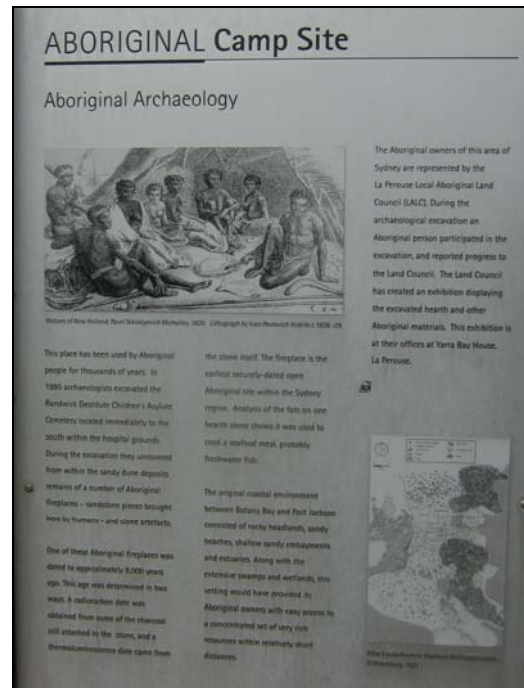


**PRELIMINARY ABORIGINAL
ARCHAEOLOGICAL ASSESSMENT
PRINCE OF WALES HOSPITAL
RANDWICK, NSW**



Display at Prince of Wales Hospital about Aboriginal campsites located 300m south-west of the study area during excavations in the 1990s.

Mary Dallas Consulting Archaeologists

March 2012

Report to
WorleyParsons



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1.0 Introduction

1.1 Background to Project

This report has been prepared by Mary Dallas Consulting Archaeologists (MDCA) for WorleyParsons on behalf of Thinc Projects to fulfil the requirements of the amended Director-General's Environmental Assessment Requirements [DGR's dated 23rd February 2012] Item 7 covering Stage 1 of the project. It presents the results of a Preliminary Aboriginal Archaeological Assessment of the north-eastern portion of the Prince of Wales Hospital complex at the corner of Avoca and High Streets, Randwick, at which location a Comprehensive Cancer and Blood Disorder Clinic is proposed to be constructed. The location of the study area in its local and immediate context is shown in **Figures 1 & 2**. The preliminary Aboriginal archaeological assessment has been prepared to inform overall planning of the project, which is proposed to be assessed as a State Significant Development (SSD) under Part 4, Division 4.1 of the Environmental Planning & Assessment Act (1979).

Construction is proposed in two stages, as shown in **Figure 2**. Stage 1 is located between existing buildings and Avoca St, and is currently primarily a carpark, with a number of underlying services. It involves the demolition of small existing structures (toilet block and bandstand) north of the Edmund Blackett building, removal of the carpark and removal/relocation of underlying services, and excavation and installation of four basement level bunkers for the storage of radioactive materials. Stage 2 involves the demolition of the existing hospital building between the Blackett building and High St, and construction of a new multi-level clinic on broadly the same footprint as the existing structures. The Superintendent's Residence will not be impacted by the proposal.

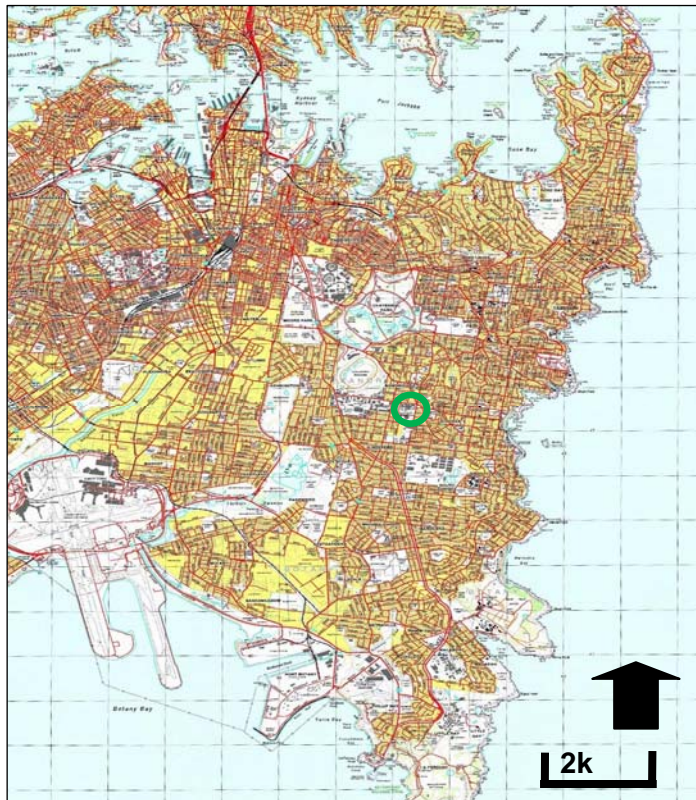


Figure 1. Prince of Wales Hospital complex in the context of greater Sydney.

[Adapted from Dept Lands TopoView 2006]

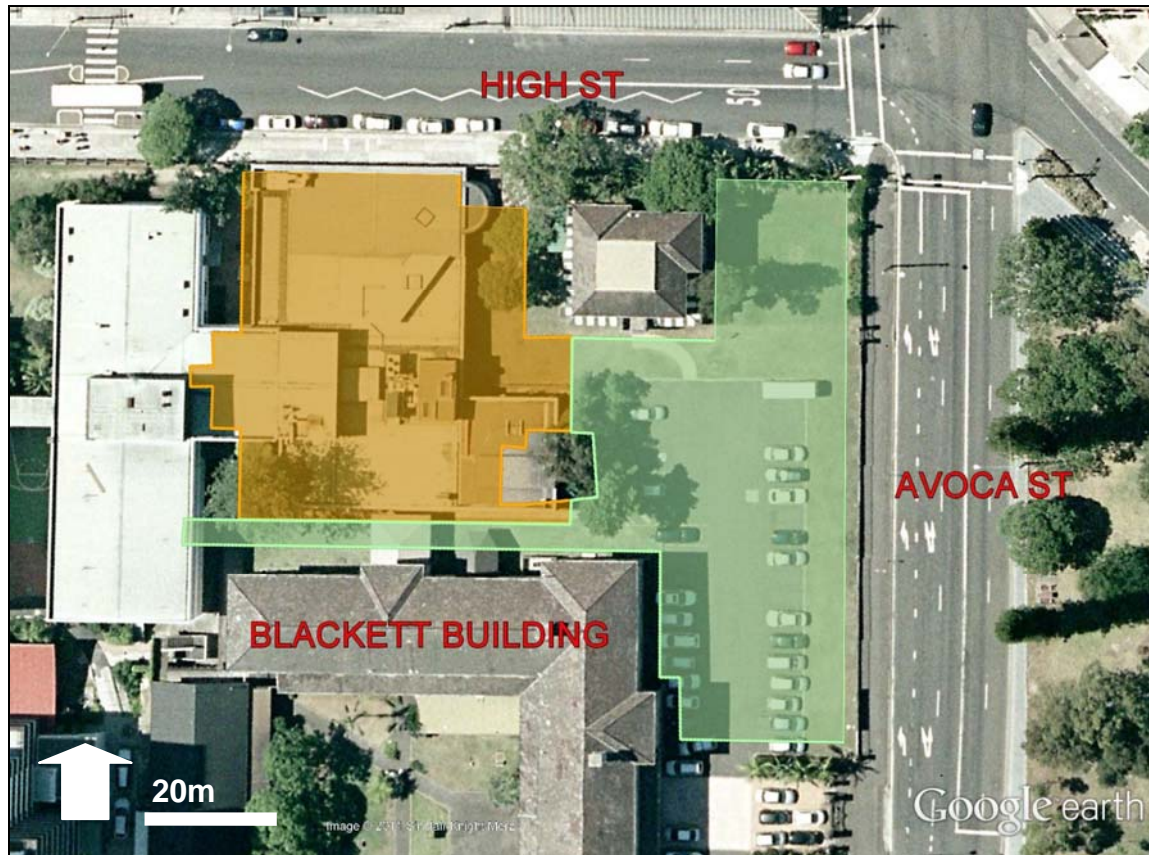


Figure 2. The study area showing proposed Stage 1 (green) and Stage 2 (orange) in relation to existing structures.

1.2 Scope of Works – Aboriginal Archaeology

The current preliminary Aboriginal archaeological assessment has involved a review of relevant environmental, historical and archaeological contextual information, a site inspection and an assessment of the Aboriginal archaeological sensitivity of the study area. Specifically it considers whether the archaeological sensitivity documented further south within the Prince of Wales Hospital Complex, relating to the identification of significant Aboriginal archaeological remains within dune deposits, may also apply to the current study area. The assessment has resulted in the formulation of recommendations for the appropriate management of Aboriginal remains if they are found to occur within the study area.

1.3 Aboriginal Community Consultation

The Prince of Wales Hospital campus falls within the administrative boundaries of the La Perouse Local Aboriginal Land Council (LaPLALC), and also has traditional and historical associations to Dharawal people and the wider La Perouse community, who are represented by the Dharawal Elders.



1.4 Statutory Requirements

The Comprehensive Cancer and Blood Disorder Clinic project is proposed to be assessed as a State Significant Development under Part 4 Division 4.1 of the Environmental Planning & Assessment Act (1979 as amended). Under Section 89J, Aboriginal heritage impact approvals under s.90 of the National Parks & Wildlife Act 1974 (as amended) which would usually be sought for archaeological investigations or proposed impacts to Aboriginal heritage sites, are not required for such projects. However approval will be subject to Director-General's Requirements which are likely to require that potential impacts to Aboriginal heritage are considered in the planning process.

The current report has been prepared in anticipation of that requirement, and to identify any potential impacts to Aboriginal archaeological remains which may require further investigation.

1.5 Authorship

This report has been written by Mary Dallas and Paul Irish.



2.0

Environmental & Historical Context

The following sections briefly outline the environmental context and land use history of the study area. Geology and geography are strong determinants of why and how Aboriginal people may have used the local landscape and what kinds of archaeological evidence may have been created, just as subsequent geomorphological and historical changes will affect how and what of this evidence may survive. It is therefore necessary to consider all of these factors to accurately gauge the type, nature and location of Aboriginal archaeological remains which may be present within the study area.

Note: The vast majority of environmental information comes from historical records, plans and images which represent the landscape as it was around the time of first European contact. It is not known how far back in time this can be projected, but it is worth considering that the Aboriginal archaeology which has so far been found at Prince of Wales Hospital dates to a period (ca. 8,000 years ago) of great landscape change at the end of the last ice age, prior to the stabilisation of sea levels at around their current level. The landscape as seen by Aboriginal people at that time may have been considerably different to that which we can recreate from historical records, especially with respect to the location of ephemeral freshwater swamps (which would have been important sources of fresh water and other resources). The extent of major topographical change to the dunes is also unclear. Caution should therefore be applied in relating this information to likely Aboriginal use of this changing landscape.

2.1 Landform and Geology

The study area is situated within a broader sand dune system extending across much of eastern Sydney, comprising Quaternary wind-blown sands, locally and elsewhere dated to around 35,000 BP. The topography of the surrounding area is defined by these dunes, broadly aligned southeast to northwest and up to 20-30m in height. A sense of the height and parallel nature of these dune ridges can be gained by travelling along the undulating terrain on Barker or High Streets between Avoca Street and Anzac Parade. Due to their substantial nature, the dunes have survived broadly in their original (i.e. 1788) form, though often with significant impacts to their uppermost units from historical land use.

A range of archaeological and geotechnical investigations have shown that the dunes consist of a common stratigraphic sequence. The thickness and specific composition of the horizons (particularly the 'coffee rock') within these dunes varies, which are described either as the Newport or Tuggerah Soil Landscape according to soil classification mapping for the region (Chapman *et. al.* 1989). A typical stratigraphic sequence is outlined in **Table 1** and illustrated in **Figure 7**.

Intact Aboriginal occupation deposits dated at 8,000 years ago have been identified within the A2 horizon [leached fine loose white dune sand] of the dune about 350m south-west of the current study area within the area of the former Randwick Destitute Children's Asylum Cemetery.



Table 1. Typical eastern Sydney dune stratigraphy.

Horizon	Typical Thickness	Description
A1	0 - 0.3/0.4m	Thin upper humic topsoil
A2	1.0 – 1.5m	Leached white Aeolian sands
B1	0.5 – 1m	[Precipitation Zone]. Heavily indurated mottled sands described as Waterloo or coffee rock
B2	Various	Unweathered yellow sand
Bedrock		Sandstone bedrock

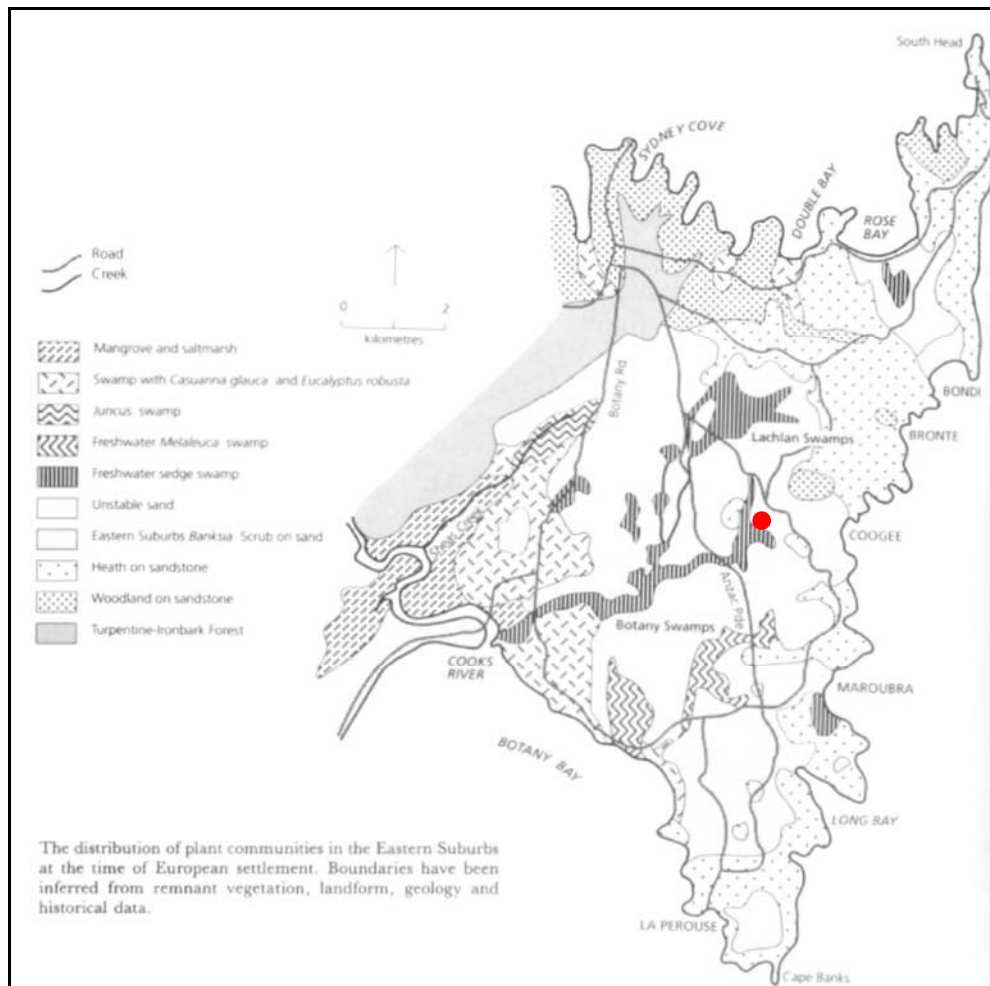


Figure 3. Study area (red) in relation to the recreated contact era vegetation and dune/swamp systems of the eastern suburbs.

[Adapted from Benson & Howell 1995:90].



Between the dunes were swales sometimes filled with small freshwater swamps. Historical plans indicate that the hill on which the study area is located formed a spur between two arms of a freshwater sedge swamp system known as 'Bird's Gully' which drained southwest into the Lachlan Swamp system and into Botany Bay (**Figures 3 & 4**). The current study area is located near the top of this hill and is associated with localised outcropping Hawkesbury Sandstone, as opposed to the dune sands which characterise the lower slopes. This is suggested by historical photographs (**Figure 5**), currently visible outcropping sandstone within and to the south of the study area (**Figures 4 & 6**) and has been confirmed by recent geotechnical investigations within the study area (Douglas Partners 2011). These investigations demonstrate that deposits within the study area are characterised by a layer (up to around 0.5m thick) of recent rubble and soil fill associated with historical disturbance underlain either directly by sandstone bedrock or some possibly original sandy soil horizons which may represent a truncated original soil profile.

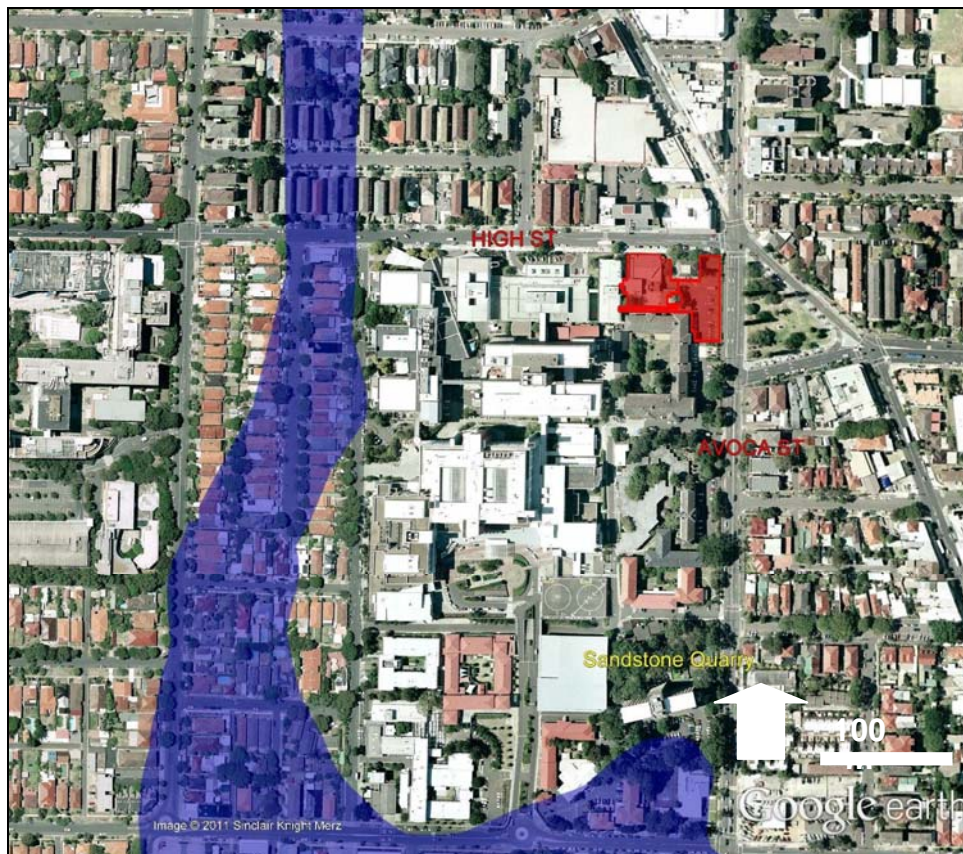


Figure 4. Approximate location of the upper reaches of the freshwater Bird's Gully swamps (blue) in relation to the study area (red).

[Note implied form of dune within Prince of Wales Hospital in the centre of the two arms of the swamp. Also note sandstone quarry indicated in yellow. Created using undated Alexandria parish map (Department of Lands Parish Map Preservation Project) overlain with details from 1866 Water Board plan as adapted and reproduced in Benson & Howell 1995:91].



Figure 5. View east to Blackett building showing flat and bare landscape after initial tree clearance.

[Note photo is undated but likely late 19th century. The western end of the study area is shown at centre left.
Source: Lynch and Larcombe 1976:43].



Figure 6. Sandstone exposed by excavation at the base and rear of building adjacent to and at same level as the Blackett building.



Figure 7. Typical Eastern Sydney dune profile missing A1 Horizon.

[Documented in recent excavations by MDCA at Long Bay Correctional Complex].

This has important implications for the Aboriginal archaeological sensitivity of the study area. The adjacent dune deposits downslope retain the potential to contain significant Aboriginal archaeological remains where they have survived relatively intact. Furthermore, these remains may be located considerably below the current ground surface, increasing their likelihood of survival. These dune deposits are demonstrably not located within the study area, which instead is characterised by sandy soils formed from the decomposition of the underlying sandstone, and which are highly susceptible to erosion and vulnerable to historical impacts due to their elevated location.

2.2 Vegetation and Resources

The vegetation present on the dune in early historic times was a mixture of 'heath, scrub and low forest vegetation with a rich variety of shrubs' including banksias and grass trees (Benson & Howell 1995:90-91), known collectively as Eastern Suburbs Banksia Scrub. The dune drained into the freshwater sedge swamplands of Bird's Gully. These swamps would have supplied fresh water and a range of valuable plant resources for food and equipment (e.g. fibres) as well as being a magnet for local fauna and birds. The dunes themselves would also have provided an array of plant foods including fruits, nectar, tubers and roots (Benson & Howell 1995:12ff) and probably also freshwater fish, eels and freshwater mussels. Freshwater was also available from rock holes in the general area, as Cook found in 1770 (Navin Officer 2003:11).



The extent to which these resources (or others) were available (and exploited) in the more distant past is not known, though lipid analysis of one of the hearth stones excavated to the south-west of the study area from the dune underneath the Asylum cemetery, indicated that freshwater fish were cooked on the fire (Austral/Godden Mackay 1997 Volume 2 Part 3:30). As the rich resources of the ocean shore and Botany Bay were always at least several kilometres away from the study area, and even further away during the Pleistocene, they are unlikely to have been exploited by Aboriginal people based at a permanent campsite here, within the dune system. These factors, and the low densities of stone artefact evidence from the site, suggest that Aboriginal occupation was of relatively short duration and focussed on the exploitation of local resources. However the nature of Aboriginal occupation in this period is poorly understood due to a lack of archaeological data.

2.3 Land Use History

The land use history of the study area has been detailed in the European Archaeological Assessment for the current proposal (Casey & Lowe DRAFT 2011) and indicates that despite the construction of the adjacent Blakett Building and Superintendent's Cottage in the mid 19th century, impacts other than initial tree clearance within the study area have been minimal until the construction of a military hospital in the western end of the study area in 1918 and the subsequent construction of a cancer treatment centre in the western half of the study area in 1970. This, and the installation of associated services in the eastern portion of the study area, are likely to have resulted in substantial disturbance to the original soil horizons in the study area, and this is confirmed locally by geotechnical investigations undertaken at the site (Douglas Partners 2011).

Aboriginal associations with the general area did not cease after the arrival of Europeans. Although no direct references to the use of the specific study area by Aboriginal people after this time have been located to date, it is likely that, at least until the mid-nineteenth century, Aboriginal people continued to use the resources of the swamp and dunes, though after this time movement became more restricted by advancing European rural and suburban subdivision.

Doctoral research is currently being undertaken by one of the current report authors, Paul Irish, into post-European contact Aboriginal places within the Sydney region¹. The research database currently contains records for over 300 places, amalgamated from previous and current archival and archaeological research, none of which are within or immediately adjacent to the study area (Irish 2011). Major post-contact settlements in the area were at La Perouse, Botany and Banksmeadow as well as Bondi, Long Bay and Little Bay. For example, there are records of a major camp near Long Bay for Aboriginal people occupied before and for some time after the arrival of Europeans (MDCA 2005:59). A shelter with midden in Long Bay may also have been used by Aboriginal people in the historic period for smallpox victims (MDCA 2005:46). It can be assumed an unknown number of Aboriginal prehistoric and historic sites have been destroyed by the intense development across the eastern and south eastern Sydney area.

¹ Through the Australian Centre for Indigenous History, School of History, Australian National University.



Aboriginal people were also associated with many of the early industries and recreational sites in the area such as Centennial Park and Randwick Racecourse (Centennial Park and Moore Park Trust 2003, Dominic Steele Consulting Archaeology 2006). It is therefore possible that Aboriginal people worked in the Destitute Asylum or Military Hospital in some capacity. It is also possible that Aboriginal servicemen were among those treated at the hospital in the First and Second World Wars.

The Edmund Blakett building was the site of the Randwick Destitute Children's Asylum which was in use from the 1850s to 1910s. Aboriginal children were among those who lived at the asylum, and those who died were among the many burials in the Asylum Cemetery towards the base of the dune about 300m south-west of the study area. The association of these Aboriginal children with the Asylum is likely to provide the area with a degree of significance to the La Perouse Aboriginal community.

Any Aboriginal consultation or additional archaeological investigations within the study area will provide an opportunity to examine further any possible historical Aboriginal associations with the site, which might be incorporated into site interpretation.



3.0 Archaeological Context

3.1 Local Site Distribution and Occupation Patterns

A search of the Office of Environment & Heritage Aboriginal Heritage Information Management System [AHIMS] online database showed that no previously recorded Aboriginal sites are located within the study area². The nearest and only known site within 500m of the study area is a significant open camp site containing a series of hearths and a small number of stone artefacts and manuports. This site [see below] was located in an Aeolian sand ridge within and along the western boundary of the former Prince of Wales Destitute Children Asylum Cemetery which lay about 300m south-west of the current study area.

Most recorded Aboriginal archaeological sites in the local area appear to be middens and rock engravings. This is broadly typical of the eastern Sydney coastline between the harbour and Botany Bay, due to the prevalence of sandstone shelters and platforms, sandy embayments and rocky headlands. Considerable concentrations of sites (rock engravings in particular) occur (and partially survive) at La Perouse, Long Bay, Maroubra, Coogee and Bondi. There are a number of sites containing human burials, whereas open campsites, apart from open shell middens, are not well represented in the local area. The extant sites are mostly located in bushland reserve, national park, golf courses and other lands containing minimally disrupted land surfaces and sub surfaces.

It was noted above (**Section 2.0**) that caution should be exercised in projecting the early historical landscape too far back in time (especially to the period of environmental change in which archaeological evidence has so far been documented). This applies even more so to the use of early historical and relatively recent archaeological data on how Aboriginal people used the Sydney region. Firstly, we currently know very little about how Aboriginal people used the Sydney area prior to the stabilisation of sea levels to roughly modern levels by the end of the last ice age (around 6,000 years ago), with the Prince of Wales Hospital Aboriginal archaeological site and a handful of others providing the only direct evidence. Secondly we know that the period in which these sites were used was one of significant environmental change which, amongst, other things, is evidenced by the subsequent burial of the Prince of Wales Aboriginal hearths by drifting, wind-blown sands. Lastly, we know from archaeological evidence that use of stone and other raw materials and the type of finished implements changed markedly over the last 10,000 years, but we have little archaeological evidence of any organic materials for food extraction or implements prior to around 4,000 years ago.

The Prince of Wales Destitute Children's Asylum Cemetery Aboriginal archaeological excavations concluded that models of Aboriginal movement and subsistence based on historical and recent archaeological records did not adequately explain the nature of the evidence uncovered, and suggested alternate explanations (see below). If further archaeological evidence is found within the study area it is likely to greatly advance our understanding of the nature of early Aboriginal occupation of the area.

² AHIMS online searches 6/12/11 of MGA coordinates in Zone 56 336900E-337900E, 6245100N-6246100N and 336300E-336500E, 6245500N-6245700N.



3.2 Aboriginal Site Investigations

The majority of investigations in the local area in recent years have been undertaken in relation to the archaeological sensitivity of the Aeolian dunes rather than the residual soils formed from decomposing sandstone which characterise the current study area. However the significance of any extant Aboriginal archaeological remains within the current study area is related to the remains from these contexts, and the most relevant studies are reviewed below.

3.2.1 Prince of Wales Godden Mackay-Austral Investigations 1995-7

The Randwick Destitute Children's Asylum Cemetery at Prince of Wales Hospital was the subject of a series of investigations prior to the construction of the infectious diseases clinic known as the Kiloh Centre. Initial investigations were conducted by Bickford (1994a,b,c), followed by the Austral/Godden Mackay survey and archaeological salvage of the Cemetery. The aim of the latter investigation was to retrieve maximum information concerning the Cemetery, the burials and the Cemetery context. The work is documented in a series of published reports (Austral/GM 1995; June and May 1996; Dec 1997: Final Report 4 Vols.)³. The latter investigation was undertaken following the demolition of the WW1 Hospital Huts and on exposure of bone across parts of the post-demolition surfaces. The excavations of the Cemetery were planned and executed as an exhumation of the remaining children's graves for the future re-interment, consecration and commemoration at an appropriate site within the Prince of Wales Hospital grounds.

The northern extent of the site, or its surviving extent, was defined by the limit of immediately prior major excavations through bedrock for the new Hospital car park, under the Capital Works Program. Sands from the dune were removed and on sold as bunker sand to local golf courses. Most of the eastern portion of the Cemetery including its eastern boundary fence had been removed during the excavation/levelling of the dune for the construction of the WW1 Hospital Huts. The levelling⁴ had removed and may have pushed at least some of the original top soils and the upper portion of the A2 Horizon white sands from east to west. These disturbed [but local] sands were then made to form a short steep batter on the western and southern boundary of the site under which was found the remaining truncated dune containing the remaining burials and also the southern and western side slopes of the dune under the batter material (see Austral/Godden Mackay 1997: Vol. 2, Pt 1, Figure 6.36, p.128). The removal of the northern portion and eastern side of the Cemetery during the earlier construction phases described above accounts for the discrepancy between the number of burials identified by the archaeological excavations and the Asylum Cemetery records.

In addition to the exhumation of distinct burials, the broader Cemetery context was also investigated by a series of mechanical trenches through the dune side slopes. During the course of these investigations a series of deflated stone hearths (Austral/Godden Mackay

³ There are also the original records of the investigation including an extensive photographic record and weekly reports made by the Field Supervisor, Peter Douglas pers comm. 3.12.08 The unpublished field records, reports, site plans and section drawings are the subject of a confidentiality agreement between the consultants and the SEAHS.

⁴ Peter Douglas pers. comm.. 3.12.08



1997 Vol. 2, Part 3) of Aboriginal origin was located beneath the children burials and within the Cemetery boundaries towards its western boundary. The hearths were identified within the A2 Horizon below the burials. The hearths had not been disturbed by the graves, but showed signs of having been subject to localised displacement by prevailing winds for a time and subsequent covering by wind-blown sands. The hearths comprised a series of small sandstone cobbles brought into this particular location for the specific purpose of creating fireplaces on which there is firm evidence that at least one freshwater fish meal was cooked.

Carbon attached to one of the hearth stones was dated to about 8,000 years ago. A Thermoluminescence date on one of the hearth stones confirmed this date as the time the hearth was last exposed to sunlight, and others throughout the dune profile confirmed this date in terms of its relative positioning in the A2 Horizon. A lipid analysis on one of the hearthstones showed what type of animal had been cooked at the hearth.

The evidence for the early Aboriginal occupation at this place also included a small number of stone artefacts, the paucity of which was thought to represent a reliance on wooden implements, such as digging sticks, fishing nets or lines, boomerangs, spears, coolamons etc, or those of a type commonly associated with resource extraction in swamp or wetland environments which do not rely on stone artefacts. The highly acidic nature of the dune sands had destroyed any such evidence. The rate of decay of the human remains within the Cemetery above this Aboriginal site strongly suggest that animal or fish bone or human remains would not survive beyond about 300 years ago. No shell remains were found in or near the hearth site, or elsewhere throughout the excavated dune. Unless thick shell midden deposits had been laid down by the Aborigines in the past, within which organic remains may also have been deposited and preserved in this highly alkaline context, there is little or no likelihood that organic remains can survive in the acidic sands.

The management outcome for the Aboriginal site was total salvage and storage until suitable reconstruction and interpretation could be arranged within the La Perouse Community or at the La Perouse LALC offices at Yarra Bay.

3.2.2 Prince of Wales MDCA Investigations 2008-2010

Immediately to the south and west of the Asylum cemetery, on the northern side of Barker Street, MDCA conducted a series of investigations relating to the construction of the Neuroscience Research Precinct. These investigations were triggered by the Aboriginal archaeological remains described above within the Asylum cemetery area upslope within the same dune. The investigations involved a detailed review of geotechnical information, aerial photography and other land use information to determine the likely archaeological sensitivity of the area (MDCA 2008). Following this, monitoring was undertaken of an area immediately to the north of Barker Street following demolition of existing structures. This revealed the presence of some original upper dune profiles with the potential to contain Aboriginal archaeological remains. Archaeological test excavation of these however retrieved no Aboriginal archaeological material (MDCA 2010).

3.2.3 Long Bay Correctional Complex (MDCA 2007)

The archaeological investigation of the site of a new 85 bed Prison Hospital within the Long Bay Correctional Complex [MDCA 2007] aimed to investigate potentially undisturbed



subsurface sand dune deposits following the demolition of prison industry and store buildings and exposure of deposits below the footings and concrete slab foundations. In this respect it was similar to the investigation proposed for the post demolition investigation of the Neuroscience Research Precinct.

The Aboriginal archaeological assessment of the prison complex found that the construction of the new Prison Hospital could impact upon potentially artefact bearing dune deposits typical of eastern Sydney and similar to those found at the Prince of Wales Hospital site. The area of sensitivity was identified [MDCA 2005; Figure 2] on the basis of its locational suitability (on the eastern end of an elevated ridge along the northern portion of the Long Bay Correctional Complex) as an Aboriginal campsite (in contrast to adjacent boggy areas) and the possibility for the sandy deposits underlying existing structures to retain undisturbed evidence of Aboriginal occupation. The assessment recommended that archaeological test excavations of the area of Archaeological Sensitivity be undertaken following demolition of the industry and store buildings at the site.

This demolition work involved removal of all extant structures as well as underground fuel storage tanks. It also included extensive fuel contamination remediation works and asbestos removal. This reduced the extent of the area of Archaeological Sensitivity. Exposure of post demolition deposits showed that the south eastern half to two thirds of the site were in an area subject to past excavation/levelling to a depth of a metre or more compared to the adjacent area to the northwest. Deposits exposed in this area included basal yellow sands which have been shown to be archaeologically sterile (Dallas, Steele, Barton & Wright 1997). The foundations and footings and underground services of the existing buildings were found to have disturbed subsurface deposits to varying degrees. Some areas had relatively undisturbed natural soil profiles underlying fill of variable thickness and others in which that profile had been truncated by past activities. One area approximately 10m x 15m appeared to also retain original topsoil under about 10cm of recent sand and rubble. There was also an area of level sandstone platform close to the ground surface identified as a potential engraving site which may have been exposed in the past. The archaeological testing program included manual and mechanical sub-surface excavations which sampled all areas not subject to major disturbance through past and recent activities.

Two stone artefacts were uncovered from both the A2 horizon and from disturbed upper/fill layers. They were not considered indicative of intact or *in situ* archaeological deposit, but rather derived from deposits which have been removed, churned or totally disturbed by the building construction phase. Secure carbon samples suitable for radiocarbon dating were not retrieved and the stone artefacts could not be relatively dated on typological grounds. All bone retrieved was found to be of recent introduced animal species.

The paucity of Aboriginal cultural remains at this site was considered to be a factor of site disturbance coupled with the likely low intensity usage of the area by Aboriginal people, generating low densities of cultural material susceptible to disturbance by natural erosion and historical activities (MDCA 2007:45).



3.2.4 Prince of Wales Hospital Conservation Management Plan (GBA 1997)

The Conservation Management Plan (Graham Brooks & Associates 1997: 7.2.3, p.102) broadly considered the Aboriginal archaeological potential of the hospital campus and noted that subsurface deposits across the campus could potentially contain Aboriginal relics. The Aboriginal archaeological potential or sensitivity of the current study area was not however specifically discussed.



4.0 Site Inspection

A site inspection was undertaken by MDCA Archaeologist Mary Dallas on Monday 5th December 2011 to assist in the assessment of the Aboriginal archaeological sensitivity of the study area. Due to the known lack of exposed original terrain within the study area, it was not anticipated that Aboriginal archaeological remains would be located, and this was confirmed during the site inspection. The following observations of relevance to the current assessment were made.

Exposed sandstone observed adjacent to the Blackett Building (see **Figure 6**) and at a similar elevation suggests that the study area is both completely underlain by sandstone bedrock (as opposed to Aeolian dune) and that this sandstone is relatively high in the profile. Impacts to deposits overlying the sandstone bedrock, and the bedrock itself are visible across the study area. For example, the cutting between the Oncology building and Blackett Building penetrate below the known level of sandstone in this area and must have removed all overlying soil deposits (**Figure 8**). Similarly there is evidence of subsurface disturbance in the form of service infrastructure across otherwise seemingly minimally disturbed areas such as lawns and footpaths (**Figure 9**). The main carpark area (**Figure 10**) is also known to be underlain with a number of service trenches.



Figure 8. Cutting before the Oncology Building and Blackett Building showing deep excavation below Blackett level and into sandstone bedrock.



Figure 9. Open area between Oncology and Blackett Buildings showing underground services in grass and under pavement.



Figure 10. View south across main car park. This area is underlain by numerous service trenches.



5.0 Sensitivity & Management

5.1 Assessment of Archaeological Sensitivity

From the above review of contextual information and the results of the site inspection, conclusions can be drawn about the likely nature of Aboriginal archaeological sensitivity within the study area. It has been shown that although the study area is in close proximity to Aeolian dune deposits which have been demonstrated in the past to contain significant Aboriginal archaeological remains, such deposits are not present within the study area. Instead, this area is characterised by underlying sandstone bedrock which has eroded to produce residual sandy soils which are relatively shallow and highly vulnerable to disturbance and erosion. These deposits have been impacted by the clearance of original timber, historical construction and land use and more recent and substantial construction involving basement level excavations and installation of service infrastructure which has disturbed and/or removed most if not all original soil horizons within the study area. Geotechnical testing has confirmed this, demonstrating that most parts of the study area are likely to contain recent fill deposits 0.5m or more in thickness overlying either a truncated potentially original soil profile, or directly on top of sandstone (and therefore suggesting the absence of any original soils).

The decomposing moist nature of potentially original soil horizons suggests also that the sandstone bedrock in this area has not been exposed in the past, thus precluding the possibility that Aboriginal rock engravings are present within the study area. The only archaeological evidence of past Aboriginal use of the study area which may have survived would be stone artefacts or hearths of a similar nature to those documented within the Asylum Cemetery. However the likelihood of survival of such remains is greatly reduced by the demonstrably high level of historical impact to the relatively shallow original soil horizons within the study area. Specifically, it can be concluded that such original soil horizons are only likely to have survived in the eastern portion of the study area, which has not been excavated into bedrock for the construction of the Oncology building. Even in this area, a number of service trenches are likely to have disturbed if not removed original soil profiles and this is confirmed by the results of recent geotechnical testing.

There appears therefore to be a low likelihood of intact original soil profiles remaining within the study area and if present at all, these would be expected to be restricted to localised areas within the eastern portion of the study area which have not been impacted by the installation of service trenches. Even in such areas it appears unlikely that original soil profiles will have survived intact, and are more likely truncated. The upper topsoil (A1) horizon is that which is most likely to have contained archaeological remains but it is not currently possible to establish whether any such horizons have survived across the site.

The study area is therefore assessed to contain an area of Low Aboriginal Archaeological Sensitivity in localised portions of the eastern end of the study area, as indicated in **Figure 11**.

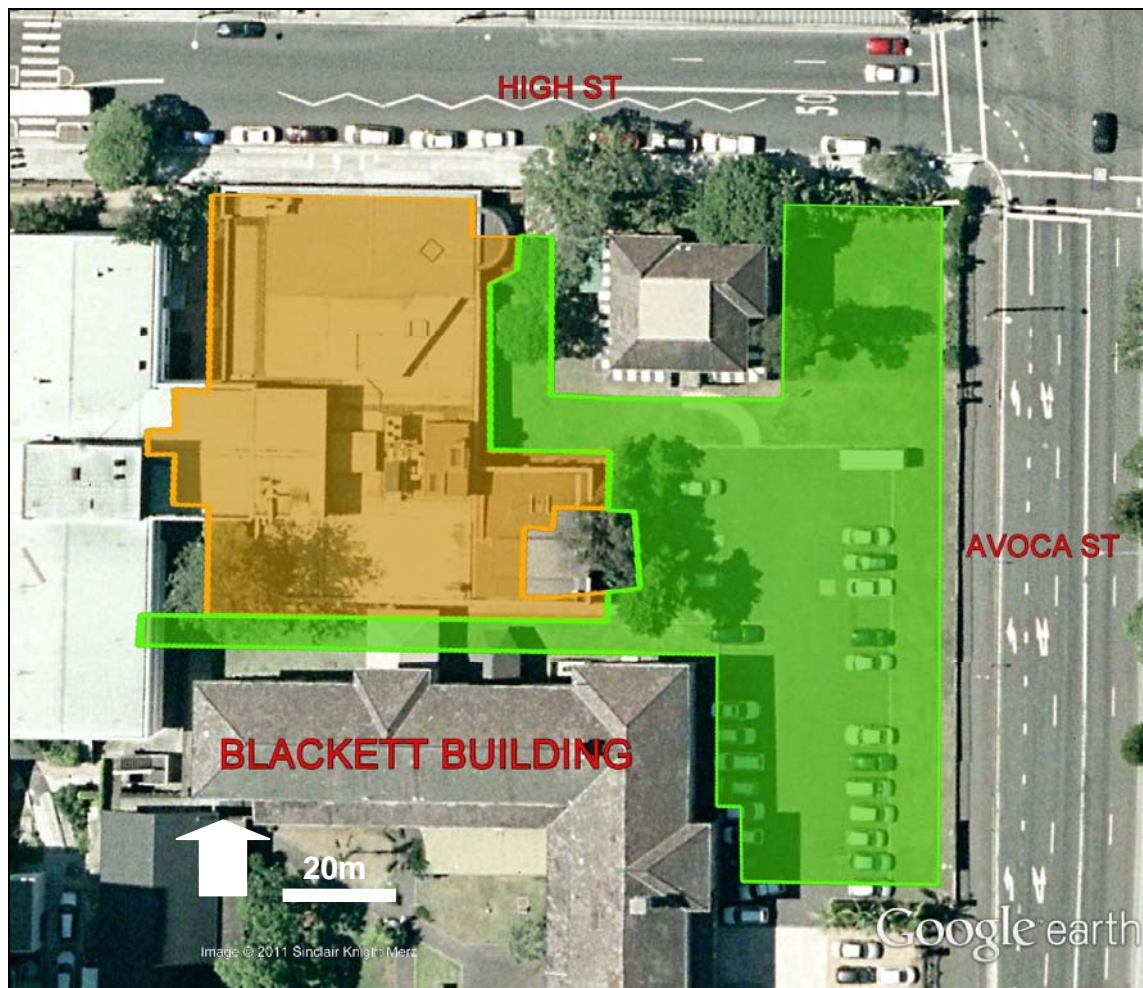


Figure 11. Aboriginal Archaeological Sensitivity mapping within the study area.

[The green shaded area is that assessed as retaining Low Aboriginal Archaeological Sensitivity. Much of this area is disturbed by service infrastructure and other historical impacts but deposit with Aboriginal archaeological potential may survive in parts of this area. The orange shaded area retains no Aboriginal archaeological sensitivity and no further Aboriginal archaeological works are required within this area].



5.2 Proposed Management of Aboriginal Archaeological Sensitivity

Although the likelihood that Aboriginal archaeological remains have survived within the study area is low, any such surviving remains would be of considerable archaeological significance due to the rarity of archaeological evidence located within the broader dune and swamp landscape of the eastern suburbs. The survival of any such remains will be intimately linked to the location of previous historical disturbance, particularly of service infrastructure and cannot be determined accurately without removal of the carpark asphalt, service trenches and any overlying fill layers.

The most appropriate means of establishing the survival or otherwise of deposits with Aboriginal archaeological potential would be through the archaeological monitoring of the removal of the service infrastructure proposed as the initial phase of Stage 1 works. This would provide an appropriate opportunity to confirm whether any original soil horizons are present, their level of intactness and lateral extent, and likely archaeological potential (see **Figure 11**).

If no deposits with archaeological potential are noted during this archaeological monitoring, there would be no requirement for any additional Aboriginal archaeological works.

Should deposits with archaeological potential be identified during archaeological monitoring, these would be further investigated in a manner commensurate to their extent and condition. For example, occasional small patches of potential archaeological deposit amongst service trenches may be most appropriately managed through salvage excavation, whereas more extensive and intact deposits would require archaeological test excavation to determine the presence/absence, extent and significance of any Aboriginal archaeological remains as a basis for appropriate further management decisions.

A methodology for such investigations would be devised according to the results of the archaeological monitoring of service infrastructure removal and would be developed in conjunction with any proposed Historical archaeological excavations and in consultations with the La Perouse Local Aboriginal Land Council and according to applicable guidelines and industry best practice.

As noted above, Aboriginal historical associations with the area, for example of Aboriginal children who lived at the Randwick Asylum are likely to be of ongoing importance to the local Aboriginal community. If there are opportunities for onsite interpretation of the history of the place, consultation should be undertaken with the La Perouse Local Aboriginal Land Council to determine whether recognition of these or other Aboriginal associations with the area would be appropriate to commemorate in some form within the context of the proposed development. This would be consistent with interpretive displays elsewhere within the Prince of Wales Hospital complex (e.g. see cover page image).



6.0

Recommendations

The following recommendations are based upon the legal requirements and automatic statutory protection provided under the terms of the *National Parks and Wildlife Act of 1974 (as amended)*, where;

it is an offence to knowingly damage, deface or destroy Aboriginal sites or relics without the prior consent of the Director General of the National Parks and Wildlife Service,

in conjunction with;

the results of the preliminary assessment of the study area which is documented in this report for this stage of the project.

It is recommended that:

1. No additional Aboriginal archaeological works are required in relation to the current proposal in areas outside of the identified Area of Low Aboriginal Archaeological Sensitivity (as indicated in **Figure 11**).
2. Within the identified Area of Low Aboriginal Archaeological Sensitivity (**Figure 11**), archaeological monitoring of the removal of current surfaces (e.g. asphalt), underlying service infrastructure and recent fill should be undertaken by a suitably qualified archaeologist in conjunction with the La Perouse Local Aboriginal Land Council.
3. If no deposit with Aboriginal archaeological potential is identified as a result of archaeological monitoring within the identified Area of Low Aboriginal Archaeological Sensitivity, no further Aboriginal archaeological works are required in relation to the current proposal within the identified Area of Low Aboriginal Archaeological Sensitivity (**Figure 11**).
4. If deposits with Aboriginal archaeological potential are identified as a result of archaeological monitoring within the identified Area of Low Aboriginal Archaeological Sensitivity, further investigations will need to be undertaken by a suitably qualified archaeologist in conjunction with the La Perouse Local Aboriginal Land Council, consisting of Aboriginal archaeological excavations of a form appropriate to the extent and location of the identified deposits and any applicable approvals or methodologies. These excavations will inform final Aboriginal archaeological management recommendations for the Aboriginal archaeological significance of the study area in relation to the current proposal.
5. Consultation with the La Perouse Local Aboriginal Land Council should be undertaken if opportunities for historical interpretation are proposed within the context of future development, to enable appropriate Aboriginal culture and heritage information to form part of any such interpretation.



7.0

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