



**PACIFIC HIGHWAY UPGRADE
OXLEY HIGHWAY TO KEMPSEY
Aboriginal Archaeological Assessment and Artefact Salvage
Methodology and Cultural Heritage Assessment Report**

Prepared for Roads and Maritime Services

Final
September 2012

Ref. 1125

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Document Information

Project Name	Pacific Highway Upgrade, Oxley Highway to Kempsey: Aboriginal Archaeological Assessment and Artefact Salvage Methodology and Cultural Heritage Assessment Report
Project Number	1125
Status	Final
Version	3
Client Name	Roads and Maritime Services (RMS)
Recipient	Todd Lyall (Project Manager) Andrew Cook (Environmental Manager)
Issue Date	5 September 2012
Prepared by	Dr Matthew Kelleher; Alison Nightingale; Ben Anderson
Approved by	Alison Nightingale

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1 Introduction

The Pacific Highway Upgrade - Oxley Highway to Kempsey Project (the project) was approved by the Minister for Planning and Infrastructure on 8 February 2012. Project Approval was issued under Section 75J of the *Environmental Planning and Assessment Act 1979*. Roads and Maritime Services (RMS) are now undertaking detailed design of this project with the intention of construction to follow. The project begins approximately 700m north of the Oxley Highway interchange and extends for a distance of approximately 37 kilometres to Stumpy Creek south of Kempsey (the study area). The project will comprise sections of duplication and upgrade of the existing highway, as well as sections of new highway alignment. The study area for the approved upgrade route for the Oxley Highway to Kempsey upgrade is shown in Figure 1.

Archaeological investigations undertaken as part of the Environmental Assessment (EA) for the upgrade identified a number of Aboriginal archaeological sites and areas of potential archaeological deposit (PAD).

Project approval was subject to a number of conditions related to the identified Aboriginal archaeological sites and PAD. Tasks required to meet the conditions of project approval include:

- Aboriginal stakeholder consultation;
- site assessment and management;
- salvage collection (sites OHK54/A, OHK219/A);
- salvage excavation and collection (OHK 46/A, OHK 47/A, OHK90/A, OHK91/A);
- subsurface investigation of PADs (Wilson River OHK85, Cooperabung Creek, Smiths Creek and Pipers Creek)
- artefact analysis; and
- reporting on the Aboriginal Archaeological Assessment.

RMS engaged Kelleher Nightingale Consulting (KNC) to develop and undertake a salvage methodology, prepare a cultural heritage assessment report (CHAR) and provide management strategies and procedures for Aboriginal archaeological heritage for the Approved Project.

1.1 Methodology Aim

The methodology presented in this document outlines an archaeological excavation program for the identified sites and PADs along the Oxley Highway to Kempsey upgrade. The methodology is designed to target questions related to how Aboriginal people used their land (e.g. hilltops, colluvial slopes, estuarine margins, alluvial terraces) and how these various topographic elements work together to form an Aboriginal cultural landscape. The archaeology of Aboriginal landscapes can be interpreted as functioning like a home, each landform – hill, creek, ridge and river bank – is a like a room in a house. Each room has various uses and significance. It is the aim of this methodology to uncover the archaeology of these ‘past rooms’ and explore the Aboriginal landscape. KNC recognises that contemporary Aboriginal people have a close connection and understanding of the land and look forward to working with Aboriginal people during the archaeology program with the aim of highlighting the cultural value of the landscape.

For the identified sites, the goal of the excavation program is to obtain a representative sample of the archaeology that will be impacted by the upgrade project.

1.2 Management Strategies

Management strategies and procedures developed in this report specify how identified sites will be managed during the project, how to manage changes to the project and allow a provision for responding to unexpended finds. Consultation with the Aboriginal community is an important part of heritage management and the process for further consultation is outlined.

1.3 Methodology Review

A 28 day review and comment period of the proposed methodology has been allowed for in accordance with the Procedure for Aboriginal Cultural Heritage Consultation and Investigation 2011 (PACHCI).

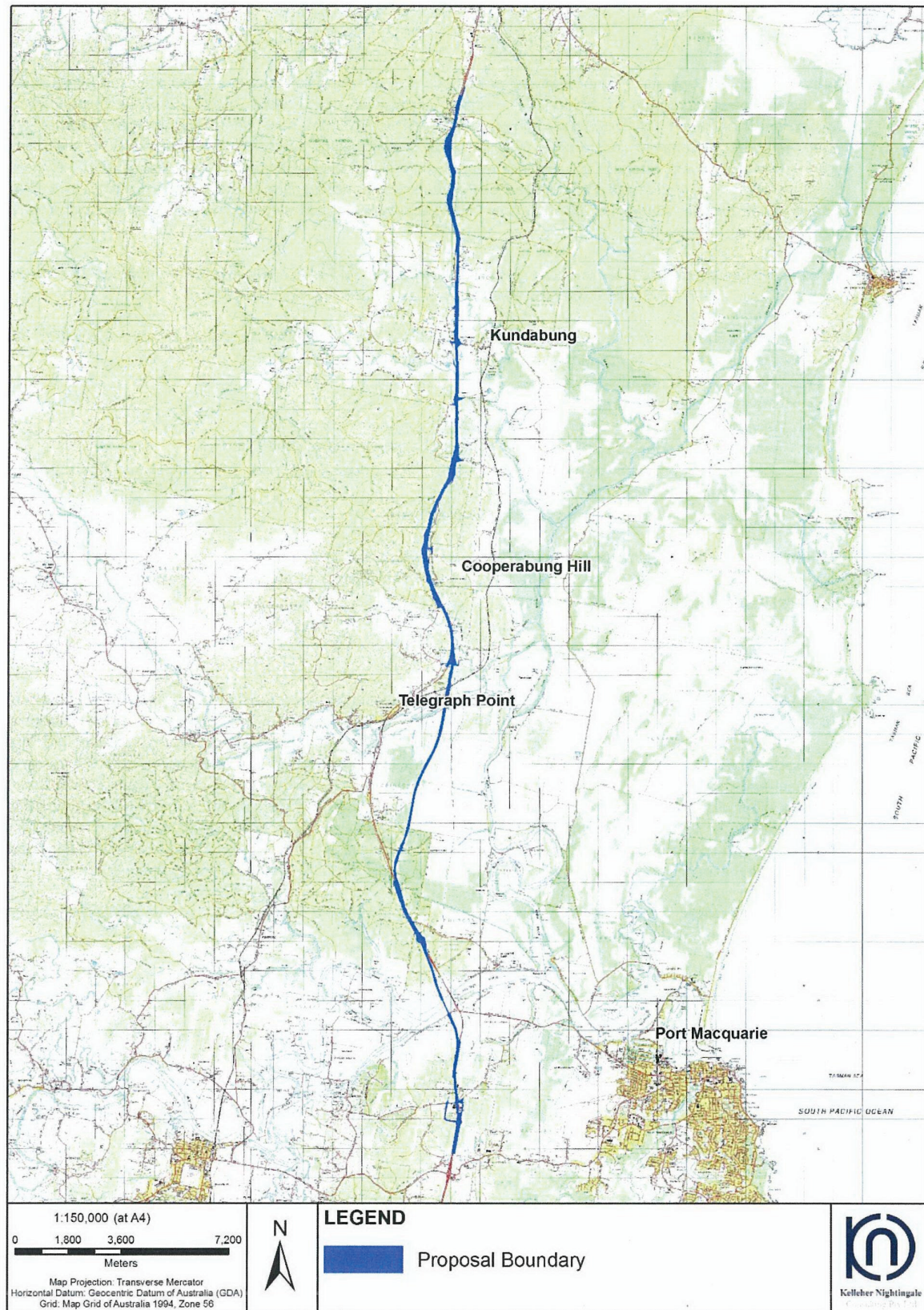


Figure 1. Location of the study area

2 Aboriginal Community Involvement

RMS is committed to effective consultation with Aboriginal communities regarding activities which may impact on Aboriginal cultural heritage. The RMS Procedure for Aboriginal Cultural Heritage Consultation and Investigation (PACHCI) has been developed to provide a consistent means of effective consultation for RMS activities across NSW. The PACHCI is compliant with Office of Environment and Heritage (OEH) requirements and guidelines.

The proposed methodology and field program has been developed in consultation with and with participation of the Kempsey Local Aboriginal Land Council (KLALC), Birpai Local Aboriginal Land Council (BLALC) and Dunghutti Elders Council Aboriginal Corporation (DECAC).

2.1 Stakeholder Consultation

KLALC, BLALC and DECAC have been involved in the previous study of Aboriginal heritage for the Environmental Assessment. Project Approval requires continued consultation with the KLALC, BLALC and DECAC in regards to the excavation methodology and program. RMS and KNC both value Aboriginal stakeholder consultation.

The formal consultation process included:

- ongoing consultation with local Aboriginal community;
- Aboriginal Focus Group (AFG) meeting held on 9 August 2012, at which the proposed excavation methodologies and management strategies were presented and discussed; and
- a copy of the draft methodology provided to KLALC, BLALC and DECAC for a 28 day review and comment period (1 August - 29 August 2012).

Following a productive AFG meeting (minutes attached Appendix B) and the 28 day review period, no comments on the methodology have been received by KNC or RMS.

3 Landscape Context

The southernmost portion of the study area is situated on gently undulating hills of low elevation (generally less than 30m AHD) bordering the coastal plain. Underlying geology consists of Devonian to Carboniferous sedimentary rocks of the Tamworth Belt, to Carboniferous and Permian sedimentary formations, including the Kempsey and Beechwood Bed mudstones, with minor volcanic rocks. Soils are characterised by the residual Kundabung soil landscape; soloths and grey-brown, red and yellow podzolic soils which are typically hard-setting, poorly drained and of variable depth. Minor order watercourses in this area are bordered with Quaternary valley fill and occasional Pleistocene terraces.

Around the Hastings River and Wilson River and associated floodplains, Holocene alluvial plain and palaeochannel fill dominate. Additional features on the Wilson River margins include Holocene levees and saline swamps and undifferentiated Pleistocene deposits. The location where the study area crosses the Wilson River is situated along the westernmost border of the Quaternary estuarine-deltaic plain. Soils along the margins of these watercourses are primarily of the Maria River soil landscape, characterised by alluvial clays and grey and yellow duplex soils over Pleistocene barrier sands or Holocene estuarine sediments. Soils are strongly acidic and flood prone. Other soils present in the area bordering these major watercourses include occurrences of the Maria River landscape variant in swampy depressions and infilled channels of the floodplains. Occurrences of the Blackmans Point soil landscape are also present close to the watercourse margins. These estuarine soils are characterised by deep, very poorly drained and saturated solonchaks and calcareous sands and are strongly saline and sodic, with high erodibility.

North of the Wilson River, the coastal hills are of greater elevation and tend to be of a steeper gradient. Underlying geology consists of Devonian-Carboniferous sedimentary formations, with Carboniferous and Permian sedimentary beds north of Barrys Creek. Smaller order watercourses are bordered by narrow channels of Quaternary valley fill, with Pleistocene terrace formations and Holocene alluvial plain. Soil landscapes on these rolling hills are predominantly erosional, including Cooperabung and Euroka landscapes. These are characterised by moderately deep to shallow soils, with well-structured red, brown and yellow podzolic subsoils. Soils show moderate-high erodibility and low waterholding capacity.

This variable landscape is primarily the result of sea level fluctuations during the Pleistocene and Holocene. At around 120,000 years ago, Pleistocene sea levels were at similar heights, or marginally higher, than those of the present day. The former Pleistocene shoreline lay inland of today's coastline. For the next 100,000 years, until the most recent glacial maximum, sea levels were in decline and reached a nadir of 110-130m below present levels between 25-15,000 years ago. After this point, the sea rose rapidly and attained the present shoreline around 6500 years ago, with minor fluctuations since then. The formation of Holocene coastal barrier systems abutting the new shoreline led to the progressive infilling of previous estuarine contexts and their transformation into marshes, swamps and saline lagoons. The narrow coastal plain was transformed by colluvial and fluvial sediment derived from the coastal hills, as well as marine sands, creating the relatively young and diverse environmental contexts present today.

Archaeologically, the changing landscape means that significant archaeology is likely to exist only on the relatively stable landforms such as the elevated features – terraces, ridges and hills. Statistically the best archaeology will be located at the margins of elevated features, which in effect exhibits the best combination of archaeological activity and soil stability – close to rivers and stone source but high enough not to be decimated by flooding. Terraces above the Wilson and Hastings River flood zone offer the best proximity to resources but above the primary flood zone.

4 Aboriginal Cultural Assessment

An assessment of Aboriginal cultural heritage of the Oxley Highway to Kempsey project area was undertaken as part of the EA. Four culturally sensitive locations were identified during the EA. It was determined that the impact to each location was minimal and would not significantly detract from the general cultural value.

Sancrox Road Ceremonial

This area is located to the west of the proposal, in the vicinity of the hard rock quarry north-west of the junction of the Pacific Highway and Sancrox Road, possibly on the hill crest now occupied by the quarry, or slightly further north. The area is believed to be a ceremonial area where corroborees were held. No physical evidence of ceremonial activity was identified in the EA, however the cultural significance of the area is independent of physical remains and still stands. The site location is not expected to be impacted by the road upgrade.

Ochre Site

This site is located in the southern part of the project. A seam of ochre exists along the highway. The approved highway upgrade would cut into the seam. It may be difficult for Aboriginal people to access any remaining ochre from the area following the highway upgrade as it would be unsafe to stop along the roadside.

Hastings River

The Hastings River is a major natural landscape feature in the area to be traversed by the upgrade. Particular cultural sensitivity is attached to this watercourse because of its function as a cultural boundary between the Dunghutti to the north and the Birpai to the south. The EA recorded that the Hastings River was a place of conflicts between Aboriginal people who disputed the cultural boundary.

Maria River

This is an area of contemporary cultural sensitivity identified as a place to be avoided when alone.

Dalhunty Island

This island is located in the Wilson River and is regarded as a culturally sensitive area because of the potential for Aboriginal burials to be present.

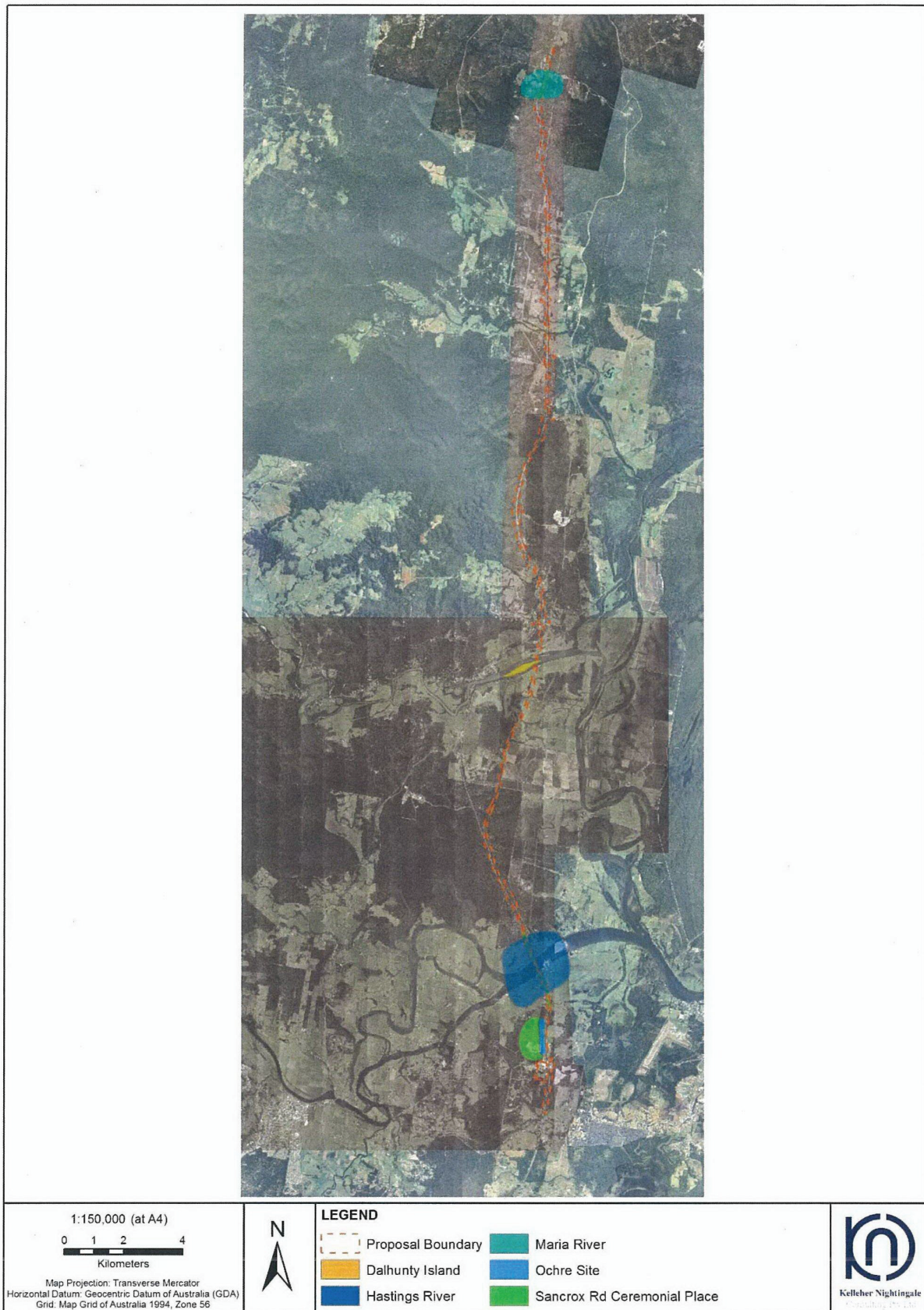


Figure 2. Areas of cultural sensitivity

5 Archaeology Assessment

5.1 EA Archaeological Assessment

Archaeological survey and test excavation was undertaken of the project corridor as part of the EA. Ten archaeological sites and six PADs were identified as potentially impacted by the highway upgrade. Archaeological test excavation was carried out at two locations (incorporation five archaeological sites). The archaeological assessment is detailed in a comprehensive report (South East Archaeology 2010) and a summary of the relevant findings is presented here.

The identified archaeological sites and PADs are shown in Figure 3. Detailed locations are shown in Figures 4-11. Relevant geologic maps are attached as Appendix C.

5.2 Archaeological Sites

OHK 46/A (AHIMS # 30-3-0392)

This site is located on a level to very gentle spur crest approximately 500m north of the Hastings River (Figure 4). This location was assessed during archaeological survey as exhibiting high potential for subsurface archaeological deposit. Subsequent test excavation recovered 99 artefacts from an excavation area of 14m², giving a mean artefact density of 7.1/m². The assemblage was dominated by flakes and flaked pieces and overall the deposit was described as showing moderate integrity. The site exhibited high potential for further subsurface deposits to exist across the unexcavated parts of the crest. An approximate area of 50m x 60m will be impacted by the upgrade project. This site is part of site complex OHK 46/47.

The geomorphic context of OHK46/47 is sedimentary rock overlain with soloths. This combination of soil and bedrock is known to trap archaeological material by allowing artefacts to drop quickly from the surface and then hold artefacts within the A horizon due to the laminating effects of the soloths.

Project Approval requires a mitigatory salvage excavation at this site.

OHK47/A (AHIMS # 30-3-0391)

This site is located adjacent to OHK46/A, on the gentle simple slope immediately south of the spur crest (Figure 4). The site is located between 450-500m north of the Hastings River. This location was assessed during archaeological survey as exhibiting high potential for subsurface archaeological deposit. Subsequent test excavation recovered 43 artefacts from an excavation area of 16m², giving a mean artefact density of 2.7/m². The assemblage was dominated by flakes and flaked pieces and overall the deposit was described as showing moderate integrity. The site exhibited high potential for further subsurface deposits to exist across the unexcavated parts of the crest. An approximate area of 60m x 110m will be impacted by the upgrade project. This site is part of site complex OHK 46/47.

Project Approval requires a mitigatory salvage excavation at this site.

OHK54/A (AHIMS # 30-3-0401)

This site consisted of an isolated artefact located west of the existing Pacific Highway and north of Swamp Road (Figure 5). A volcanic core was located on an old vehicle track approximately 15m west of the Pacific Highway road verge. The artefact was located on a level to very gentle spur crest. Local disturbance levels appeared high due to vegetation clearance and vehicles using the track. It was assessed as having only minimal potential to retain further subsurface deposit.

Project Approval requires collection of the surface artefact at this site.

OHK90/A (AHIMS # 30-3-0393)

This site was originally recorded during archaeological survey as an artefact scatter comprising six artefacts located in a 3m x 7m portion of a level-very gentle ridge crest approximately 500m north of the Wilson River (Figure 7). The artefacts comprised 5 volcanic flakes and flaked pieces and a chalcedony flake and Bondi point. It was determined during survey that a grassed area adjacent to the site exhibited high potential for a subsurface deposit. Subsequent test excavation retrieved 867 artefacts from an excavation area of 22m², yielding a mean artefact density of 39.4/m². An area of approximately 70m x 80m will be impacted by the road upgrade. This site is part of the OHK90/91/92 site complex.

The geomorphic context of OHK90/91/92 complex is Quaternary alluvial and colluvial fan consisting of fluvial sand, silt, gravel and clay. Archaeologically some potential exists in the sandy podzolic soil due to good depositional characteristic and site being located above the primary floodplain.

Project Approval requires the collection of artefacts from this site and a mitigatory salvage excavation at this site complex.

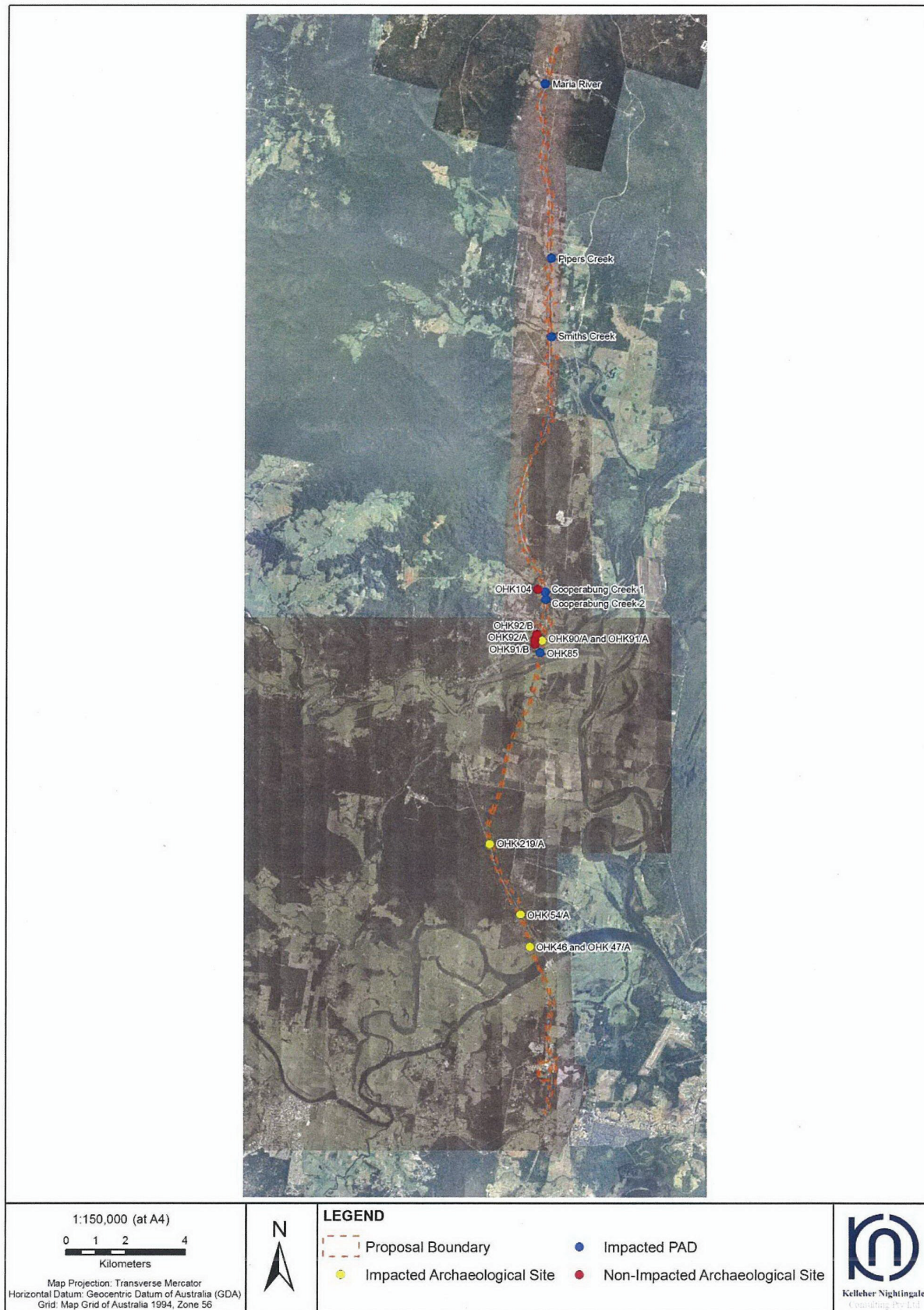


Figure 3. Identified archaeological sites and PADs within the road upgrade corridor

OHK91/A (AHIMS # 30-3-0394)

This site was originally recorded during archaeological survey as an artefact scatter comprising six artefacts located in a 50m x 3m portion of a vehicle track on a gentle ridge crest approximately 500m north of the Wilson River (Figure 7). The artefacts comprised volcanic flakes and flaked piece and a siltstone flake. It was determined during survey that areas adjacent to the track where A horizon soils had been retained exhibited high potential for subsurface deposit. The site is part of a complex of artefact scatters OHK90, 91 and 92. Subsequent test excavation retrieved 73 artefacts from an excavation area of 3m², yielding a mean artefact density of 24.3/m². This site is part of the OHK90/91/92 site complex.

Project Approval requires the collection of artefacts from this site and a mitigatory salvage excavation at this site complex.

OHK91/B (AHIMS # 30-3-0399)

This site was an artefact scatter located on a vehicle track on a gentle ridge crest approximately 500m north of the Wilson River (Figure 7). Eight artefacts were identified in an area of approximately 40m x 3m. Artefacts included volcanic, rhyolite and quartz flakes, a core and a retouched flake. Ground disturbance was moderate-high, due to vegetation clearance and track use, although areas retaining A horizon soils adjacent to the track exhibited some potential for subsurface deposit. This site forms part of site complex OHK90/91/92.

Project Approval requires this site to be conserved and protected by temporary fencing placed around the site during construction.

OHK92/A (AHIMS # 30-3-0395)

This site was originally identified during archaeological survey and consisted of an artefact scatter located on a gentle simple slope approximately 500m north of the Wilson River (Figure 7). Two volcanic flakes were identified in a 15m x 3m area. Levels of ground disturbance were assessed as moderate-high from vegetation clearance and other activities however it was determined that moderate potential for subsurface deposit remained. Subsequent test excavation at this site retrieved 91 artefacts from an excavation area of 4m², yielding a mean artefact density of 22.8/m². This site forms part of site complex OHK90/91/92.

Project Approval requires this site to be conserved and protected by temporary fencing placed around the site during construction.

OHK 92/B (AHIMS # 30-3-0398)

This site was identified during archaeological field survey and consisted of an artefact scatter of five volcanic flakes and flaked pieces in an area measuring 4m x 3m (Figure 7). The site is located on a gentle simple slope, with artefacts identified on the upper to mid slope areas. The site is located north of sites 91/A and 92/A and forms part of site complex OHK90/91/92. The area was moderately-highly disturbed from vegetation clearance, vehicles and machinery use however there was potential for subsurface archaeological deposit to exist in areas where A unit soil had been retained. This site will not be impacted by the upgrade project.

Project Approval requires this site to be conserved and protected by temporary fencing placed around the site during construction.

OHK104/A (AHIMS # 30-3-0397)

This site consists of an isolated find of a volcanic flake artefact and was located during archaeological field survey (Figure 8). The site is located on a gentle simple slope west of the existing Pacific Highway, north of Haydens Wharf Road and south of Cooperabung Creek. The site is located on private property, two metres west of a fenceline marking the boundary of the Pacific Highway road reserve. Local disturbance was high due to vegetation clearance and erosion. The area retained limited potential for a shallow subsurface deposit. This site will not be impacted by the upgrade project.

Project Approval requires this site to be conserved and protected by temporary fencing placed around the site during construction.

OHK 219/A (AHIMS # 30-3-0396)

This site is located on a gentle spur crest approximately 20m east of the existing Pacific Highway, within Cairncross State Forest north of Mahogany Road (Figure 6). The site consists of two artefacts, a siltstone core and a quartz flake, located in a 2m x 2m area of a vehicle track running parallel to the Highway. Local disturbance was high due to construction and use of the vehicle track and vegetation clearance. Potential for further subsurface deposits to exist in this location was limited.

Project Approval requires collection of the surface artefacts at this site.

5.3 Potential Archaeological Deposits

The EA identified generalised areas of archaeological potential within the project boundary: Wilson River (OHK85), Cooperabung Creek, Smiths Creek, Pipers Creek and Maria Creek. Detailed archaeological assessment has refined the areas of potential at each location based on landform, soils, erosion, colluvial activity, disturbance and identified archaeology. In total five PADs require excavation in accordance with the Project Approval. One previously identified PAD is not impacted by the project (Maria River).

Wilson River OHK 85

This PAD is located on a level-very gentle spur crest approximately 200m north of the Wilson River (Figure 7). The archaeological potential of this area exists in its location on an elevated landform adjacent to a major watercourse. High potential exists for subsurface deposit to occur as the A unit soils appear relatively deep. Although some of the area has been highly disturbed through house construction and other land uses, test excavation in a similar context approximately 300m north at the OHK 90/91/92 site complex returned relatively high artefact densities and evidence of some spatial patterning in activities, suggesting that the deposit retained at least moderate integrity. Excavation would be required to assess the nature and extent of archaeological deposit at this location, so that appropriate mitigation measures may be identified and implemented.

The geomorphic context of OHK85 complex is Quaternary alluvial and colluvial fan consisting of fluvial sand, silt, gravel and clay. Archaeologically some potential exists in the sandy podzolic soil due to good depositional characteristic and site being located above the primary floodplain.

Cooperabung Creek (Cooperabung Creek 1 and Cooperabung Creek 2)

This area identified during archaeological field survey exhibits moderate archaeological potential. The PAD includes the flats, simple slopes and spur crests adjacent to Cooperabung Creek, west of its confluence with the Maria River. Of particular interest are two relatively raised areas where the creek passes close to the existing road corridor (Cooperabung Creek 1 and Cooperabung Creek 2) (Figure 8). These locations were the most intact surfaces and offer a representative archaeological sample.

The geomorphic context of Cooperabung Creek 1 and 2 is Pleistocene terrace comprising silt, clay and gravel. The podzolic soils of the terrace where intact exhibit archaeological potential. The identified PAD areas are slightly raised portions of terrace in association with the creek. Lower lying areas show less stability with an increased erosion hazard.

Smiths Creek

This area of moderate potential comprises Smiths Creek and adjacent low spur crests to the south of the watercourse (Figure 9). The area surrounding the PAD is a floodplain and suffers from disturbance – water logging, erosion, ploughing, soil dumping and road construction.

The geomorphic context of the PAD is a Pleistocene terrace comprising fluvial sand, silt and clay. Soils are a mix of Soloths and podzolics which suggest limited integrity; however the archaic landform may offer enough stability for archaeology to survive in situ.

Pipers Creek

This area was assessed as exhibiting moderate archaeological potential during field survey. The area includes a terrace north of Pipers Creek and a small portion of valley flats where the watercourse crosses the existing road corridor (Figure 10).

The geomorphic context of the PAD is a Pleistocene terrace comprising fluvial sand, silt and clay. Soils are a mix of sodic brown Soloths near the creek and more stable podzolics on the higher ground. Archaeologically we should expect better soil integrity on the raised portion of ground just back from the creek bank.

Maria River

This area was assessed as showing moderate archaeological potential during field survey. The gentle spur crest adjacent to the watercourse may have been a focus for Aboriginal pursuits including encampments and focused activity. The PAD area is depicted in Figure 11. The geology is mixed sedimentary formation with podzolic soils. The relatively deep A unit south and west of the creek above the channel display some stability.

This area will not be impacted by the road upgrade. If the design is modified and the PAD is impacted the location will require archaeological excavation.



Figure 4. OHK46/A and OHK47A



Figure 5. OHK54/A



Figure 6. OHK219/A



Figure 7. OHK 85 (PAD), OHK90/A, OHK91/A, OHK91/B, OHK92/A and OHK92/B



Figure 8. Cooperabung Creek 1 (PAD), Cooperabung Creek 2 (PAD) and OHK104s



Figure 9. Smiths Creek (PAD)



Figure 10. Pipers Creek (PAD)



Figure 11. Maria River (PAD)

5.4 Archaeological Survey

Archaeological survey of the project corridor was undertaken as part of the EA. Three areas required further assessment to inform the archaeological assessment, methodology and CHAR. Survey of the relevant portions of Dalhenty Island, Maria River and Lot 13 DP246368 were undertaken on 18, 19 and 23 July 2012. Survey was carried out with the participation of relevant Local Aboriginal Land Councils and was consistent with the EA.

No Aboriginal objects or areas of archaeological potential were identified during the survey of Dalhenty Island or the assessment of the impacted portion of Lot 13 DP246368. No further archaeological assessment of these locations is warranted based on the Approved Project boundary.

Survey of the Maria River area identified one area of moderate archaeological potential on the south west side of the river crossing. The identified PAD is partially located within the project boundary but will not be impacted by the approved design. If the design is modified and the PAD is impacted the location will require archaeological excavation.

6 Archaeological Methodology

6.1 Research Aims

The main aim of this excavation program is:

- To recover a representative sample of the archaeological deposit present in areas identified as archaeological sites or area of archaeological potential with the boundary of the Approved Project.

The further aim of the excavation program will be to determine the integrity, extent, spatial distribution and nature of the deposit.

- Determining the integrity of the deposit involves assessing the degree of disturbance which is present.
- Determining the extent of the site involves identifying the boundaries associated with the identified archaeological deposit. The subsurface program will try to determine the 'edges' of any identified significant archaeological deposit with the aim of conserving the deposit.
- Assessing the spatial distribution involves identifying the presence/absence of archaeological material across identified land forms (e.g. elevated ground, terraces, low rises, gullies).
- The nature of the site refers to the type of activities indicated by the artefactual material (e.g. primary production, domestic knapping, hunting camps). The goal will be to retrieve assemblages from specific activities (e.g. selective knapping, heat treatment) if such activities are present.
- Retrieved assemblages will be compared with the results from other relevant archaeological projects in order to assess significance.

The results of the excavation program will enable an informed assessment of the archaeological significance of the Pacific Highway upgrade between the Oxley Highway interchange and Maria River crossing. Previous test excavation undertaken as part of the EA confirmed that significant archaeology exists within the boundary of the Approved Project. The aim of the salvage program is to recover a representative sample of this heritage material.

Identified archaeological sites above the Hastings River and Wilson River indicate a long term Aboriginal use of the land going back at least 5,000 years. Extensive distributional information and more in depth assessment of the landscape is less well established. The current level of information offers a limited account of the past as seen from a snapshot of activity around the primary waterways. In contrast, a cultural landscape should be illustrated by a range of activity areas dispersed over a range of topographic features. The salvage program aims to identify this cultural landscape by sampling from secondary as well as primary landforms across the study area. Excavation will focus on assessing:

- the junction of the relatively timeless sedimentary geology and alluvial plain systems (OHK46/A, OHK47/A, OHK85, OHK90/A, OHK91/A) and
- junctions of Pleistocene deposit and Holocene fluvial deposit (Cooperabung Creek, Smiths Creek, Pipers Creek).

Excavation will be limited to the construction corridor, however extensive experience with the archaeology of road corridors indicates that such archaeologically random slices through the landscape offer statistically significant transects for investigation. In other words, we can expect to generate useful and meaningful information as a result of the excavation program.

6.2 Excavation Areas

Excavation areas are identified as: OHK46/A, OHK47/A, OHK90/A, OHK91/A. PAD excavation areas are identified as: OHK85, Cooperabung Creek 1, Cooperabung Creek 2, Smiths Creek and Pipers Creek. All excavation will be limited to the construction corridor.

6.3 Field Methods

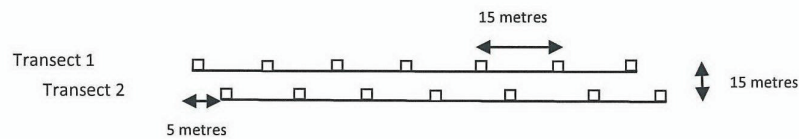
Excavation squares measuring 1m x 1m (1m²) will be hand excavated in stratigraphic units. Squares will be excavated until the basal layer or culturally sterile deposit is reached. The initial test squares at each location will be excavated well into the sterile unit to confirm the absence of artefacts.



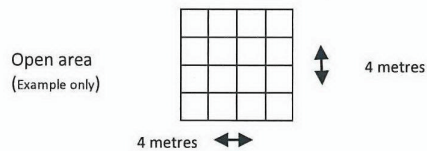
Plate 1. Manual excavation of 1m² archaeological squares

Initial excavation at each location involves the excavation of around 5-10 squares in each location. The precise number of squares will depend on the archaeological deposit and geology. Excavation grids (transects) will be established using MGA coordinates for each square.

The excavation of PAD areas will require squares to be placed at 15m intervals along sampling transects. The squares in adjoining transects will be spaced 5m apart. This test layout is designed to achieve maximum sampling coverage.



The excavation of identified sites will require open area excavation where squares are connected in a single grid.



It is anticipated that approximately 160 squares will be excavated during the entire program.

All of the deposit will be wet sieved on 5.0mm and 2.5mm nested sieves. All artefacts will be collected and bagged. Squares will be backfilled with a clean fill. The location of each excavation square will be identified on a surveyed plan of the site. Stratigraphic section detailing the stratigraphy and features within the excavated deposit will be drawn and all squares will be photographed. Soil and carbon samples will also be collected for analysis. Detailed geomorphological analysis will be undertaken where appropriate.



Plate 2. Sieving archaeological deposit

6.4 Analysis

Artefacts will be analysed on a comparable level with previous analyses of excavated assemblages. Information derived from this analysis, in particular the identification of specific artefact types and their distributions and associations; will be used to formulate interpretations about site use, antiquity, settlement patterns and assess archaeological significance. By comparing different excavation areas it will be possible to determine whether there were differences in the kinds of activities carried out and the way that stone technologies were organised across the landscape. Importantly it is hoped that sufficient data will be recovered from each landform in order to assess the dyadic nature of the archaeological landscape (i.e. how each part works within the whole). Differences could be expected if different aspects of settlement organisation varied in relation to the landscape units as defined.



Plate 3. Example lithic artefacts: quartz flake, chert point and basalt hammerstone

A range of stone artefacts may be present at the sites and the analysis will expand accordingly to account for artefact variability. All information will be recorded in database form (MS Excel). Various types of evidence will be used to determine the kinds of activities that were carried out. A short description of the proposed analysis is outlined below.

- Field analysis will record basic data, such as material type, number and any significant technological characteristics, such as backing or bipolar techniques, added to this will be any provenance data such as pit ID and spit number. The purpose of the field recording is twofold: 1) establish a basic recording of artefacts retrieved and 2) to allow on-going assessment of the excavation regime (e.g. whether higher stratigraphic resolution is required while digging).
- Detailed (laboratory) analysis will entail recording a larger number of characteristics for each individual artefact. These details will be recorded in matrices suitable for comparative analysis (e.g. multivariate and univariate) of the assemblage on a local and regional basis.
- Lithic characteristics to be recorded cover a range of basic information but are not limited to these categories (see Table 3). For transparency, terms and category types will in large part be derived from Holdaway and Stern (2004).

Table 1. Lithic Recording Characteristics

Sample Categories		
Record Number	% Cortex	Flake Type
Pit ID	Length	Termination Type
Spit Number	Width	Core Type
Count	Thickness	Number of Scars (Core)
Raw Material	Weight	Scar Type (Core)
Colour	Modification	Shape of Flake
Quality	Reduction Type	Platform Type

- A detailed explanation and glossary will be provided with the final excavation report.
- Minimum Number of Flake (MNF) calculations formulated by Hiscock (2000, 2002) will be undertaken where applicable. The main outcomes of the analysis will be to investigate: the type of activities being carried out across the subject area; stone materials used and quantity; technology; and modification/retouch (type and quantity).

The analysis of artefacts recovered during the excavation program will be undertaken in a transparent and replicable fashion so as to permit the comparison of the assemblage with data from other regions. This will also allow for an interpretation of the study area's archaeological significance.

6.5 Shell or Bone Remains

If shell or bone remains are recovered during the excavation they will be analysed according to best practice. If potential human remains are uncovered a management procedure will be followed as outlined in section 9.3.

7 Field Team

KNC is comprised of highly qualified and experienced archaeologists with experience in all aspects of Aboriginal archaeological assessment and management, including surface survey, test and salvage excavations, sensitivity mapping, significance and impact assessment and site management.

KNC directors, Dr Matthew Kelleher and Alison Nightingale, will be responsible for the excavation program. Dr Matthew Kelleher is the project and excavation director. Matthew has extensive experience in managing large scale archaeological excavations and research projects.

The proposed field team personnel, roles and tasks are listed in the table below.

Table 2. Project Personnel

Person	Role	Tasks
Dr Matthew Kelleher	Director / Archaeologist	Project director, excavation director, coordinate team, liaison with community, RMS and OEH, lithic analysis, assessment and reporting
Alison Nightingale	Director / Archaeologist	Project manager, coordinate team, liaison with community, RMS and OEH, assessment and reporting
Mark Rawson	Senior Field Archaeologist	Senior excavation supervisor, lithic analysis and reporting
Archaeologists (4)	Field Archaeologists	Excavation program

7.1 BLALC, KLALC and DECAC Participation

The RMS PACHCI advocates a 1:1 ratio for field archaeologists to Aboriginal sites officers. In this regard the program will require four (4) Aboriginal sites officers per day for the duration of the excavation. Each Aboriginal organisation will be requested to nominate sites officers and trainee sites offices to participate in the excavation program. RMS will compile a list of qualified personnel. KNC will make a roster from the list for the program and will liaise with personnel as appropriate.

7.2 Schedule

The archaeological excavation program is scheduled to begin at the beginning of September 2012 and run for eight consecutive weeks (40 working days) finishing in early November 2012. The specific start date will be determined once the consultation process is complete and access to land has been granted.

8 Mitigation Strategies

Five areas of cultural sensitivity were identified within or immediately adjacent to the Oxley Highway to Kempsey upgrade of the Pacific Highway. Four of the places are partially impacted by the Approved Project.

Ten archaeological sites and six PADs were identified within or immediately adjacent to the Oxley Highway to Kempsey upgrade of the Pacific Highway. Six archaeological sites and five PADs are at least partially impacted by the Approved Project.

All areas of cultural sensitivity, archaeological sites and PADs not impacted will be identified in the construction environmental management plan to ensure the highest level of protection. Specific mitigation strategies for each area, site and PAD are outline in the following tables.

Table 3. Areas of Cultural Sensitivity Impacts and Mitigation for the Oxley Highway to Kempsey Upgrade

Site	Areas of Cultural Sensitivity			Impact Assessment	Mitigation Strategy
	Type	Description	Significance		
Sancroft Road Ceremonial	Ceremonial Area	An area of ceremonial significance located several hundred metres west of the existing highway	High	No impact	A wider area of sensitivity around this ceremonial site has been identified by the Aboriginal community. The ceremonial site itself is located west of the existing highway. The approved upgrade in this location is confined to the existing highway alignment and as such, no impact to the cultural value of this site is expected to occur. Any future work in this area or deviation from the current concept design (as shown in this report) would require further consultation with the knowledge holders.
Ochre Site	Cultural Area	An ochre vein located in a cutting on the existing highway. The ochre has been accessed from the highway by local Aboriginal people.	High	Will be impacted	RMS will consult with BLALC regarding management of this site. Some options include: recovery of ochre during construction and relocating it to a suitable place, or providing alternate access to the ochre resource in situ in the road reserve for the adjoining service road if the ochre vein extends into that area.
Hastings River	Major natural landscape feature	An area associated with a cultural boundary between Birpai and Dughutti peoples	High	Will be impacted (partial)	The alignment of the highway upgrade will impact an area already highly disturbed through agricultural activities. The nature of the project is such that impacts will be confined to a narrow, linear corridor and the cultural significance of the majority of the area of sensitivity will be retained. The Aboriginal community accepts the impact to this area. No mitigation or management actions are required.
Maria River	Natural landscape feature	An area of contemporary sensitivity based on traditional knowledge	High	Will be impacted (partial)	The impact of the highway upgrade will be confined to the disturbed road corridor of the existing highway alignment. As such, impact to the cultural significance of this location is expected to be minimal. The Aboriginal community accepts the impact to this area. No mitigation or management actions are required. Any future work in this area or deviation from the current concept design (as shown in this report) would require further consultation with the knowledge holders.
Dalhenty Island	Natural landscape feature	An area of sensitivity based on the potential for Aboriginal burials to occur in this location	High	Will be impacted (partial)	The approved alignment of the upgrade will require impact to the eastern tip of Dalhenty Island. Consideration of cultural heritage values during the design phase and subsequent route selection has minimised the impact that is expected to occur at this location. Visual and physical impacts will be limited to a small area and as such the cultural values present in the broader landscape are expected to be retained. The Aboriginal community accepts the impact to this area. No mitigation or management actions are required. Any future work in this area or deviation from the current concept design (as shown in this report) would require further consultation with the knowledge holders.

Table 4. Archaeological Site/PADs Impacts and Mitigation for the Oxley Highway to Kempsey Upgrade

Site		Archaeological Sites				Mitigation Strategy	
	Type	Description	Significance	Impact Assessment			
OHK46/A	Artefact Scatter	This site is located on a level to very gentle spur crest north of the Hastings River, part of site complex OHK46/47. Test excavation identified an archaeological deposit of moderate integrity with a mean artefact density of 7.1/m ² . Potential for further subsurface archaeology is high.	Moderate-High	Will be impacted (partial)		Salvage excavation required.	
OHK47/A	Artefact Scatter	This site is located on the gentle simple slope immediately south of OHK46/A, part of site complex OHK46/47. Test excavation demonstrated a mean artefact density of 2.7m ² in this location, with the deposit displaying moderate integrity.	Moderate-High	Will be impacted (partial)		Salvage excavation required.	
OHK54/A	Isolated Find	This site consists of a volcanic core located on a vehicle track west of the existing highway. The artefact is on a level-very gentle spur crest in a highly disturbed context.	Low	Will be impacted		Salvage collection of surface artefact required.	
OHK90/A	Artefact Scatter	Artefact scatter recorded on a level-very gentle ridge crest north of the Wilson River, part of site complex OHK90/91/92. Test excavation of an adjacent grassed area yielded a mean artefact density of 39.4/m ² at this site, with high potential for further subsurface deposit to occur.	High	Will be impacted (partial)		Salvage excavation and collection of surface artefacts required.	
OHK91/A	Artefact Scatter	Artefact scatter on a vehicle track located on a gentle ridge crest north of the Wilson River, part of site complex OHK90/91/92. Test excavation in the less disturbed area adjacent to the track demonstrated a mean artefact density of 24.3/m ² at this site location, with high potential for further subsurface deposit to exist.	Moderate-High	Will be impacted (partial)		Salvage excavation and collection of surface artefacts required.	
OHK91/B	Artefact Scatter	Artefact scatter on a vehicle track located on a gentle ridge crest north of the Wilson River, part of site complex OHK90/91/92. Ground disturbance was moderate-high however some potential for subsurface deposit in less disturbed areas..	Moderate-High	No impact		Installation of temporary fencing during construction to protect and conserve this site from inadvertent impact. The location of the site will be identified in the construction heritage site map to ensure it is not inadvertently affected.	
OHK92/A	Artefact Scatter	Artefact scatter located on a gentle simple slope north of the Wilson River. Part of site complex OHK90/91/92. Test excavation identified a deposit of moderate archaeological integrity and mean artefact density of 22.8/m ² .	Moderate-High	No impact		Installation of temporary fencing during construction to protect and conserve this site from inadvertent impact. The location of the site will be identified in the construction heritage site map to ensure it is not inadvertently affected.	
OHK92/B	Artefact Scatter	Artefact scatter located on a gentle simple slope north of the Wilson River, part of site complex OHK90/91/92. Local disturbance was moderate-high however some potential remained for subsurface deposit to exist in areas with fewer disturbances.	Moderate-High	No impact		Installation of temporary fencing during construction to protect and conserve this site from inadvertent impact. The location of the site will be identified in the construction heritage site map to ensure it is not inadvertently affected.	

Archaeological Sites					
Site	Type	Description	Significance	Impact Assessment	Mitigation Strategy
OHK104/A	Isolated Find	This site consists of a volcanic flake located on a gentle simple slope on private property west of the existing highway. The artefact was located in a highly disturbed context.	Low	No impact	Installation of temporary fencing during construction to protect and conserve this site from inadvertent impact. The location of the site will be identified in the construction heritage site map to ensure it is not inadvertently affected.
OHK219/A	Artefact Scatter	Artefact scatter located on a gentle spur crest in Cairncross State Forest, north of Mahogany Road and east of the existing highway. Two artefacts were identified in a highly disturbed context on a vehicle track.	Low	Will be impacted	Salvage collection of surface artefact required.
Wilson River OHK85	PAD	Area of PAD located on level-very gentle spur crest north of the Wilson River. Site is located above the primary floodplain and soils are conducive to archaeological preservation.	High	Will be impacted (partial)	Excavation required to assess the nature and extent of archaeology.
Cooperabung Creek	PAD	Area of PAD located in two locations on Pleistocene terrace adjacent to Cooperabung Creek. Archaeological potential exists on these raised landforms with soils conducive to archaeological preservation.	Moderate	Will be impacted (partial)	Excavation required to assess the nature and extent of archaeology.
Smiths Creek	PAD	Area of PAD identified on a low spur crest immediately south of the watercourse. Potential depth of A unit soils is conducive to the presence of subsurface deposits of artefacts	Moderate	Will be impacted (partial)	Excavation required to assess the nature and extent of archaeology.
Pipers Creek	PAD	Area of PAD identified on gently sloped valley flats north of the watercourse. Potential depth of A unit soils is conducive to the presence of subsurface deposits of artefacts	Moderate	Will be impacted (partial)	Excavation required to assess the nature and extent of archaeology.
Maria River	PAD	Area of PAD identified on gentle spur crest adjacent to the watercourse. Moderate potential exists in areas south and west of the creek channel where soils appear to display some integrity.	Moderate	No impact	Installation of temporary fencing during construction to protect and conserve this PAD from inadvertent impact. The location of the PAD will be identified in the construction heritage site map to ensure it is not inadvertently affected. If the design is modified and the PAD is impacted the location will require archaeological excavation.

9 Management Procedures

The proponent will manage Aboriginal heritage for the Oxley Highway to Kempsey Upgrade in accordance with the Specific Environmental Condition of the Project Approval, Part B18.

Heritage Impacts

B18. Prior to the commencement of pre-construction and construction in Aboriginal sites OHK46/A, OHK47/A, OHK54/A, OHK90/A, OHK91/A and OHK219/A, the Proponent shall undertake the relevant salvage mitigation measures outlined in section 19.4.1 of Volume 1 of the EA for these sites.

The results of the salvage program shall be provided to the Department, the EPA and Aboriginal stakeholders within six months of the completion of the salvage program, unless otherwise agreed by the Director General.

9.1 Proposed Changes to Approved Projects

RMS recognises that in the course of undertaking the upgrade project, design alterations or other changes to the Approved Project may be required.

Sections 9.2 – 9.5 below outline the processes that the Proponent must follow to ensure that any changes to the Approved Project which may impact on Aboriginal cultural heritage are dealt with consistently and with ongoing consultation with Aboriginal stakeholders and relevant government agencies.

9.2 Management Policy for Aboriginal Heritage

The policy for the management and conservation of Aboriginal heritage in relation to salvage activities and construction activities (or fencing, geotechnical investigations, minor clearing, establishing site compounds, adjustment to services/utilities etc) is described below:

Responsibility for compliance with Management Policy

1. The Proponent must ensure all of its employees, contractors and subcontractors and agents are made aware of and comply with this management policy.
2. The Proponent must appoint a suitably qualified and experienced environmental manager who is responsible for overseeing the activities related to this management policy.
3. The Proponent must appoint a suitably qualified and experienced Archaeologist who is responsible for overseeing, for and on behalf of the Proponent, the archaeological activities relating to the project.

Operational constraints

4. Where archaeological excavation has been nominated for impacted sites or PADs, no construction activities (or fencing, geotechnical investigations, minor clearing, establishing site compounds, adjustment to services/utilities etc) can occur on the lands to be investigated until the relevant archaeological excavation at the nominated site have been completed. This restriction only relates to the specifically identified portion of an archaeological site/PAD to be excavated and not the entire archaeological site/PAD (unless specified). Construction activities may proceed on the portion of a site/PAD not designated for salvage provided they do not impact or impede the archaeological excavation and that the area to be excavated is identified in consultation with the Archaeologist prior to the commencement of those construction activities.
5. Prior to the commencement of early works activity (e.g. fencing, minor clearing, establishing site compounds etc) a construction heritage site map identifying Aboriginal sites to be excavated must be prepared. The construction heritage site map should be prepared to the satisfaction of RMS.
6. All employees, contractors, subcontractors and agents carrying out early works activities (e.g. fencing, minor clearing, geotechnical investigations, establishing site compounds etc) must undertake a Project induction (including the distribution of a construction heritage site map) to ensure that they have an understanding and are aware of the Aboriginal heritage issues affecting the activity.

Areas of Cultural Sensitivity, Aboriginal archaeological sites, objects and PADs to be impacted

7. The areas of cultural sensitivity, archaeological sites, objects and PADs identified as being impacted by construction activities are listed in Table 3 and Table 4 of this report and are in accordance with the Specific Environmental Condition of the Project Approval, Part B18.

Human Remains

8. This management policy does not authorise any damage of human remains.
9. If potential human remains are disturbed the Proponent must follow the procedures outlined in section 9.3 below.

Salvage Activities

10. Archaeological salvage excavation where appropriate must be carried out in accordance with the Project Approval.

Involvement of Aboriginal groups and/or individuals

11. Opportunity must be provided to the BLALC, KLALC and DECAC to be involved in the following activities:
 - a. assist with the excavation as outlined in Section 6.

Conservation of salvaged Aboriginal objects

12. Any salvaged Aboriginal objects must be relocated as soon as practicable to a temporary storage location pending discussions with RMS and Aboriginal stakeholders in relation to a permanent storage location.
13. In the event that Aboriginal stakeholders choose to undertake a care agreement for the salvaged Aboriginal objects the Proponent must assist in the permit application process.
14. In the event that a suitable storage location cannot be identified the Proponent must request in writing that OEH identify a suitable storage location.
15. If reburial occurs, pursuant to s.89A of the *National Parks and Wildlife Act 1974* the location of each reburial area must be notified in writing to OEH as soon as practicable after reburial occurs.

Reporting requirements

16. A written archaeological excavation report must be provided to RMS within a reasonable time following the completion of the archaeological program.

Notification and reporting about incidents that breach this management policy

17. Incident reporting requirements in accordance with the Project Approval is to include Aboriginal heritage.
18. Where RMS reasonably suspects that an incident has occurred that contravenes the management policy presented here the Proponent must prepare a written report within a reasonable time detailing that incident. The report must describe
 - a. the nature of the incident
 - b. the notification of the environmental manager and specialist where required
 - c. the nature and location of relevant Aboriginal objects, with reference to and provision of maps and photographs where appropriate
 - d. the impact of the incident on Aboriginal objects, with the appropriate specialist input where required
 - e. the measures which have been taken or will be taken to prevent a reoccurrence of the incident.

9.3 Procedures for Handling Human Remains

- **Note that Project Approvals do not include the destruction of Aboriginal remains**

This section outlines the procedure for handling human remains in accordance with the Skeletal Remains – Guidelines for the Management of Human Skeletal Remains under the *Heritage Act 1977* (NSW Heritage Office 1998) and the Aboriginal Cultural Heritage Standards and Guidelines Kit (NPWS 1997). In the event that construction activity reveals possible human skeletal material (remains), the following procedure is to be followed:

1. as soon as remains are exposed, all work is to halt at that location immediately and the Project environmental manager on site is to be immediately notified to allow assessment and management;
 - i. stop all activities; and
 - ii. secure the site.
2. contact police, the discovery of human remains triggers a process which assumes that they are associated with a crime. The NSW Police retain carriage of the process until such time as the remains are confirmed to be Aboriginal or historic;
3. Department of Planning and Infrastructure, as the approval authority, will be notified when human remains are found;
4. once the police process is complete and if remains are not associated with a contemporary crime contact Department of Planning and Infrastructure. The Department of Planning and Infrastructure will determine the process, in consultation with OEH and/or the Heritage Office as appropriate;
 - i. if the remains are identified as Aboriginal, the site is to be secured and the Department of Planning and Infrastructure and all Aboriginal stakeholders are to be notified in writing. The Department of Planning and Infrastructure will act in consultation with OEH as appropriate.

- OEH will be notified in writing according to Department of Planning and Infrastructure instructions; or
 - ii. if the remains are identified as non-Aboriginal (historical) remains, the site is to be secured and the Department of Planning and Infrastructure is to be contacted. The Department of Planning and Infrastructure will act in consultation with the Heritage Office as appropriate. The Heritage Office will be notified in writing according to Department of Planning and Infrastructure instructions;
- 5. once the police process is complete and if the remains are identified as not being human work can recommence once the appropriate clearances have been given.

9.4 Procedure for proposed changes to Approved Projects

A proposed change to the Approved Project (such as an alteration of the current design, the location of ancillary facilities) within the project corridor may result in a:

- Reduced impact to Aboriginal cultural heritage; or an
- Increased impact to Aboriginal cultural heritage.

Note: the use of the word impact in this section is defined as an impact on the significance of Aboriginal cultural heritage rather than simply an increased physical impact.

To ensure consistency with the Approved Project and this document any change in the overall impact on Aboriginal cultural heritage will need to be considered. The process to determine consistency is outlined in section 9.4.1 below.

Where a proposed change to the Approved Project occurs outside of the project boundary considered for the EA further heritage assessment will be required to determine if there would be an impact on Aboriginal cultural heritage and whether this represents a modification to the Approved Project (outlined below).

9.4.1 Changes in heritage impact

Where the Proponent seeks to make a change to the design and construction of the Approved Project which changes the assessed impact on Aboriginal cultural heritage the Proponent will need to prepare an assessment of the new impacts of this work in consultation with the appointed Archaeologist. The continued involvement of the Aboriginal stakeholders in this process is outlined in section 9.5.

- ♦ New impacts consistent with previously identified impacts

If a proposed change to the Approved Project is considered to have a neutral or lesser significant impact on Aboriginal cultural heritage than that identified in this document it would be considered a consistent impact.

If the proposed change is considered to be consistent with the Approved Project RMS may approve the change with no requirements to seek further approval. However, in certain circumstances, further consultation with Aboriginal stakeholders may still be required (see section 9.5 below).

- ♦ New impacts inconsistent with previously identified impacts

If a proposed change to the Approved Project is considered to have a more significant impact on Aboriginal cultural heritage than that identified in the EA it would be considered an inconsistent impact.

If the proposed change is considered inconsistent with the assessed impact on Aboriginal cultural heritage, as detailed in the Project Approval, RMS would require an amendment to the mitigation measures agreed in this report. If this proposed change is considered inconsistent with the Approved Project RMS would require a modification of the Approved Project. Further consultation with Aboriginal stakeholders will be undertaken (see 9.5 below).

9.5 Process for continued consultation with Aboriginal stakeholders

The extent to which RMS will continue to consult with Aboriginal stakeholders is dependent upon the level of impact and whether the area was assessed as part of the EA. The types of potential impacts are identified as reduced impacts, increased impacts or unknown impacts.

a) Reduced or neutral impact

If as a result of alterations to the project design a previously identified impact to an Aboriginal heritage item is reduced or neutral then no further consultation is required.

If as a result of alterations to the project design an impact to an Aboriginal heritage item is proposed that results in a reduced impact on the overall heritage significance of the study area (i.e. the cumulative impact is reduced), then further consultation with Aboriginal stakeholders will be undertaken. This consultation may entail a phone call and phone log of comments received or the provision of a report for comment (10 working days).

b) Increased Impact

Where as a result of alterations to the project design an impact on Aboriginal heritage is considered to be greater than identified by the Approved Project further consultation will be undertaken. This consultation will either entail a phone call and phone log of comments received or the provision of a report for comment (10 working days).

c) Unknown impacts: Assessment process

Where a proposed change is an area located outside of the project boundary assessed as part of the Approved Project the impact on Aboriginal cultural heritage is considered to be unknown. This area would require preliminary assessment to determine any impacts upon Aboriginal heritage. Should no impacts be identified then no consultation with Aboriginal stakeholders is required. Should potential impacts be identified consultation with Aboriginal stakeholders will be undertaken. This consultation will entail the provision of a report for stakeholder comment (10 working days) detailing the impacts and mitigation strategies proposed.

References

Oxley, J. 1820 Journals of Two Expeditions into the Interior of N.S.W. John Murray: London.

RMS 2011. Procedure for Aboriginal cultural heritage consultation and investigation.

South East Archaeology Pty Ltd, 2010. Aboriginal heritage impact assessment of the proposed upgrade of the Pacific Highway between the Oxley Highway and Kempsey, New South Wales. Report prepared for GHD.

Appendix A Aboriginal Stakeholder Comments

No comments were received from Aboriginal stakeholders during the consultation process.

Appendix B AFG Minutes

MEETING MINUTES



Transport
Roads & Maritime
Services

Name of meeting: Aboriginal Focus Group for Oxley Highway to Kempsey
AFG for OH2K

Location of meeting: Telegraph Point

Meeting facilitator: Andrew Cook RMS, Dr Matthew Kelleher KNC

Date: 9/08/20012 **Time:** 12:30 pm

Attendees: Steven Miles – Chief Executive Officer, Birpai LALC
Lindsay Moran – Sen. Cultural & Heritage Officer, Birpai LALC
Harold Smith – Representative of Dunghutti Elders Council and Kempsey LALC
Andrew Cook – Environmental Manager, RMS
Belinda Bock – Environmental Officer, RMS
Michael Murphy- Environmental officer, RMS
Alison Nightingale – Archaeologist, Kelleher Nightingale Consulting - KNC
Dr Matthew Kelleher- Archaeologist, KNC

Apologies: Peter Wood – Project Implementation Manager, RMS
Todd Lyall – Project Manager, RMS

Welcome by Andrew Cook,

- apologies for Peter Cook & Todd Lyall
- Review from the last AFG held 12/3/2012 till now 08/12
 - Still carrying out Geotechnical survey in the filed
 - Other early works is being carried out ie Investigation of Ground Water
 - Detailed Survey work
 - Review of Concept design
 - Detailed Design investigations
- Explanation of the total project that has been approved by the Department of Planning and Infrastructure (DoPI). Conditions of Approval B18 and B19 from the Director-General refers to test and salvage investigations. Reference made to the Plan in the Draft CHAR and draft methodology for salvage works.
- Note that 6 known Aboriginal heritage sites are proposed to be impacted by the current design, and 4-5 PADs will also be impacted. Maria River known or potential Aboriginal heritage in the vicinity of Maria River is not proposed to be impacted.
- Potential break up of the project into "Sub projects" and potential starting dates depending on available funding
 - Sandcrox early works potentially starting date May to June 2013
 - Barry's Creek Rest area early works potentially starting date of May to June 2013
 - Northern Section (north of Barry's Ck to Kempsey bypass) potential starting date from late 2013 to early 2014
 - Southern Section (just north of Sandcrox to rest area Barry's ck) potential starting date from mid to late 2014

Minutes

Page 1 of 4

Questions from the group

- "What is the exact location of Sandcrox"
- " Location of the two major bridges over the Wilson & Hastings rivers"

Presentation of the CHAR by Dr Matthew Kelleher

Past history of the project

- original planning carried out in 2004
- field Archaeological survey carried out in 2007 ,2008 and final 2010

From these surveys

- 10 sites were identified near or within the potential project corridor,
 - 6 of the 10 sites will be impacted by the project corridor,
 - 5 the these 6 sites are underground
- The Maria River site will not be impacted by the project und the latest design plan
- Dalhunity Island was clear
- North of the Hastings river site
 - Rich site needs to be salvaged
 - Past test pit has generated 400 artefacts

Future Works

- Salvage at two points as per the CHAR
 - North of Hastings river
 - North of Wilson River
- Test pits at
 - Smith Creek east
 - Pipers Creek east
 - Cooperabung 1
 - Cooperabung 2
 - Northern bank of Wilson river
- It is anticipated that the work will take approximately 8 weeks commencing no sooner than 4 weeks from now
- That a team of 4 archaeologist and 4 representatives from the three registered stakeholder groups, including the Local Aboriginal Land Council will be required for the works.
- That the four representatives from the Local Aboriginal Land Council would consist of at least one experienced person and trainee's to add value in passing on experience and knowledge within the Aboriginal community.

Questions from the group

"how will they be hired?"

- RMS will set up a contract as per the APACHE system to the LALC – to be organised by Andrew Cook

" when will this happen?"

- RMS will make contact with the LALC within the next few weeks- Andrew Cook

"could the ratio be one (1) elder to three (3) LALC field officers "

- It is up to the LALC to choose the make up as long as the people are interested in the work and willing to work – Matthew Kelleher
- There is a bora ring located off Mingaloo Road but not located near the project and is not proposed to be impacted.
- Request for monitoring was discussed, it is RMS policy and written within the PACHCI that no archaeological monitoring would be undertaken. This might pose a safety risk and also it is RMS preference for all investigations to be up-front to identify risks and mitigation measures, and avoid any 'surprises'. In the unlikely event of an unexpected find, then 'stop works' procedures would be in place and further investigation would be undertaken.

Appendix C Geomorphic Context



Figure 12. Geology OHK46/A and OHK47/A

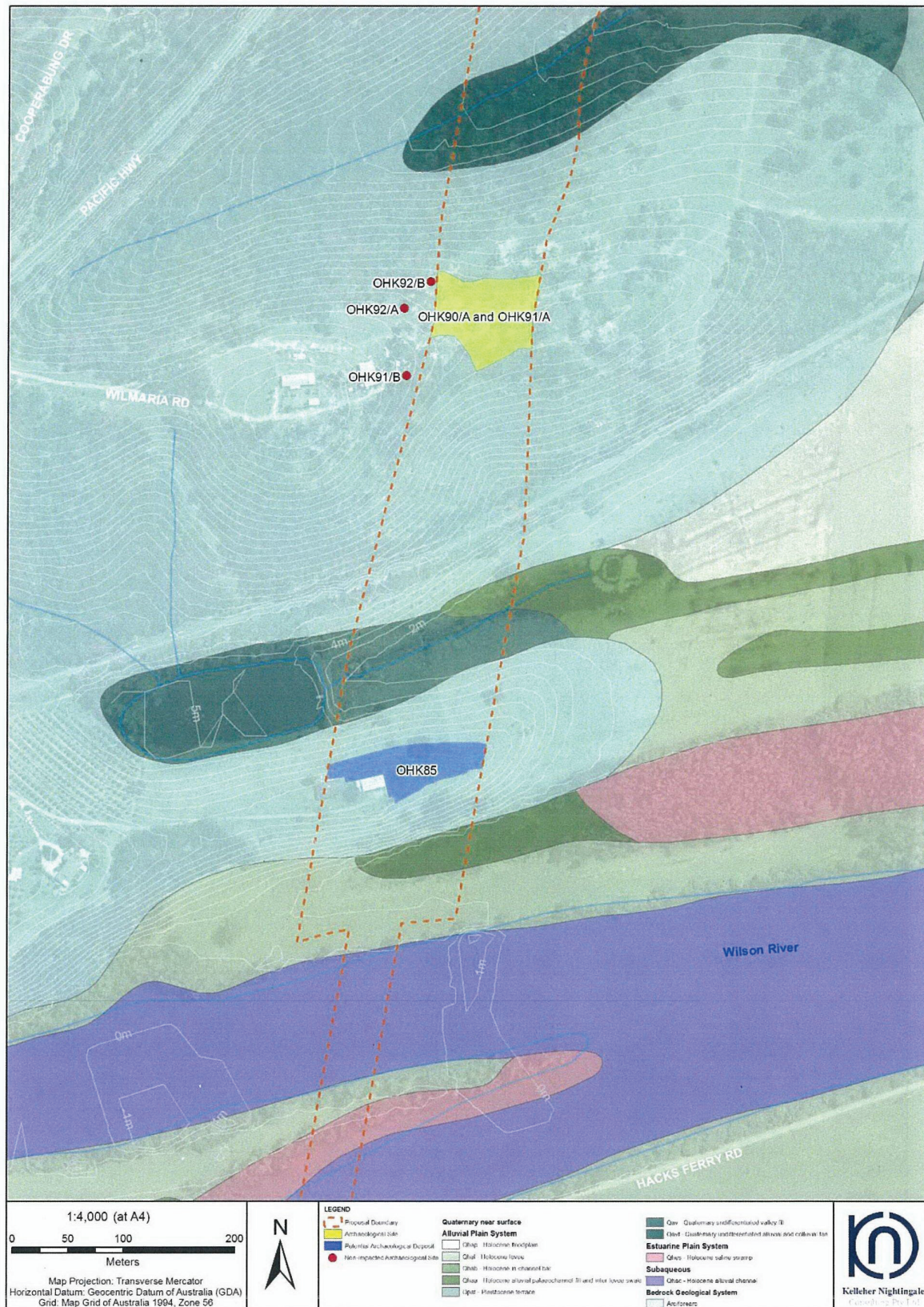


Figure 13. Geology OHK85 (PAD), OHK90/A, OHK91/A, OHK91/B, OHK92/A and OHK92/B

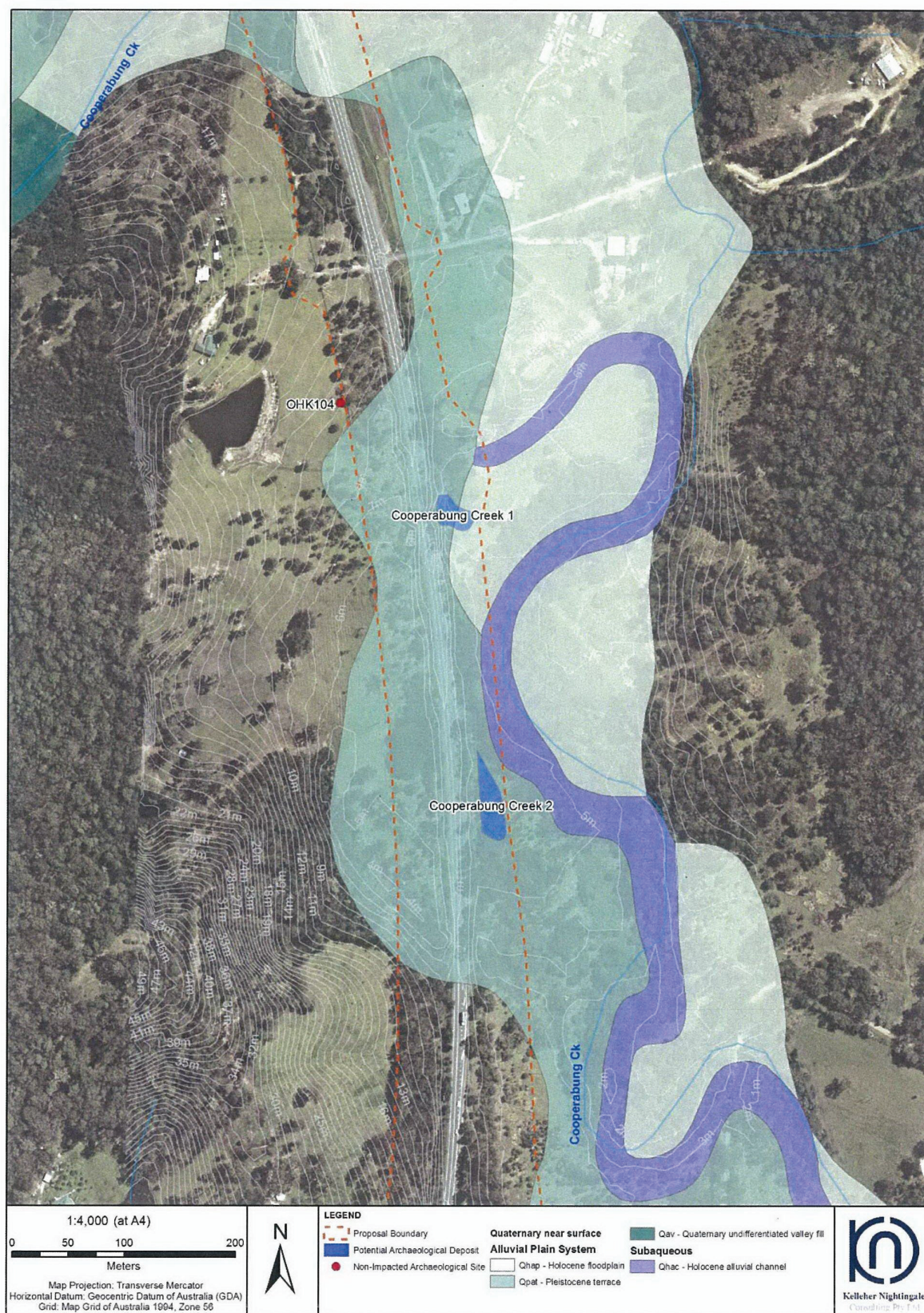


Figure 14. Geology Cooperabung Creek 1 (PAD), Cooperabung Creek 2 (PAD) and OHK104



Figure 15. Geology Smiths Creek (PAD)

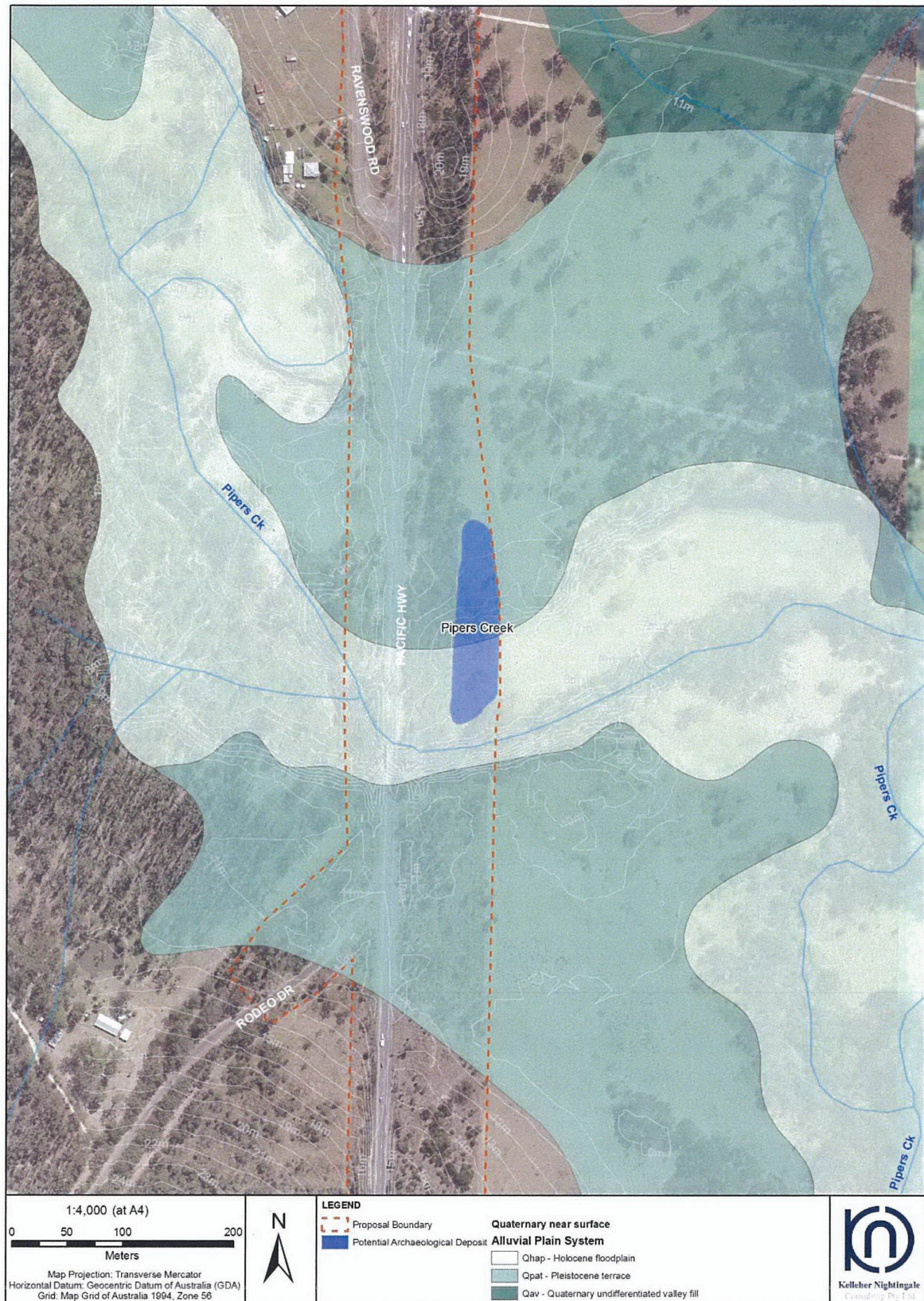


Figure 16. Geology Pipers Creek (PAD)



Figure 17. Geology Maria River (PAD)