

# **Aboriginal Archaeological and Cultural Heritage Impact Assessment**



**14 to 18 Boondah Road and Macpherson Street,  
Warriewood, NSW**

**Proposed Residential Development**

Report Prepared by:

*Banksia Heritage + Archaeology*

For

***Meriton Apartments Pty Ltd***

February 2010

# EXECUTIVE SUMMARY

## Background to this Report

This report has been prepared for *Meriton Apartments Pty Ltd* and presents the results of an updated *Aboriginal Archaeological and Cultural Heritage Impact Assessment* that has been completed in partnership with the *Metropolitan Local Aboriginal Land Council* (MLALC) for a parcel of land located at the corner of Boondah Road and Macpherson Street, Warriewood, which is proposed for future residential development.

*Meriton Apartments Pty Ltd* are currently preparing a *Concept Plan and Stage 1 Project Application* for the site for submission to the *NSW Department of Planning* under Part 3A (Major Project) of the *Environmental and Planning Act, 1979*.

This document has been prepared as a supplement to two previous Aboriginal archaeological and cultural heritage assessments completed for the subject land. The first was prepared for *Meriton Apartments Pty Ltd* in February 2004. The second was completed in September 2008 as a revision to the earlier that addressed a number of changes to the development design options that were being considered for the site at that time.

The current report therefore builds upon the Aboriginal archaeological and cultural heritage findings, conclusions, and recommendations previously reported for the site in 2004 and 2008 to inform the current *Concept Plan and Stage 1 Project Application* to ensure future works do not have an adverse impact upon the Aboriginal archaeological and cultural heritage values of the place.

## Previous Aboriginal Heritage Investigations

The Aboriginal site inspection and heritage assessment prepared for the site in 2004 did not result in the location of any Aboriginal archaeological sites or objects, or in the identification of any other 'clear and obvious' issues of potential Aboriginal archaeological or cultural heritage sensitivity relative to the development proposal considered for the subject land at that time.

It was as a result concluded in the 2004 report that there were no Aboriginal archaeological or cultural heritage constraints to the future development of the study area proceeding as planned. The MLALC endorsed this conclusion and also supported the heritage management recommendations provided in the 2004 assessment prepared for *Meriton Apartments Pty Ltd* by *Banksia Heritage + Archaeology*.

The revised 2008 study presented comparable conclusions and heritage management recommendations to those reported in the original 2004 study in so far no Aboriginal archaeological or cultural heritage constraints were identified for the proposed development options that were being considered at the time. Mindful that the 2008 development design was to be located within the same construction footprint (with minor alterations) to that previously envisaged in 2004, and the fact that no Aboriginal archaeological evidence was identified as being likely to occur on the site, no further site inspection of the subject land was deemed to be required. Following a review of the revised 2008 assessment

report, the MLALC provided support for the conclusions and recommendations presented in that document.

### **Outcomes of the Current Updated Aboriginal Heritage Assessment**

No additional site inspection of the Boondah Road and Macpherson Street site has been considered warranted in advance of preparing this updated Aboriginal heritage assessment. The place has previously been comprehensively evaluated with regard to Aboriginal archaeological and cultural heritage sensitivity, and the site conditions have not changed during the intervening period since 2004.

With this consideration in mind, a review of the results of the previous 2004 and 2008 investigations, and on a basis of an evaluation of additional information compiled within this updated *Aboriginal Archaeological and Cultural Heritage Impact Assessment*, it can be confirmed that:

- No evidence for past Aboriginal visitation or use of the study area has been identified to occur on the subject land through both a combination of 'desk top' research of pertinent registers held by such organisations as the *NSW Department of Environment, Climate Change and Water* (DECCW), or by a physical site inspection.
- The topography of the Boondah Road and Macpherson Street site is generally low-lying and prone to inundation in times of wet weather, and the soil profiles are in the main shallow and highly disturbed as a consequence of past vegetation clearance, market gardening, housing construction and other land improvements (such as dam construction and the excavation of irrigation channels).
- In combination, these factors strongly suggest that the locality is most unlikely to have represented an attractive camping location to Aboriginal people in the past and that extensive and *in situ* deposits containing archaeological material such as shell midden or flaked stone artefacts are unlikely to be either present and/or survive across the site.
- None of the indigenous trees that are currently present within the study area previously observed in 2004 were found to display any evidence for cultural modification, and the majority of the timber was recorded to be clearly of insufficient age to possess Aboriginal scarification.
- It was reported in 2004 (and subsequently in 2008) that the failure to locate any evidence for past Aboriginal visitation and use of the subject land may have been partly the result of the poor nature of archaeological visibility [due to the presence of dense vegetation cover] observed during the 2004 site inspection. These conditions have not significantly changed since that time.
- However, the site was observed to be clearly low-lying and flood prone and it was therefore considered highly unlikely that *extensive* intact and *in situ* archaeological deposits would occur within the study area.
- It was further considered in 2004 and again in 2008 that at best, any evidence for Aboriginal cultural heritage that may be present within the boundaries of the site that would remain undetected would comprise

perhaps of isolated and/or low-density finds of flaked stone artefacts that would occur within largely disturbed recovery contexts.

### **Summary, Conclusions and Recommendations**

In summary, no Aboriginal archaeological sites or objects have previously been recorded to occur on the subject site, and no *specific* areas of subsurface *Aboriginal Archaeological Potential* or *Sensitivity* have been identified on the basis of the results of the current updated study, or through consultation undertaken with the *Metropolitan Local Aboriginal Land Council* during the course of preparing this report.

It is therefore concluded that the proposed development of the site is unlikely to have an adverse impact upon the Aboriginal cultural heritage values of the place and should proceed as intended subject to the consideration of the Aboriginal heritage management advice and recommendations presented in following sections of this report.

#### It is recommended (in summary) that:

- I The proposed development of the Boondah Road and Macpherson Street lands will not impact upon any *documented* Aboriginal archaeological sites, and it is further assessed that the *potential* for evidence of past Aboriginal visitation and use of the study area to remain undetected to be low. It is concluded therefore that there are no Aboriginal archaeological or cultural heritage constraints to the proposed development of the subject land proceeding and that no further Aboriginal archaeological input is required prior to the commencement of the current development plans should the *NSW Department of Planning* approve the *Concept Plan and Stage 1 Project Application*.

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# 1.0 INTRODUCTION

## 1.1 Background to this Report

This report has been prepared for *Meriton Apartments Pty Ltd* and presents the results of an updated *Aboriginal Archaeological and Cultural Heritage Impact Assessment* that has been completed in partnership with the *Metropolitan Local Aboriginal Land Council* (MLALC) to inform a proposal for the future development of a parcel of land located at the corner (14-18) of Boondah Road and Macpherson Street, Warriewood, New South Wales.

The general location of the subject land at Warriewood is illustrated in **Figure 1**. As indicated in **Figure 2**, the site is bounded to the north by Macpherson Street, to the east by Boondah Road, to the south by the Warriewood Wetlands, and to the west by residential development on the site of the former Warriewood Skyline Drive-In Theatre. The specific configuration of the study area that is the subject of this report is outlined (in red) in **Figure 3**.

A *Concept Plan* (CP) and *Stage 1 Project Application* (including an overarching *Environmental Assessment* - EA) for the future residential development of the site is currently being prepared for submission to the *NSW Department of Planning* (DoP) under Part 3A of the *Environmental and Planning Act, 1979*. This is Project Application MP 09\_0162.

In response, this report addresses the key Aboriginal archaeological and cultural heritage issues that form a part of the DoP *Director-General's Requirements* (DGR's) that have been developed to guide the *Concept Plan* (CP) and *Environmental Assessment* (EA) that are now being finalized by the development proponents to support the Project Application (see below).

The following report has been prepared as an update of two previous Aboriginal archaeological and cultural heritage assessments completed for the subject land by *Banksia Heritage + Archaeology* and the MLALC on behalf of *Meriton Apartments Pty Ltd*. The first assessment was prepared in February 2004, and the second in September 2008 and was undertaken in response to some minor development design change options for the place that were considered at that time. These two studies combined found no Aboriginal archaeological or cultural heritage constraints to exist on the land at the time of their respective reporting's.

This document therefore builds upon the Aboriginal archaeological and cultural heritage findings, conclusions and recommendations originally reported for the site in 2004 and 2008 in order to inform the present development plans to ensure future works do not have an adverse impact upon the Aboriginal archaeological and cultural heritage values of the land concerned.

## 1.2 Need for the Current Study

### 1.2.1 Director General's Requirements

The DGR's Key Issue 16 (Aboriginal Heritage/Archaeology) for MP 09\_0162 (as issued by the DoP on 23 December 2009) requires the following matters to be addressed:

*Key Issue 16: Address Aboriginal Heritage in accordance with DECCW "Draft Guidelines For Aboriginal Heritage Impact Assessment and Community Consultation 2005".*

### 1.2.2 DECCW Guidelines

The DECCW have produced a series of documents that have been progressively developed since 2004 to guide best-practice Aboriginal cultural heritage management approaches, protocols, and procedures in redevelopment circumstances such as the current Boondah Road and Macpherson Street project.

- Draft Guidelines for Aboriginal Heritage Impact Assessment. Prepared by NSW National Parks & Wildlife Service with Additional Text by Kristal Buckley, Context Pty Ltd. Nd.
- National Parks and Wildlife Act 1974: Part 6 Approvals. Interim Community Consultation Requirements for Applicants. Department of Environment and Conservation. December 2004.
- Aboriginal Cultural Heritage. Draft Community Consultation for Proponents. Part 6 National Parks and Wildlife Act 1974. Department of Environment and Climate Change (now DECCW). May 2009.

The above guidelines reflect ongoing changes to Aboriginal cultural heritage management policies in NSW introduced by the (now) *Department of Environment, Climate Change and Water* (DECCW) that recommend that new projects (dating back from January 2005) need to extend the opportunity for any Aboriginal individual or group to express an interest in being involved in the assessment process and to have due input in decision making where it is anticipated development may impact upon documented/potential Aboriginal archaeological sites or features. The DECCW guidelines suggest this outcome would be best facilitated through public advertisement.

In this regard, the 2004 DECCW *Interim Community Consultation Requirements for Applicants* indicates that it will be sufficient for the development proponent to provide written notification to the organizations listed below:

*'a) The Local Aboriginal Land Council(s)*

*The Registrar of Aboriginal Owners*

*Native Title Services*

*Local Council(s)*

*Department of Environment, Climate Change and Water*

*b) Via an advertisement in the local print media.*

*The notification must set out the details of the proposal and invite registrations from interested groups or individuals. A closing date for registration of interest must also be*



*included. The time allowed should reflect consideration of the project's size and complexity, but must in all cases allow at least 10 working days to respond.*

*The proponent must record all registrations in writing before the closing date. The proponent must also present and/or provide the proposed methodology for the cultural and archaeological assessment to the registered stakeholders. The stakeholders are then provided with a reasonable time (at least 21 days) to review and provide feedback to the proponent, including identification of issues/areas of cultural significance that might affect, inform or refine the methodology'.*

The intentions of the Aboriginal community consultation approaches, the heritage management strategies, and the ultimate objectives to protect and conserve Aboriginal cultural heritage values that are embodied in the above guidelines have been considered in the course of preparing this report.

### **1.3 The Current Development Proposal**

As outlined above, *Meriton Apartments Pty Ltd* are currently preparing a *Concept Plan and Stage 1 Project Application* for the future residential housing development of the 14-18 Boondah Road and Macpherson Street site for submission to the *NSW Department of Planning* under Part 3A of the *Environmental and Planning Act, 1979*.

As illustrated in **Figure 4**, the proposal will have a total dwelling yield of approximately 600 apartments with a total of 16 residential apartment buildings (plus one neighbourhood building and one private gym/pool building) ranging in height from 3 to 5 storeys. The current development proposal supersedes previous plans to develop the subject land for residential purposes submitted to *Pittwater Council* in 2004 (and amended in 2008) for the creation of 140 dwellings units arranged along the existing Boondah Road and Macpherson Street frontages linked by a series of new internal roads.

The location of the proposed loop road running through the site (indicated in **Figure 4**) is consistent with the previous design (for 140 dwellings) and as a result, the current overall building footprint will be considerably less than the previous design. The proposed development will also include site regrading (to cater for local flooding) and infrastructure works that will be broadly equivalent in scale to the previously approved 140 dwellings development design.

In summary, the current development proposal will require the demolition of existing structures, the clearance of vegetation within the development area footprint, and the construction of residential housing and access roads. There is to be a strict demarcation between the residential zone and a broad wetlands/riparian buffer zone. In this regard, the proposal will also seek to enhance and protect the natural values of the place. The majority of the existing stands of Swamp Mahogany present on the site are to be retained, subject to agreement on bushfire setback requirements, and Fern Creek will likewise be restored and revegetated with the creation of a natural buffer zone between the development and adjacent natural areas.

## 1.4 Statutory Context and Controls

### 1.4.1 Statutory Protection for Aboriginal Cultural Heritage

Two principal pieces of legislation provide automatic statutory protection for Aboriginal heritage and the requirements for its management in New South Wales. These are:

- The *National Parks and Wildlife Act* [1974]; and
- The *Environmental Planning and Assessment Act* [1979].

The primary implications of these statutory controls (specifically the NPW Act) within the context of the current Aboriginal archaeological and cultural heritage assessment of the 14-18 Boondah Road and Macpherson Street development proposal are outlined below.

The *National Parks and Wildlife Service* (NPWS) is presently the principal government agency with responsibility for the protection and management of Aboriginal archaeological sites and cultural heritage values. It now comprises an administrative branch of the *Department of Environment, Climate Change and Water* (DECCW).

### 1.4.2 National Parks and Wildlife Act 1974

The NPW Act provides statutory protection for all Aboriginal 'sites' or 'objects' (consisting of any material evidence of the indigenous occupation of NSW) under Section 90 of the Act, and for 'Aboriginal Places' (areas of cultural significance to the Aboriginal community) under Section 84 of the Act. Aboriginal sites and objects are afforded automatic statutory protection in NSW whereby it is an offence (without the Minister's consent) to:

*'damage, deface or destroy Aboriginal sites without the prior consent of the Director-General of the National Parks and Wildlife Service' (now the DECCW).*

The NPW Act defines an Aboriginal 'object' (or site) as:

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

The protection provided to Aboriginal sites/objects applies irrespective of the level of their significance or issues of land tenure. However, areas are only gazetted as Aboriginal Places if the Minister is satisfied that sufficient evidence exists to demonstrate that the location was and/or is of special significance to Aboriginal culture.

Under Section 86 of the NPW Act, it is an offence to disturb or excavate land for the purpose of discovering an Aboriginal object/site, or disturb or move an Aboriginal object on any land, without first obtaining consent (through a Preliminary Research Permit, Excavation Permit, Collection Permit or Rock Art Recording Permit etc) under Section 87 of the NPW Act from the Director-General

of the DECCW. Under Section 91 of the NPW Act, it is also a requirement to notify the Director-General of the DECCW of the location of any Aboriginal object/site within a 'reasonable time-frame'. Identified Aboriginal items and sites are registered with the DECCW on its Aboriginal Heritage Information Management System (AHIMS) Register.

As the administrator of the NPW Act, the DECCW has issued guidelines outlining the preferred structure for archaeological investigations and reporting.<sup>1</sup> More recently, it has also released interim guidelines for s.87 and s.90 Permit Applicants under the NPW Act.

### **1.4.3 Environmental Planning and Assessment Act 1979**

In contrast with the NPW Act, the EP&A Act (as recently amended in 2005) is designed to cater for heritage issues within the context of new development projects.

This act has three main parts with direct relevance to Aboriginal cultural heritage:

- *Part III* governs the preparation of planning instruments;
- *Part IV* relates to the development assessment process for local government (consent) authorities;
- *Part V* relates to activity approvals by governing (determining) authorities.

The current proposal falls under the recently amended Part 3A of the EP&A Act 1979 whereby approval from the Minister for Planning is required for projects that are identified to fall under the *State Environmental Planning Policy* (Major Projects 2005).

### **1.4.4 Implications for the Current Project**

Damage, destruction or removal of any Aboriginal 'places' or 'objects' is only permitted where a Permit or Consent has been issued by the Director-General of the (now) DECCW according to Sections 87 and 90 of the *NSW National Parks & Wildlife Act 1974* (as amended). NPWS Permits and Consents are only granted where sufficient information is supplied in written form to the Director-General of the DECCW from Aboriginal stakeholders, archaeologists and developers that demonstrate accuracy and transparency in the site assessment process and the good faith intended by each of these parties in applying for consent to either move, disturb, or destroy statutorily protected objects.

Section 75F of the EP&A Act (1979) no longer requires the proponent to obtain S87 or S90 Permits however the *NSW Department of Planning* can require these to be sought as a condition of development consent as appropriate.

Best practice advocates that development impact to documented and/or potential sites of Aboriginal cultural heritage sensitivity be avoided where practicable and/or mitigated at the minimum, and that all decisions made for either course of action be made consequent to direct guidance provided by Aboriginal stakeholders.

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<sup>1</sup> NSW National Parks and Wildlife Service 1997. 'Standards Manual for Archaeological Practice in Aboriginal Heritage Management' in the Aboriginal Cultural Heritage Standards and Guidelines Kit (Draft).

## **1.5 Report Scope and Objectives**

The objectives of the current study have been to prepare an updated *Aboriginal Archaeological & Cultural Heritage Impact Assessment* to inform the 14-18 Boondah Road and Macpherson Street development proposal according to the following:

### **1.5.1 Aboriginal Liaison**

- To re-establish consultation with the *Metropolitan Local Aboriginal Land Council* [MLALC] with regards to the current development proposal.
- To incorporate the views, possible concerns and recommendations provided by the MLALC into the current updated assessment of the study area.

### **1.5.2 Background Research and Assessment**

- To review and update background research into the location and nature of any previously recorded Aboriginal archaeological sites and/or areas of potential cultural heritage sensitivity known to be present either within or in areas immediately adjacent to the boundaries of the subject land.
- In this respect, a number of recent residential and industrial developments have either commenced or have been completed in locations surrounding the study area in Warriewood since 2004. It is possible therefore that recent assessments and/or site works have revealed previously unrecorded Aboriginal archaeological evidence and/or new information pertinent to guiding the current Aboriginal archaeological and cultural heritage assessment of sensitivity prepared for the subject land relative to the current development proposal. The current study has evaluated these considerations.
- To provide an updated review of the known archaeology of the local region in order to prepare a current predictive model describing the archaeological sensitivity of the subject land and to predict the potential for unrecorded sites to occur within the boundaries of the property relative to the current development proposal.

### **1.5.3 A Review of the 2004 Field Inspection Results**

- To provide a summary review of the results of the February 2004 archaeological survey and assessment of the study area undertaken in partnership with the MLALC. The objectives of the 2004 site inspection were to identify and record any Aboriginal sites that may be present within the subject land, to assess their significance, and to provide an assessment of the potential for undetected archaeological evidence to occur within the locations to be impacted by the works that were proposed at that time.
- The potential impacts of the current development scheme for the site remain largely unchanged in the extent or degree from previous designs. Likewise, the condition of the site has not significantly changed over the period of time that has elapsed since the original 2004 site inspection. On the basis of consultation undertaken with the MLALC, it has therefore been concluded that a re-inspection of the property is unwarranted at this time.

#### 1.5.4 Analysis, Evaluation and Report

- To prepare an updated *Aboriginal Archaeological & Cultural Heritage Impact Assessment* that includes the outcomes of consultation undertaken to date with the MLALC for the project, an evaluation of the results of the 2004 site inspection and background research, and a discussion of the Aboriginal archaeological and cultural heritage management conclusions that have been developed to inform the current study.
- To provide appropriate Aboriginal cultural heritage management options and recommendations that establishes a framework for the ongoing protection of any documented and/or potential Aboriginal archaeological sites (or areas of potential cultural heritage sensitivity) to guide the redevelopment proposal.
- To formulate a set of updated management options and recommendations that provide an appropriate framework for the ongoing protection of any *documented* Aboriginal sites that may be located in particular, and to guide the management of the *potential* archaeological resource of the subject land that may be identified in general relative to the current development proposal.

#### 1.6 Aboriginal Consultation

The 14-18 Boondah Road and Macpherson Street site falls within the administrative boundaries of the *Metropolitan Local Aboriginal Land Council* (MLALC). This organization has a statutory responsibility 'to promote the protection of Aboriginal culture and the heritage of Aboriginal persons' within its Council boundaries.<sup>2</sup>

The MLALC is generally consulted with where Aboriginal heritage issues form a part of development applications and/or are contingent with notable land-use modification circumstances in the *Pittwater Council* LGA. The Land Council has previously been endorsed by Council and the DECCW, and has demonstrated in the past a sound commitment to the ongoing protection, conservation and management of Aboriginal cultural heritage sites in the local landscape.

The MLALC have been involved in the ongoing assessment and management process of the subject site since 2004. The *Cultural Heritage Statement* prepared by this organisation in support of the September 2008 assessment report for the subject land by *Banksia Heritage + Archaeology* for *Meriton Apartments Pty Ltd* (being the most up to date documentation prior to the completion of current updated report) is included here as **Attachment 1**.

The MLALC have recently been contacted by Dominic Steele on behalf of *Banksia Heritage + Archaeology* and the nature and scope of the current Part 3A development proposed for the site has been discussed. The MLALC has been invited to provide a new *Cultural Heritage Statement* regarding their views on the summary archaeological (scientific) conclusions and Aboriginal cultural heritage management recommendations documented in this report.

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<sup>2</sup> Aboriginal Land Rights Act 1983, s52(1) (m).

A Public Notification is to be shortly placed with the local print media by *Meriton Apartments Pty Ltd* to satisfy the DGR's Key Issue 16 requirements.

Advice will be sought from the MLALC and the other statutory organizations (noted above) about other Aboriginal community groups and individuals who may also claim traditional and historical links within the greater Sydney landscape of which the Warriewood study area forms a part.

Copies of this document will be forwarded to any additional Aboriginal community groups that may register an interest in the project following the recommended public notification process in accordance with DECCW and DoP guidelines (Key Issue 16).

It is intended that all future statements concerning the Aboriginal archaeological and cultural heritage sensitivity of the place relative to this report will be forwarded directly to the DoP to supplement this document upon their respective completion following the public notification process.

## **1.7 Authorship & Acknowledgements**

This current report has been written by Dominic Steele on behalf of *Banksia Heritage + Archaeology* (BH+A) with the generous input provided by Mr Denis Gojak (BH+A) and Mr Benjamin Black (*Meriton Apartments Pty Ltd*). The advice provided to date by the MLALC is also duly acknowledged.

## **1.8 Report outline**

This updated *Aboriginal Archaeological & Cultural Heritage Impact Assessment* for the 14-18 Boondah Road and Macpherson Street development proposal at Warriewood presents the following:

- An updated introduction to the current Major Project Development Project Application (**Section 1.0**).
- A review and an updated summary description of the environmental context of the Warriewood study area including the site's geology, topography, vegetation and soils. This section of the report also includes a brief description of the post-Contact land-use history of the place, and an evaluation of the present condition of the site that has been adapted from information previously compiled for the original February 2004 and September studies prepared by *Banksia Heritage + Archaeology* for *Meriton Apartments Pty Ltd* (**Section 2.0**).
- An updated review and evaluation of the local Aboriginal archaeological context pertinent to the subject site, and a prediction of the *potential* types of archaeological evidence that may be resident/survive within the boundaries of the land relative to the current Part 3A residential development proposal. This review builds upon the previous 2004 and 2008 investigations (**Section 3.0**).
- A summary of the results and conclusions that have been developed for the subject site and an evaluation of the Aboriginal archaeological and potential cultural heritage sensitivity of the place site relative to the proposed new redevelopment of the site (**Section 4.0**).

- The provision of current Aboriginal heritage management recommendations that detail advice on the nature and scope of further Aboriginal archaeological requirements that may potentially be required within the context of the currently proposed Part 3A Major Project development of the place (**Section 5.0**).
- References and sources cited in this report (**Section 6.0**).
- Inclusion of supporting information: - *Metropolitan Local Aboriginal Land Council Cultural Heritage Statement* - September 2008 (**Attachment 1**).

Figure 1: General Location of the Study Area (Source: Google Maps 2010).

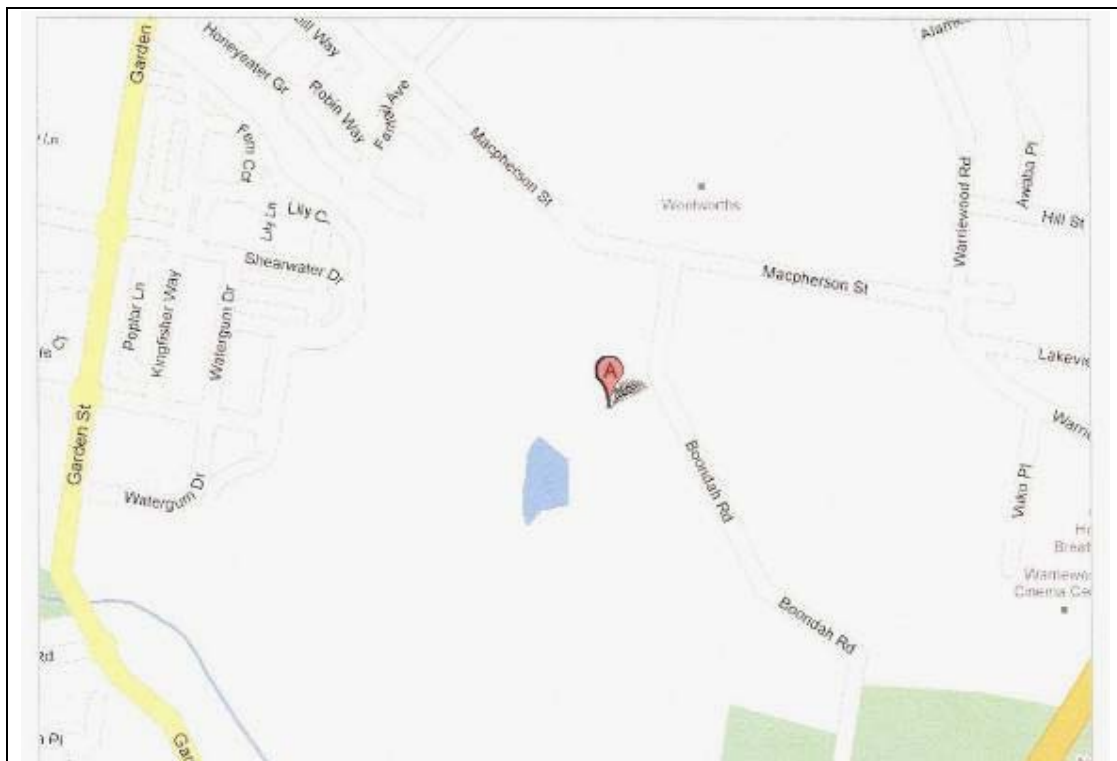


Figure 2: Location of the 14-18 Boondah Road and Macpherson Street Site (Source: Google Maps 2010).



Figure 3: Specific Boundaries of the 14 to 18 Boondah Road and Macpherson Street Site (Source: Google Maps 2010).

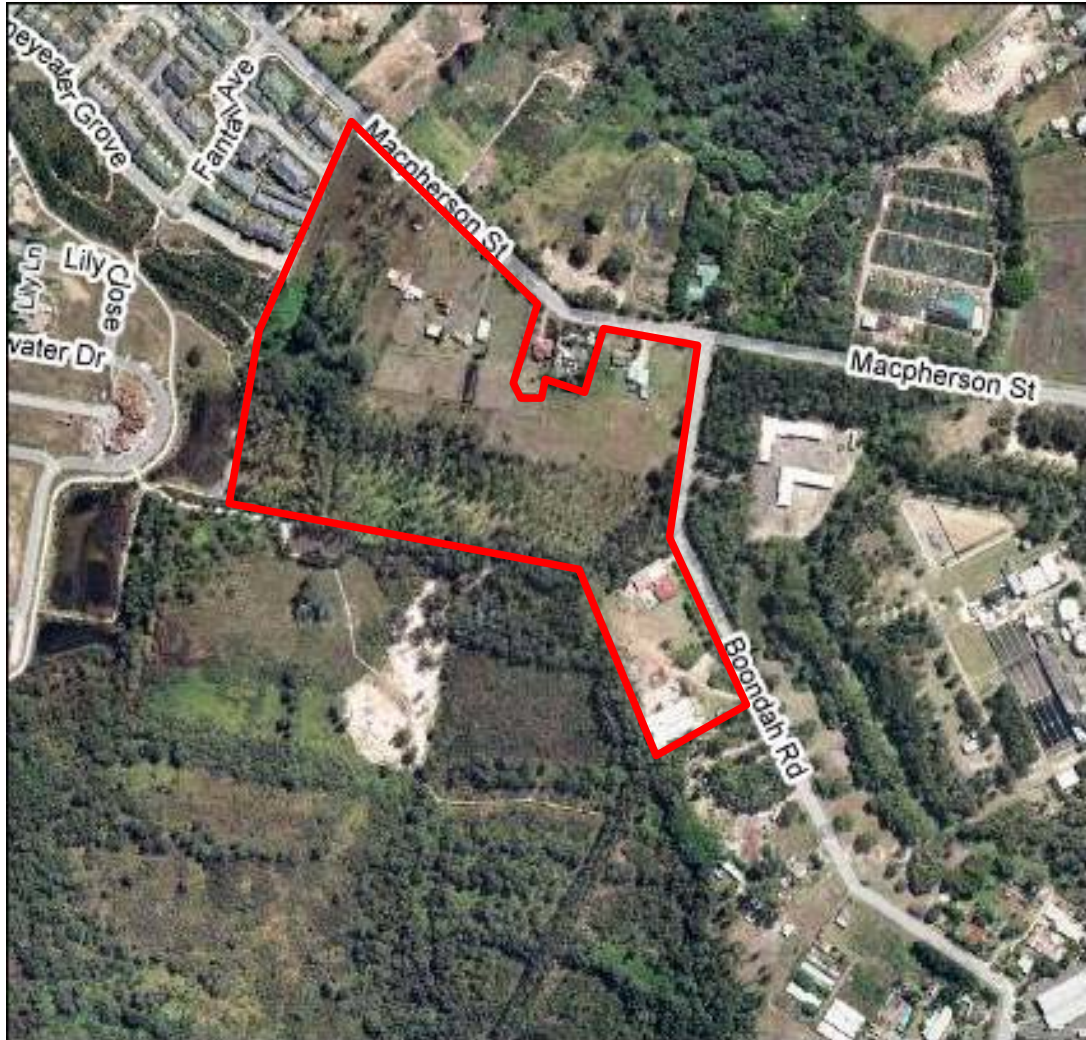
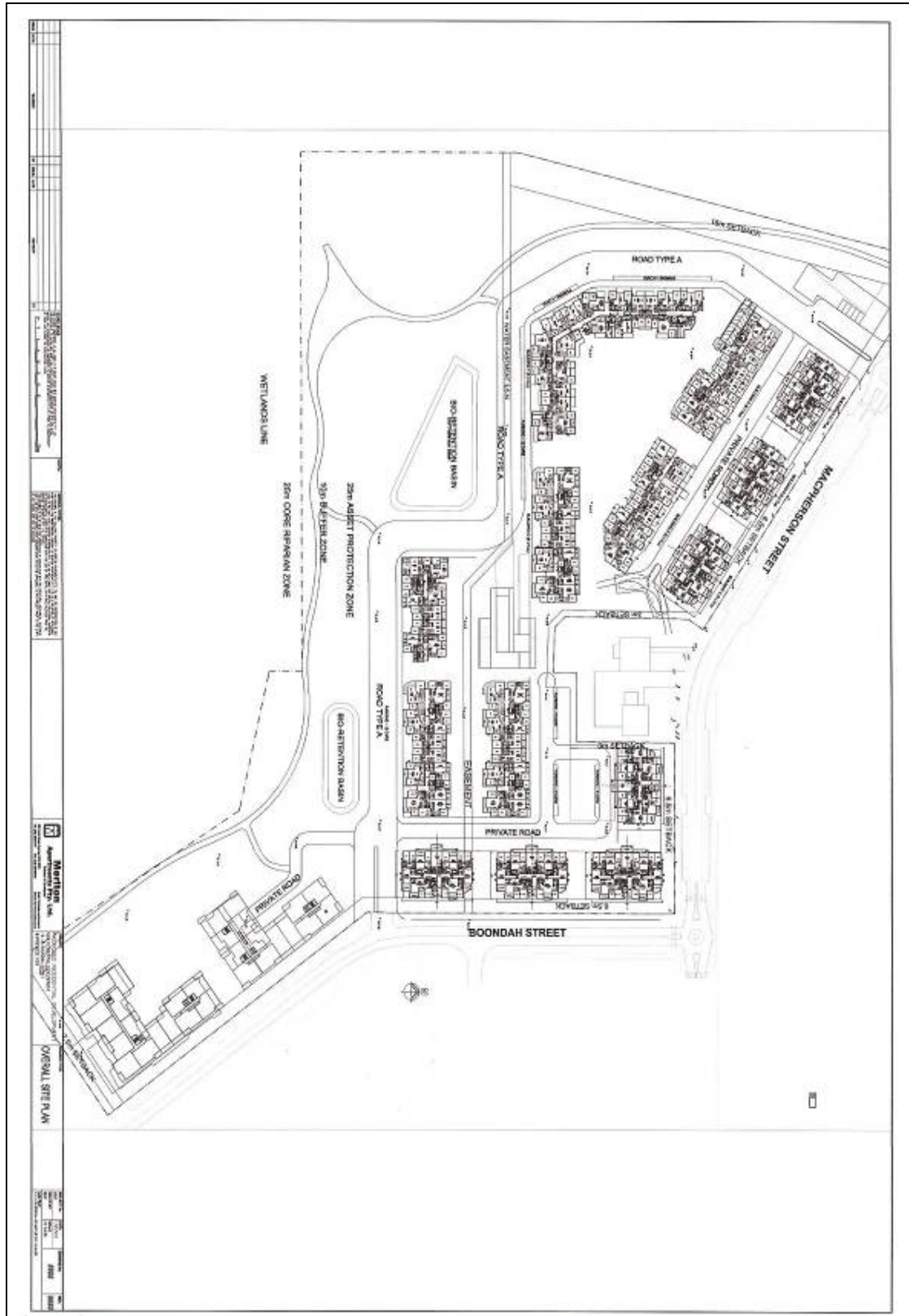


Figure 4: The Current 14 to 18 Boondah Road and Macpherson Street Site Development Concept Design (Source: Meriton Pty Ltd).



## **2.0 Environmental Context**

### **2.1 How the Environment Affects Archaeological Patterning**

Ongoing archaeological research in the greater Sydney region demonstrates that the natural (pre-Contact) environment influenced not only the availability of resources to Aboriginal people in the past, but also largely determines in the present what types of Aboriginal archaeological sites/cultural heritage evidence is likely to be located (and/or survive) when land is assessed in contemporary redevelopment circumstances.

The past distribution and availability of resources such as drinking water, plant and animal foods, raw materials of stone, wood and vegetable fibre used for tool production and maintenance were all strongly influenced by the nature of soils, the composition of vegetation cover, and the climactic characteristics of any given region. The locations of different site-types (such as open campsites, sheltered and open middens, sheltered habitation and art sites, axe grinding grooves and engravings, and scarred trees etc) that may have originally occurred (and/or now survive) in an area was therefore strongly influenced by such factors as these, along with a range of other associated features which are specific to different land-systems and bedrock geologies.

In addition, the nature and extent to which any given parcel of land has been subject to impacts as a consequence of post-Contact land-use practices will also strongly define what types of Aboriginal archaeological evidence is likely to survive and its likely integrity.

Detailing the environmental context of a study area is therefore an integral procedure necessary for understanding potential past Aboriginal land-use practices, along with predicting Aboriginal archaeological site distributions within any given landscape.

The information outlined below (in combination with the background Aboriginal archaeological review presented in **Section 3.0**) is considered to be pertinent to the current assessment of the potential Aboriginal archaeological and cultural heritage sensitivity of the 14-18 Boondah Road and Macpherson Street site relative to the current development proposal.

### **2.2 Site Geology, Topography, Vegetation and Soils**

The northern Sydney suburb of Warriewood possesses (in general terms) the topographical characteristics associated with a former estuarine zone that displays surviving pockets of wetlands, mobile sandy soils, and a distinctive floral regime (inclusive of Swamp Mahogany and palms) that is typical of this soil profile (see Graham Brooks & Associates 2003).

The current 14-18 Boondah Road and Macpherson Street study area is broadly situated between the alignments of Narrabeen and Mullet Creeks, and is sited adjacent to the northern edge of what are now known to comprise lands commonly referred to as the Warriewood Wetlands.

This locality in Warriewood in the main consists of a relatively broad area of Quaternary alluvium, that is now largely drained, and was until relatively recently intensively developed for market gardening purposes and other associated semi-rural residential agricultural uses.

The current study area forms a part of a greater valley floor drained by Narrabeen, Fern and Mullet Creeks that in general terms comprises a shallow depression which became inundated around the time sea levels stabilised some 6,000 years ago, as discussed below. Over this long time period, the valley gradually became more brackish and eventually became fresh-water as the valley floor was filled in. The land immediately surrounding the subject site appears to have been wetland (or at least flood-prone) in the early post-Contact period until intensive development triggered a number of significant environmental changes that altered local drainage patterns.

It appears that wetland scrub vegetation originally typified this low-lying, and flood-prone area until the 1950s, after which time it became dry enough to graze dairy cattle. A number of activities have since altered the original 'wetland' area, including the re-routing sections of Mullet and Fern Creeks through the construction of dams, filling and the excavation of channels and extensive vegetation clearance undertaken during the 1950s and 1960s. As a result, while sections of Narrabeen, Fern and Mullet Creeks survive in the Warriewood Valley, their paths are known to have continually meandered over time as a consequence of the effects of periodic flooding that once characterized the area and the combined effects of other land use activities that have occurred in the historic period.

A wetland ecosystem has been created relatively recently through the construction of the nearby Warriewood Shopping Centre, and the installation of a weir and associated clearing and construction which has served to generally alter the hydrology of the area. Further to the north and south of the current study area, ponding occurs which to some extent has recreated the previous wetland environments that occurred prior to post-Contact use of the local landscape (McDonald & Benton 1999).

## **2.3 Summary Land Use History**

### **2.3.1 Introduction**

As outlined below, a significant portion of Warriewood Valley originally formed part of a Crown Grant allocated to James Jenkins in 1831. The current subject land comprised a portion of this grant that was associated with the adjacent watercourse and marsh lands now known as the 'Warriewood Wetlands' at that time. Much of the post-Contact alteration of the study area and its immediate surrounds occurred from this period, but did not appear to accelerate until around the mid-Twentieth Century when intensive market gardening commenced in the area.

### **2.3.2 Early Exploration and Use of Warriewood Valley**

The landscape surrounding Warriewood was initially explored by the arrivals in the First Fleet in March and April 1788, again in 1789, and later in 1792. The

earliest exploration parties investigated the land north of Manly to Barrenjoey, and the lower reaches of the Hawkesbury River system from Barrenjoey. These initial explorations were followed by the first detailed survey of the waters and foreshore around Bayview, Newport, Church Point and McCarr's Creek to the north of Warriewood.

In 1792 William Dawes also surveyed the region, walking from Manly to Barrenjoey, and he noted that the land north of Careel Bay appeared to be suitable for stock grazing. However, the isolation of the peninsula from the main settlement at Port Jackson and the 'rough wooded country' that dominated the local area kept European restricted settlement in the local landscape for another twenty years.

The first permanent European settlements in the area were concentrated on the northern half of the Barrenjoey peninsula, trading in agriculture products and timber with the communities along the Hawkesbury River and in Sydney. Between 1810 and 1820 settlement began to spread along the peninsula including land grants that would later become the suburb of Mona Vale situated to the north of Warriewood.

In 1825 James Jenkins, who later became the principal landholder in the district, was granted an extra 250 acres adjacent to his earlier 100 acre grant covering the Narrabeen Swamp (**Figure 4**). This second grant incorporated the land now comprising Warriewood. Despite the increase of farming in the area Warriewood, along with the rest of the Barrenjoey Peninsula, remained relatively isolated from the main settlement at Sydney Cove even though a road from Manly to Sydney via Pittwater was surveyed by 1822. Farming and timber-getting continued as the main land-use in the area until the mid nineteenth century.



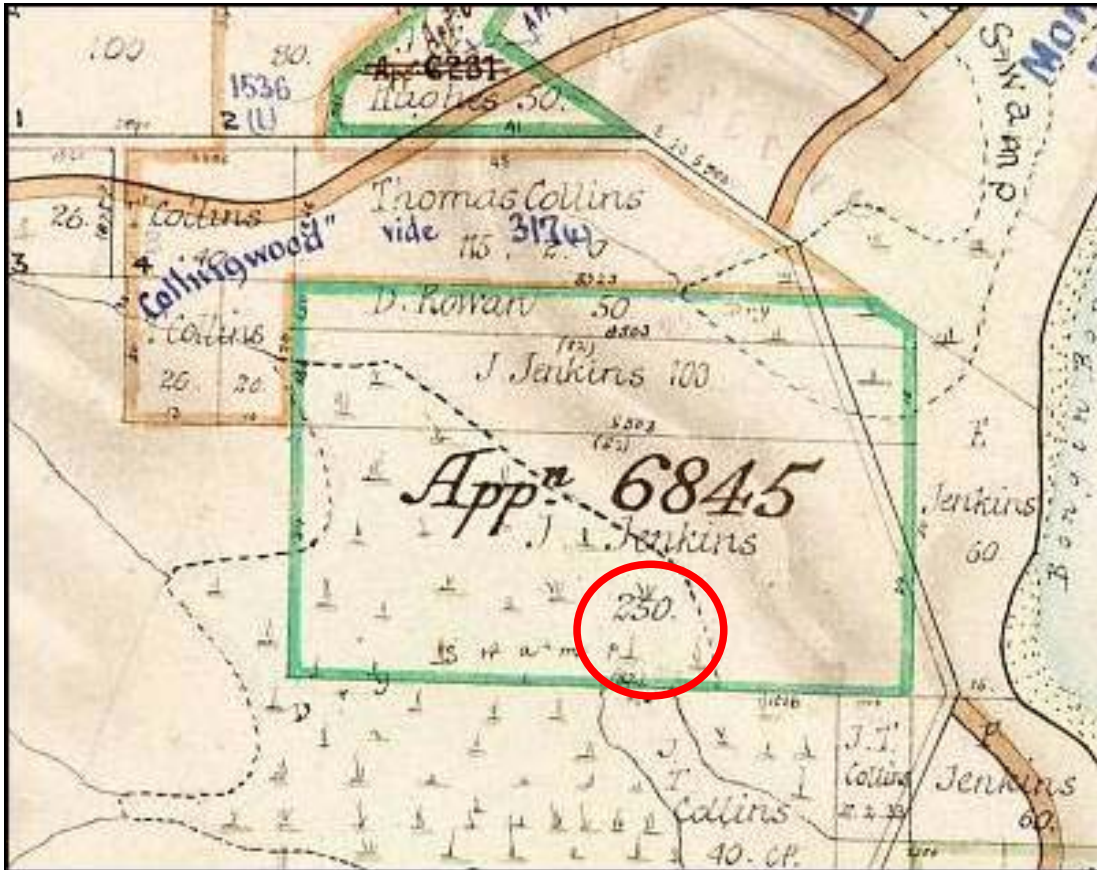


Figure 5. Land Grants in Warriewood and Their Relationship to the Swamp Land Forming the Study Area (Parish of Narrabeen – Undated, NSW Lands Dept Image 14073201).

With the increase in size of the settlements along the peninsula that developed from the 1860s, the need for better access to Sydney also grew. The Newport to Barrenjoey Road, originally surveyed in 1822, was improved and slightly realigned in 1861 and between 1870 and 1877 Pittwater Road, Barrenjoey Road and the road extension from Mona Vale to Church Point were surveyed and constructed. Improved access to the peninsula encouraged land speculation.

### 2.3.3 Late Nineteenth and Early Twentieth Century Developments

The population of the Pittwater area increased during the 1880s and 1890s as it developed to cater for weekend and holiday visitors and small farm-holdings. As a consequence, community facilities were both improved and established including the construction of a primary school at Narrabeen in 1889, and a post office, telephone office, hotel, stores and refreshment rooms during subsequent years. The boundaries of the Warringah Shire were proclaimed in 1906.

It was during this period that the Warriewood Estate, formed from a section of the original Jenkins grant, was offered for subdivision and sale. By 1906, the Sydney Auctioneering Company of Henry F. Halloran and Co. had bought the land and partitioned it for sale. The estate was subdivided into 133 township lots, eighty-three hill sites and sixty-six farm blocks of varying sizes (Graham Brooks & Associates 2003: 6 – see **Figure 6**). A promotional booklet prepared for the sale

expounded the benefits of living on the new estate including the high quality soils suitable for a variety of intensive agricultural pursuits.

It appears that at this time the majority of the land was largely covered in natural vegetation, including Cabbage Tree Palms, Ironbark, Stringybark, Grey Gum, Turpentine, Mahogany and Forest Oak.

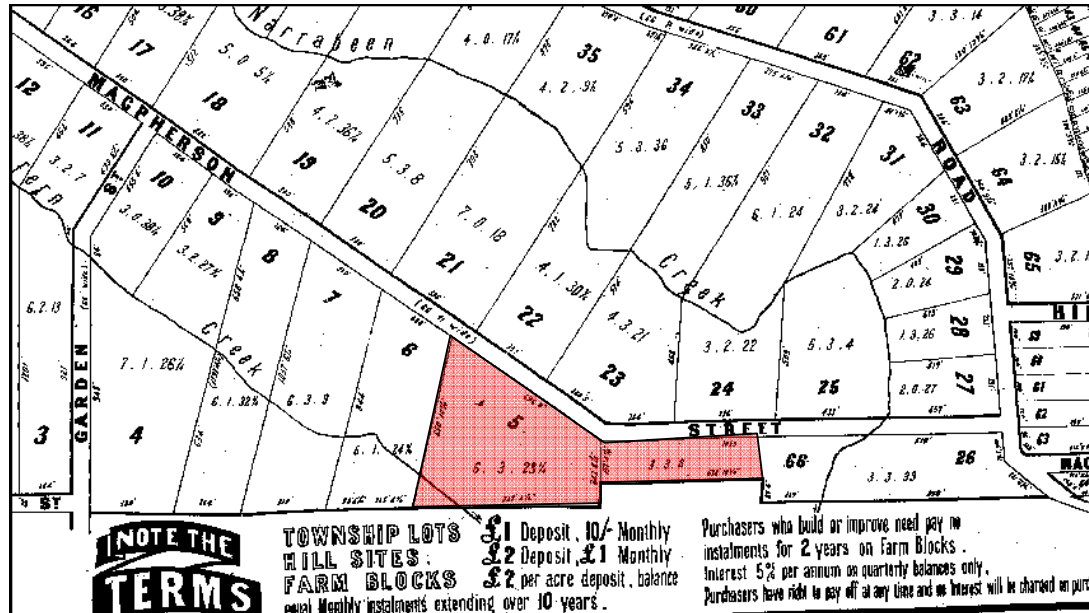


Figure 6. The Southern Boundary of the Great Warriewood Estate Subdivision of 1906 Includes Part of the Study Area [Shaded] [Henry Halloran and Co. 1907 – Reproduced in Mona Vale Library Local History Page - WW.6]

### 2.3.4 The Development and Decline of Market Gardening

From 1906 onwards the Warriewood Valley, including much of the study site, was dominated by the presence of market gardens, increasingly operated by Yugoslav farmers from the 1920s, who in particular grew tomatoes in the open and then in glasshouses.

The opening of the Roseville and Spit Bridges in 1924, and the completion of the Sydney Harbour Bridge in 1932, improved access to the Sydney markets. Between 1930 and the 1960s, Warriewood had developed as one of the state's most important market gardening centres for tomatoes and was known as the 'crystal valley' from the number of glasshouses (Rutherford *et al* 1971).

By the mid 1960s however, this land use practice had begun to diminish as urban pressures for land increased and rezoning of land from rural to urban and residential zones occurred and market gardening became increasingly uneconomic.

Aerial photo analysis from 1951 and 1965 shows scattered glass houses in 1951 being surrounded by a much more intensive open-field cropping regime in 1965 (Rutherford *et al* 1971: Figures 9-10). This is shown below in **Figures 7** and **8**. The area was being cleared for poplar plantation in the late 1960s, removing the existing garden beds.



Figure 7. Warriewood Land Use in 1951 (Rutherford *et al*/1971). Solid Blocks are Glass Houses, Striped Areas are Farmed Paddocks.



Figure 8. Warriewood Land Use in 1965 (Rutherford *et al*/1971).

As market gardens began to disappear through the 1970s, commercial and wholesale nurseries located themselves on the former farm sites, as did the Warriewood Drive-In, immediately to the west of the subject area. Further rezoning and the development of commercial and light industrial sites along Macpherson Street and Forest Road contributed to the further transformation of the area. By the early 1980s, parts of Macpherson Street and Forest Road had been rezoned to allow residential development and this increased from the early 1990s when Warriewood was included in the NSW State Government Urban Development Program. Much of Warriewood is now developed for higher density residential development, with relatively few areas of the former market gardening landscape remaining. Gojak (2009) reports that of the estimated 3,500 glass-houses and about 400 farmers operating in the mid-1950s in Warriewood, only one is still producing commercial market garden crops, with another glass-house farmer working in Elanora.

## 2.4 Existing Condition of the Study Area

### 2.4.1 Introduction

The proposed development area is located at the northern boundaries of Macpherson Street and Boondah Road at Warriewood, and is generally situated within and/or adjacent to the existing catchments of Narrabeen Creek, Fern Creek, Mullet Creek, and the Warriewood Wetlands.

The subject land currently consists of a series of largely disused rural and residential allotments that retain a variety of non significant twentieth century dwellings and outbuildings that are situated on a number of individual lots. Each of these properties have been subject to a range of impacts associated with past vegetation clearance, market gardening activities, housing construction, horse agistment and other agricultural pursuits, along with other ongoing land improvements such as dam construction and progressive irrigation over time.



The nature and scale of these past historic land-use practices are described and illustrated in following sections of this report.

#### **2.4.2 The Current Condition of the Subject Land**

The brief description of the current condition of the study area provided below is based upon previous observations compiled for the study area in 2004, and are expanded in greater detail as outlined in **Section 4.0** of this current updated assessment report.

The southern Boondah Road property is largely flat, retains a vacant weatherboard and fibro residence with outbuildings, a large industrial vehicle and equipment storage shed set on a concrete pad, and a series of disused industrial storage tanks. It is largely cleared and presently contains a uniform cover of low grass interspersed with substantial infestations of introduced weeds [lantana, blackberry and privet] along with concrete and bitumen hard surfaces.

The existing residences and outbuildings on the Macpherson Street allotments are generally located towards the street frontage on slightly higher ground away from the relatively flat and low-lying land that has been subjected to flooding from the wetlands that have in the past contracted and expanded according to seasonal rainfall. The existing houses occupying these parcels of land are modest single storey family dwellings of weatherboard or fibrous cement, and are generally set on timber or brick piers that have avoided the need for excavation for the installation of deep-set footings.

Outside of the building platforms and associated garden areas across the proposed development footprint, the allotments remain to be entirely cleared to the rear or retain isolated sapling re-growth. They display vestigial evidence for past market gardening activities such as ground furrows, hummocks and irrigation channels, horse agistment works, creation of fence lines and other improvements in the form of informal dams, dykes and paddocks.

## **3.0 Archaeological Overview**

### **3.1 Regional Archaeological Context**

#### **3.1.1 Aboriginal Site Types, Frequency and Survival**

Over 4,000 Aboriginal archaeological sites have been located, recorded and registered with the DECC in the greater Sydney region to date. Despite extensive impacts that have accompanied some 222 years of occupation and land development, Aboriginal archaeological sites have been located in all types of landforms extending from ridge-top to valley floor.

Documented site types include shell middens and archaeological deposits in rock shelters and in open contexts, dry pigment, painted and engraved art in shelters, engraved images and axe grinding grooves on rock platforms, scarred and carved trees, stone arrangements, waterholes, burials, mythological sites, post-Contact historical campsites.

Aboriginal archaeological and cultural heritage research completed to date indicates the distribution (and survival) of Aboriginal cultural evidence in the Sydney region is strongly related to bedrock geology and local topographic features including elevation and the presence of water resources. The most common site types that occur along the coastal strip in the Sydney landscape are shell middens and are most often found to consist of low density scatters of shell (occasionally with some depth and hence antiquity) and may also be associated with other cultural remains such as stone tools, fish and animal bones, cooking hearths, and human burials.

In sandstone landscapes, middens are often found within rock overhangs and are frequently sited adjacent to watercourses situated close to sources of food (such as shells, fish, and available terrestrial animals etc). Other sites that are prevalent in sandstone country include axe-grinding grooves, painted rock art in shelters, and rock engravings on smooth and flat sandstone platforms.

#### **3.1.2 Summary of Aboriginal Occupation of the Greater Sydney Region**

Aboriginal people are known to have inhabited the greater Sydney region for at least 30,000 years before present. A Pleistocene sand body on the Parramatta River, archaeologically excavated in three different development contexts in recent years, has returned possibly the oldest date for the first Aboriginal use and occupation of the region (see McDonald 2007:36-37).

Dated sheltered occupation sites have been documented to occur in the Blue Mountains and its foothills (see for example Stockton & Holland 1974 and Kohen et al 1984), sites in the Mangrove Creek catchment (see Attenbrow 2002), and dates ranging from 10,000 to 12,000 years before present reported for an open campsite at Regentville, a rock shelter on Darling Mills Creek at West Pennant Hills, and a number of other locations to the south and south-west of the Warriewood study area have revealed dates of a little over 10,000 years for first occupation.

A number of open campsites investigated in recent years in western Sydney to the south-west of the study area on the Cumberland Plain have also revealed dates ranging from between approximately 4,600 and 6,000 years before present for Aboriginal use of the place.

The earliest dated coastal sites are located at Burrill Lake that shows evidence for first occupation approximately 20,000 years ago (see Lampert 1971), and at Bass Point which is dated to some 17,000 years ago (see Bowdler 1970). Both of these sites would have been occupied at a time when the sea level was much lower and the present coastline would have formed part of an inland environment drained by a series of rivers and streams. There are no other coastal Aboriginal sites of comparable age known at present.

Further sites dated to around 7,000–8,000 years before present that consist of a sheltered occupation site at Curracurrang and an open campsite (containing a cooking hearth) at the Prince of Wales Hospital in Randwick that provide indications about how people may have lived around the time of sea level fluctuations and subsequent stabilisation along the eastern sea-board of New South Wales during this period (see again for example Attenbrow 2002).

The majority of Aboriginal archaeological sites recorded in the broader Sydney region (largely known from the western Sydney area of the Cumberland Plain to date) appear however to be dated to within the last 2,500 to 3,000 years.

Few open or sheltered Aboriginal archaeological dated sites of note are currently known to occur within the immediate vicinity of the Warriewood study area.

Available evidence suggests that the early occupation of the greater Sydney region was not intensive nor included large groups of people, and that around 5,000–8,000 years ago (when the sea levels stabilized at the present levels) more intensive use of the landscape by Aboriginal people subsequently began. Many open sites situated away from the coast (best evidence is currently available for the Cumberland Plain) appear likely to have been first occupied in the last 1,500 years before Contact.

Our understanding of how and when Aboriginal people occupied and used the greater Sydney landscape in the past is largely based upon changes that have been observed in the composition of stone tool assemblages and the use of certain types of stone materials used for tool manufacture that are apparent from the analysis of excavated archaeological assemblages undertaken in recent decades.<sup>3</sup>

The most widely used terminology for the archaeological phases within what is currently known as the *Eastern Regional Sequence* are the *Capertian* (or variously referred to as the *Pre-Bondaian Period* spanning a period from some 30,000 years ago to approximately 8,000 years before present), and the *Early*, *Middle* and *Late Bondaian*. This sequence is still being refined and continues to be clarified by ongoing archaeological work.

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<sup>3</sup> Over the 20,000 to 30,000 years of Aboriginal occupation of the region, and in particular the last 5,000 to 8,000 years, various temporal markers have been established in an attempt to distinguish the more significant changes in tool types and tool kit composition over time.

The sequence is generally accepted, and is applied throughout most of the eastern sea-board of Australia to classify and evaluate archaeological materials that are encountered (and dated) in both sheltered rock over-hang habitation sites and in open circumstances that provide lesser survival probabilities for archaeological remains.

- The *Capertian* (and/or *Pre-Bondaian*) stone tool phase appears to have been essentially composed of large and quite heavy stone artefacts fashioned from fine grained siliceous cherts, tuff and silcrete materials. Tool types included uni-face pebble tools, core tools, denticulate stone saws, scrapers, hammer-stones, some bipolar cores and flakes, and burins. It appears that Aboriginal people preferred the use of silicified tuff that may have been sourced from great distances, and that this material was augmented with quartz and un-heated silcrete (and other coarse-grained raw materials) that produced cores and tools of variable size. No backed artefacts (see below) or ground stone implements (see below) are apparent in the archaeological record at this time. It appears that uni-facial flaking of stone raw materials was a predominant technique during this time, and that bi-polar flaking methods of preparing stone resources and preparing finished tools for day to day life were rare.
- The change from the *Capertian* (or the *Pre-Bondaian*) to the *Bondaian* (see below) appears to have taken place some time after 8,000 years to 4,000 years before present, and is defined by a noticeable shift in stone tool size, raw material use, and in the range of raw materials utilised by people for subsequent tool production. There appears (from excavated and dated archaeological sites) a decline in silicified tuff as a preferred stone resource and more use of local raw materials by people, especially at sites occupied for the first time. Features of the *Capertian* (or the *Pre-Bondaian*) phase appear to have continued in many areas on the east coast of Australia, but backed and edge ground implements appear to have been progressively introduced and widely used over this time period.
- The three phases which are recognised as belonging to the *Bondaian* sequence are largely based on the timing of the introduction, and subsequent decline, of backed stone implements, as well as the increased use of bi-polar flaking techniques. Other technological innovations which are evident during the *Bondaian* period include the introduction of ground edge implements (around 4,000 years before present), and the widespread use of shell fish hooks for fishing during the last 1,000 years. The three *Bondaian* phases are summarised below.
- The *Early Bondaian* phase (from approximately 8,000 years ago to approximately 4,000 years ago) appears to have been dominated by the use of fine grained siliceous cherts and silcrete materials of stone. While the use of the larger and heavier stone implements characterising the earlier *Capertian* (*Pre-Bondaian*) period seems to have persisted, archaeological evidence suggests backed and edge ground implements may have been widely introduced (but are rather uncommon in most excavated archaeological assemblages dating to this period) and used over

time still employing predominant techniques of uni-facial and bi-polar flaking for stone tool reduction and manufacture by people during this time.

- The *Middle Bondaian* phase (from approximately 4,000 years ago to approximately 1,600 years ago) appears to have been dominated by the use of fine grained siliceous cherts and silcrete materials and the manufacture and use of smaller backed implements. This phase is seemingly characterised by the increased manufacture of micro-blades such as Bondi Points and bi-polar artefacts, and the use of quartz as a ready source of a raw material for the production of flaked stone implements. This phase in the documented (and postulated) archaeological stone tool record of evidence suggests a decline in the use of ground stone artefacts and that type site finds such as *Elouras's* (a larger backed artefact) are rare.
- The *Late Bondaian* phase (best estimated to comprise the last 1,600 years to European Contact in 1788) appears to have been dominated by the increased use of quartz (with the use of other raw materials of stone), some occasional manufacture and use of edge ground implements recovered from a small number of dated archaeological sites, and the use of bone and shell implements (including shell fish-hooks) at some investigated Aboriginal archaeological places. Current information suggests that the use of a diversity of stone materials used by people may have persisted during this period, bi-polar artefact manufacture techniques may have increased, and flaked stone backed artefacts with the possible exception of such types as *Elouras's* may have declined in certain coastal contexts.

## **3.2 Local Archaeological Context**

### **3.2.1 2004 AHIMS Aboriginal Archaeological Site Search**

Background research into archaeological investigations previously completed within the region surrounding the study area was undertaken prior to the commencement of the 2004 Aboriginal archaeological field survey and assessment program.

Sources accessed included the *NSW Aboriginal Heritage Information Management System* (AHIMS) *Sites Register* maintained by DECCW (AHIMS Search #9045 for a block of land surrounding the site measuring approximately 1km by 2km), the DECCW *Catalogue of Archaeological Reports*, and other secondary sources.

This research indicated at that time that no Aboriginal archaeological sites had previously been recorded to occur within the boundaries of the then proposed Boondah Road and Macpherson Street study area development zone, or within areas in the immediate vicinity.

A wider review however undertaken concurrently in 2004 indicated that upwards of 30 sites had previously been located, recorded and registered for the local landscape and that site types included rock shelters with archaeological deposit, rock shelters with painted art, rock engravings, and axe grinding grooves.

The majority of these sites were recorded to be situated within the rugged Hawkesbury sandstone formations that occur predominantly to the west of the present study area. A number of open shell middens were also recorded to occur along the adjacent coastal foreshore areas fringing the study area, such as at Dee Why. Open campsites comprising materials such as flaked stone artefacts (see below) were found at this time to be comparatively uncommon as a result of the 2004 background investigations.

### **3.2.2 2008 AHIMS Aboriginal Archaeological Site Search**

Updated background research into archaeological investigations previously completed within the region surrounding the study area was undertaken to augment the 2004 Aboriginal archaeological survey and assessment program in September 2008. Again, sources accessed included the *NSW Aboriginal Sites Register* maintained by the DECCW (AHIMS Search #22036 for a block of land surrounding the site measuring approximately 3km by 3km), the DECCW *Catalogue of Archaeological Reports*, and other secondary sources.<sup>4</sup>

This updated 2008 research revealed the following:

- No Aboriginal archaeological sites are registered to occur within the boundaries of the currently proposed development area.
- The nearest known sites identified by the AHIMS search consist of a rock engraving at Narrabeen Golf Links to the south east of the study area, an historical rock engraving first recorded by Campbell in the early twentieth century close to the Pittwater/Bairne Trig Station (and which may now have been destroyed), and a shelter with art and deposit located close to Mona Vale Road to the north of the study area.

### **3.2.3 A Review of Previous Archaeological Studies**

The following summary of previous Aboriginal heritage studies undertaken in Warriewood Valley and immediately surrounding areas has been adapted from research originally compiled as part of the February 2004 assessment of the study area prepared by *Banksia Heritage + Heritage*. This review provides the background to the current updated assessment of the subject land relative to the present development proposal.

Haglund undertook an Aboriginal archaeological site location and assessment study of the *Pittwater Council* LGA in 1986. The assessment concluded that archaeological sites in the local region were most likely to be associated with sandstone overhangs (occupation and art sites), sandstone ledges and open platforms (engravings and axe grinding grooves), sandstone beds of watercourses (axe grinding grooves), and shell midden deposits that would be located (subject to development impacts) in foreshore contexts, bays and inlets.

A subsequent broad-area review of known and predicted Aboriginal resources within the *Warriewood/Ingleside Release Area* was undertaken by Koettig in 1993. This planning and management study, encompassing a total of approximately 1,100 ha, included the present study area. While this assessment

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<sup>4</sup> The search coordinates were as follows: E34000-343000 & N6269000-6272000.

identified a variety of sites in the sandstone landscape contained within the *Release Area*, no sites were recorded on the alluvium contexts that characterise much of the Warriewood Valley. However, it was further reported that there existed the potential for sites to occur around the margins of the alluvium that formed the edge of the littoral zone when the sea level rose to its present height, although surface remains of such sites were unlikely to be found due to the high level of disturbance that had occurred during the historic period through past farming activities.

An inspection of the Warriewood Wetlands area, particularly its drier margins that were considered to represent a more likely area where Aboriginal people may have camped in the past, was undertaken as part of the above study. No Aboriginal archaeological sites were identified, and a number of reasons were presented for this outcome including the following:

- Possible geomorphic changes in the Valley may have been too rapid to provide an area of stable food resources valued by the past Aboriginal occupants of the local region.
- The findings were in part related to the poor archaeological visibility conditions (dense vegetation, poor ground surface visibility and flood liable land etc).
- Elevated areas of the wetland were mostly severely disturbed through past farming, rubbish dumping, piles of fill material, and excavation of soil material etc.

McDonald & Benton surveyed in 1999 an approximately 16 ha parcel of land (known as Sector 12) located to the east of Garden Street, between Macpherson Street and Mullet Creek. The survey included the southern bank of Fern Creek. No prehistoric Aboriginal objects or sites were discovered and these researchers considered the potential for intact buried archaeological deposit to be present as minimal. This study found the only ground surfaces not wet at the time of the survey appeared to have been filled with sand/clay/rubble deposits. As was found with the present study area, very little of the native vegetation remained in Sector 12 and the land was observed to have been subject to extensive surface and subsurface disturbance.

In 1998 Johnston surveyed an area of land between Warriewood Road and Narrabeen Creek known as Sector 1. Again, no Aboriginal sites were located and the area was assessed as having low archaeological and Aboriginal significance.

Finally, Steele (2005), Dallas (1999), Dallas and Moore (1999) and Steele (2001) Dallas respectively surveyed portions of Sectors 5, 11, 10 and 8 of the *Warriewood Valley Release Area* and none of the surveys located any evidence for past Aboriginal visitation and use of the place. The degree of impact associated with past horticultural and agricultural activities in these areas was found to be severe with the result that little or no archaeological subsurface potential was indicated.

### 3.2.4 Summary and Conclusions

None of the studies noted above resulted in the identification of any Aboriginal archaeological objects or sites. It was concluded in the 2004 *Aboriginal Archaeological and Cultural Heritage Impact Assessment* prepared for the property that previous investigations undertaken within close proximity to the study area (with specific reference to the Wetlands) suggested that the subject was likely to retain limited archaeological potential. A number of reasons for this conclusion were provided at that time.

- While the study area and its surrounds is likely to have been accessed in the past by Aboriginal people for the exploitation of a range of swamp or wetland resources, it is also unlikely that these activities were of any long-term duration that resulted in the creation of significant archaeological deposits because of the low-lying and flood prone nature of the local landscape.
- Aboriginal people may have therefore utilised the various food and vegetation resources provided by this wetland zone for the manufacture and maintenance of tools and other equipment, but it is likely these trips were transient in nature and duration, and that permanent camping episodes occurred in more elevated places on the fringes of the wetlands that occur well outside of the current study area.
- Any potentially present Aboriginal archaeological evidence in the study area associated with past wetland-resource use is likely to be sparse, reflecting short-term, but perhaps frequent visitation, of this resource zone by people moving to and from more attractive watercourse and coastal foreshore zones that occur within close proximity to the subject land, eg. Narrabeen and Mullet Creeks and the coastal fringes.
- This limited archaeological record for past Aboriginal use of the place is likely to have been further disturbed over even destroyed as a consequence of the accumulated impacts that have resulted from ongoing post-Contact land use practices inclusive of extensive vegetation clearance, intensive market gardening, residential and rural uses and continued amelioration of the landscape that have occurred over at least 150 years of focused rural and residential settlement.

## 3.3 Predictive Aboriginal Archaeological Model

### 3.3.1 Rationale

Predictive models of Aboriginal archaeological site location attempt to identify areas of relative archaeological/cultural heritage sensitivity (high, moderate and low etc) as a tool that can be used for the planning and management of known Aboriginal sites and places of potential sensitivity within future development and/or land-use modification circumstances.

These models are generally based upon information including the types of landscape units contained within a study area, the results of previous Aboriginal archaeological and cultural heritage investigations undertaken in the surrounding



landscape, the distribution of previously recorded sites along with their known nature, integrity, and potential composition, and upon an understanding of traditional Aboriginal land-use patterns (where possible) as guided by contemporary Aboriginal communities.

### **3.3.1 Site Prediction for the Subject Land**

The following predictive model for the study area was prepared prior to the commencement of the 2004 site inspection and assessment program.

Based upon information compiled within the NSW DECCW Aboriginal Sites Register, and background data for local archaeological contexts reviewed above, the types of sites that were expected to occur within the boundaries of the study area in 2004 were outlined and were hierarchically ranked from most to least likely, mindful of the context of the place (low-lying wetlands) and historical impacts [vegetation clearance and intensive market gardening].

For the purposes of the current study the original site prediction is considered to still apply to the study area relative to the development presently proposed for the place.

Open Camp Sites and Middens: These sites are likely to occur on dry relatively flat landforms along or adjacent to both major and minor watercourses and wetlands. However, repeatedly or continuously occupied sites are more likely to be located on elevated ground situated at principal creek confluences and/or rich coastal or wetland resource zones.

Surface scatters of artefacts or durable food remains such as animal and fish bone or shell may be the result of mobile hunting activities, while single or low density occurrences might relate to tool loss, tool maintenance activities or abandonment. These types of sites are often buried in alluvial or colluvial deposits and only become visible when subsurface sediments are exposed by erosion or disturbance.

Scarred Trees: These sites are the result of bark or wood removal to make shields, shelter, canoes containers or carving designs into the exposed wood. These sites have rarely survived early timber clearance, bush fires and timber cutting. The definite ascription of scarring on a tree to an Aboriginal origin is not always possible. Europeans often removed bark for roofing material and stock watering troughs. Other scars may be the result of surveyor and property owner blazes, lightning strikes or cockatoo pecking. Unless the tree is at least 100 years old the scarring is unlikely to have an Aboriginal origin.

## 4.0 2004 Field Inspection

### 4.1 Introduction

A comprehensive Aboriginal archaeological inspection of the 14-18 Boondah Road and Macpherson Street site that is the subject of this updated assessment was completed in February 2004 by *Banksia Heritage + Archaeology* in partnership with the *Metropolitan Local Aboriginal Land Council* (MLALC).

The investigations reported at that time involved a standard archaeological field survey, recording and assessment of the subject land relative to the then proposed development of the place. The methods employed to investigate and record the site were reported in the following document:

Banksia Heritage + Archaeology 2004

Warriewood Buffer Sector 3 – Aboriginal Heritage Assessment. Unpublished Report to Meriton Pty Ltd.

Mindful that the condition of the site has remained unaltered since 2004 (excluding some minor changes in vegetation cover) the following descriptions and illustrations have been drawn and adapted from the above report and are considered to still apply for the purposes of the current updated assessment.<sup>5</sup>

### 4.2 2004 Field Observations

The 2004 field survey revealed that the subject land contained established residential and market garden development and land that has been largely cleared of its original native timber canopy and associated under-storey vegetation, excluding a moderate stand of sapling re-growth to the north-east of the site and adjacent to Fern Creek [Warriewood Wetland] to the south. Historically the area had been intensively used for market gardening, but there was no current production. Some landscape features were still visible adverting to the location of glasshouses and open fields.

Indicative views of the study area are provided by **Figures 9 to 12**.

The disturbed nature of the vacant residential allotment fronting onto Boondah Street in the south-eastern portion of the study area is indicated by **Figures 9 and 10**. The existing residence, industrial storage shed and tanks, hard surfaces and associated refuse are illustrated. While the majority of the property is now covered by low grass or a combination of introduced materials deposited onto the site as drive-way surfaces or by the presence of large infestations of weeds, a number of ground exposures indicate the natural soil profiles in this locality are shallow to skeletal, and are extensively disturbed. Evidence for past market gardening activities are apparent in places in the form of discernible furrows and hummocks, whilst the presence of numerous stockpiles of spoil, vegetation and refuse further indicates that this part of the study site has been subject to grading in recent times for construction purposes and the creation of flat and

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<sup>5</sup> The images presented in this section of the report were taken by *Banksia Heritage + Archaeology* as part of a comprehensive photographic record compiled for the site in 2004, and checked in the field in August 2008 and confirmed in January 2010.

cleared work and access areas. In combination, these observations indicate the allotment retains little to no Aboriginal archaeological potential.

An indicative view of the existing condition of the Macpherson Street site frontage is provided by **Figure 11**. The northern portions of the allotments have been largely cleared, retain a variety of residential dwellings and their associated outbuildings, and are currently used for horse agistment. The nature of the sapling re-growth present along the western margin of the study area is illustrated in **Figure 12**, along with the uneven and furrowed nature of the ground that indicates the locality has been impacted by extensive modification in the past. These excavations appear to be associated with former market gardening activities inclusive of dam construction and the provision of irrigation channels. The northern portions of Macpherson Street allotments therefore are assessed to retain limited subsurface integrity.

The nature and extent of the vegetation cover currently in evidence to the south of the subject land is indicated in **Figures 13** and **14**. It occurs in two forms. The first comprises extensive areas of introduced weeds and ankle to knee height grass that is interspersed with excavated dams and drainage channels. The second consists of relatively widely spaced immature poplars in a plantation with a dense grass understorey. The latter vegetation is largely confined to the southern third of the study area and is located on low-lying and boggy ground that is evidenced by numerous pools of standing water that are presently contained within the various drainage lines and dams in the locality. The likelihood that the fringes of the adjacent Warriewood Wetlands were subject in the past to frequent flooding/inundation suggests the locality did not represent a favourable Aboriginal camp site location in the past.



Figure 9. Boondah Road, Facing North from Southern End of the Study Area, Showing Flat Area of Introduced Fill, with Creek Line Defined by Trees (BH+A).



Figure 10. Boondah Road, Showing Representative Landscape of Levelled Introduced Landfill and Heavily Vegetated Creek Lines (BH+A).





Figure 11. Macpherson Road Frontage from Near Northwest Corner of Study Area Facing East. This is Typical of the Cleared Land, Currently in Foreground Growing Poplars, but Previously Used for Market Gardening (BH+A).



Figure 12. Young Poplars Planted in an Area Formerly Used for Glasshouse and Open-Field Market Gardening, Along Macpherson Street (BH+A).





Figure 13. Mature Poplar Plantation Along the Creek Line at the Western End of the Study Area (BH+A).



Figure 14. Overgrown Open Field, Facing East at Western End of Study Area (BH+A).

## **4.3 Results of the 2004 Fieldwork**

### **4.3.1 Survey Outcomes**

No evidence for past Aboriginal visitation or use of the study area was located during the 2004 site inspection. Namely, no midden deposits or flaked/ ground stone artefacts were identified, nor were any other stone materials of 'foreign' origin that are known to have been commonly utilised by Aboriginal people to manufacture stone tools identified.

Likewise, none of the indigenous trees that are present within the southern third of the study area were observed to display any evidence for cultural modification, and in this regard, the timber in this locality was assessed to be of insufficient age to possess Aboriginal scarification.

Finally, no specific areas of *potential Aboriginal archaeological sensitivity* relative to the then development proposal were identified by *Banksia Heritage + Archaeology* or the *Metropolitan Local Aboriginal Land Council* in the course of completing the previously reported 2004 project.

The updated background environmental and archaeological information presented in this report indicates that these conclusions still apply relative to the current redevelopment plans proposed for the study area.

### **4.3.2 Evaluation of the 2004 Site Inspection Results**

The 2004 study reported that the failure to detect any evidence for past Aboriginal visitation and/or use of the subject land was likely to be partly the result of the poor nature of archaeological visibility that was observed to be evident across the survey area at that time. Ground visibility (exposure) was found to be uniformly poor across much of site and was estimated to provide effective survey coverage within the order of 5% to 10%. The archaeological visibility conditions across the study area have remained largely unchanged in the intervening period that has elapsed between the original 2004 site inspection and the preparation of the current updated *Aboriginal Archaeological and Cultural Heritage Impact Assessment*.

However, the survey area nevertheless comprises a parcel of land that is largely low-lying that has also in the past been extensively disturbed as a consequence of the accumulated impacts associated with vegetation clearance, market gardening activities, housing construction and associated land improvements [inclusive of the creation of dams and the excavation of drainage/irrigation channels] which have served to disturb sub-surface soil profiles across the site.

On the basis of these observations, and given that the site is situated between the Narrabeen and Mullet Creek catchments, it was therefore considered unlikely in 2004 that extensive intact and *in situ* archaeological deposits would be present on the property. It was further considered likely that at best, any evidence for Aboriginal cultural heritage that may present within the subject land that remains undetected at this time would comprise isolated finds and/or low density items with provenance to disturbed recovery contexts.

A review of previously compiled environmental and archaeological contextual information for the site, and in consideration of the updated data sources documented in this report, this assessment is considered to still apply to the study area relative to current development plans proposed for the place.



## 5.0 Heritage Impact Statement

### 5.1 Impact of the Currently Proposed Development

The background Aboriginal archaeological and cultural heritage research, previous (2004) site inspection, analysis and assessment of the 14-18 Boondah Road and Macpherson Street site for the current updated *Aboriginal Archaeological and Cultural Heritage Impact Assessment* indicate that:

- No *documented* Aboriginal archaeological sites or 'objects' will be affected by the currently proposed development of the subject lands.
- No *specific* areas of *Potential Aboriginal Archaeological Sensitivity* relative to the current development proposal have been identified in the course of preparing this updated heritage impact statement.
- The topography of the Boondah Road and Macpherson Street site is generally low-lying and prone to inundation in times of wet weather, and the soil profiles are in the main shallow and significantly disturbed in places as a consequence of past vegetation clearance, market gardening, housing construction and other land improvements such as dam construction and the excavation of irrigation channels.
- In combination, these factors strongly suggest that the locality is most unlikely to have represented an overly attractive camping location to Aboriginal people in the past and that *extensive* and *in situ* deposits containing archaeological material such as shell midden or flaked stone artefacts are unlikely to be either present and/or survive across the site.
- It is considered that while the locality may have been sporadically visited by people in the past during foraging for the exploitation of swamp/wetland resources as day to day needs may have dictated, the site is unlikely to have been subject to repeated and intensive (long-term) camping episodes that would have resulted in the creation of substantial archaeological deposits.
- It is expected that any evidence for past Aboriginal visitation and use that may be exposed by the currently proposed site works will consist of isolated items of flaked stone and/or low-density distributions of artefacts.
- Any potential Aboriginal sites or 'objects' that may be impacted upon by the current proposal are likely to be encountered within relatively disturbed recovery contexts.

### 5.2 Evaluation

On the basis of the above considerations, it is concluded that no 'clear or obvious' Aboriginal heritage constraints are apparent at this time for the current development proposal of the site proceeding as planned, subject to the implementation of the management recommendations that are provided below, should approval for the project be granted by the *NSW Department of Planning*.

## 6.0 Recommendations

### 6.1 Basis for Recommendations

The following recommendations are based upon the legal requirements and automatic statutory protection provided to Aboriginal 'objects' and 'places' under the terms of the *National Parks and Wildlife Act of 1974*, 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'* (NPWS) that now comprises an administration branch of the *Department of Environment, Climate Change and Water* (DECCW),

in conjunction with:

the results of the background archaeological and historical research, site inspection, and assessment of the Boondah Road and Macpherson Street site as documented in this report;

and:

a consideration of the views that have been expressed by the *Metropolitan Local Aboriginal Land Council* as outlined within their appended correspondence that have been developed for the project (see **Attachments**).

### 6.2 Management Recommendations

It is recommended that:

- I It is recommended that a Public Notice be placed in the *Koori Mail* (or an appropriate local print media source) at the earliest opportunity that will assist the development proponent in establishing what level of further Aboriginal community consultation may be required for the project beyond that which has been initiated with the *Metropolitan Local Aboriginal Land Council* to date to satisfy the DGR'S Key Issue 16.
- II The proposed development of the subject land will not impact upon any *documented* Aboriginal archaeological sites, and it is assessed that the *potential* for evidence of past Aboriginal use of the study area to remain undetected to be low.
- III It is concluded therefore that there are no Aboriginal archaeological or cultural heritage constraints to the future development of the site proceeding as planned and that no further Aboriginal archaeological input is required prior to the commencement of the current development plans should the *NSW Department of Planning* approve the *Concept Plan and Stage 1 Project Application*.
- IV In the (largely) unexpected circumstance that any Aboriginal objects are unearthed as a result of the development works in the future, it is recommended that activities should temporarily cease within the immediate vicinity of the find locality, be relocated to other areas of the

subject site (allowing for a curtilage of at least 50m), and the *Department of Environment and Climate Change and Water* (DECCW) be contacted to advise on the appropriate course of action to allow the Aboriginal community to record and collect the identified item(s).

V A copy of this report should be forwarded to:

The Manager  
Planning and Heritage Section – Metropolitan Region  
Central Aboriginal Heritage Unit  
Department of Environment Climate Change and Water  
Level 7, 79 George Street  
Parramatta, NSW, 2150

VI A copy of this report should be forwarded to:

The Chairperson  
Metropolitan Local Aboriginal Land Council  
PO Box 1103  
Strawberry Hills, NSW, 2012

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# **ATTACHMENT 1**

## **Metropolitan Local Aboriginal Land Council Cultural Heritage Statement**



## METROPOLITAN LOCAL ABORIGINAL LAND COUNCIL

PO Box 1103 Strawberry Hills NSW 2012

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12 September 2008

Mr Denis Gojak  
Banksia Heritage + Archaeology  
PO Box 457  
Newtown, NSW, 2042

C/o

Meriton Pty Ltd.

Re: Boondah Road & Macpherson Street, Warriewood (Sector 3)

Revised Aboriginal Archaeological & Cultural Heritage Impact Assessment – September 2008

Dear Mr Gojak,

We would like to confirm that the *Metropolitan Local Aboriginal Land Council (MLALC)* has reviewed the current updated *Aboriginal Archaeological & Cultural Heritage Impact Assessment* report prepared by *Banksia Heritage + Archaeology* on behalf of *Meriton Pty Ltd* for a parcel of land at Boondah Road and Macpherson Street in Warriewood that supplements two previous studies undertaken for the place in February 2004 and May 2008 respectively. The MLALC have evaluated the currently proposed design modifications for the future development of the site, and we believe that these minor changes do not alter our original conclusions and recommendations as included in the most recent May 2008 report. Namely:

*'On the basis of previous investigations of the study area undertaken by the MLALC on behalf of Meriton Pty Ltd in 2004, we re-affirm that no Aboriginal cultural heritage remains or specific areas of potential sensitivity have been identified to occur on the site to date, and that the majority of the property is relatively low lying and largely disturbed as a result of past clearing, market-gardening, landscaping and construction works. As a result, we would like to confirm at this time that it is unlikely that any potential sites that may have been previously present on the land will have survived as a result of these ongoing works.'*

The MLALC therefore support the conclusions and recommendations the current updated assessment presents, and as a result we would like to confirm the MLALC consider that there are no obvious Aboriginal cultural heritage constraints to the proposed development of the land proceeding as intended, and that no further Aboriginal cultural heritage input would appear to be warranted at this time within the study area prior to the commencement of future works should the development proposal be approved by Council.

If you have any questions in this regard, please do not hesitate to contact us.

Best Regards,

Mr Allen Madden

Senior Cultural & Education Officer

Metropolitan Local Aboriginal Land Council