowledge.
- CH- suggested there be a cultural leader.
- NB – reiterated the importance of getting Aboriginal Stakeholders to attend the final meeting.

- LB – wants to see a copy of the final report or even the final draft.
- 6) OEH Care and Control Permit
- ML – asked the group what their view was on Care and Control. No comments were made. ML suggested return to country was the most common response. General agreement this was the best option.
- 7) General business and review of outcomes and actions
- Comments due by the 4th May and late in May for each respective CHAR.
 - MK – when the CHAR is finalized it will go into the EIS and Aboriginal Stakeholders will get an update via email at least one every 6 months. Aboriginal Stakeholders to call MK, ML or BG if they have any questions.
 - ML – Thanked everyone and concluded meeting 12:30pm.

ACTION	RESPONSIBILITY	STATUS
RMS to inform golf course of site	Vernon Stanton	
Glenda wants a copy of the 2 nd CHAR	Christine Koutsantonis	ML – believes it may already have been sent.