

# ABORIGINAL TEXT EXCAVATION REPORT

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**Lot 66 DP 27550  
53 Dwyer Road  
Bringelly NSW  
(Liverpool LGA)**



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Streat Archaeological Services Pty Ltd

**for  
VT Architects Pty Ltd**



**On behalf of  
Sasanadhaja Buddhist Association  
Incorporation**

**January 2019**

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**Cover Image**

General shot of study site during test excavation  
AMAC Image DSCN2794 (24/10/2018)

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## EXECUTIVE SUMMARY

### **Background**

Archaeological Management and Consulting Group (AMAC) in conjunction with Streat Archaeological Services (SAS) was commissioned by VT Architects Pty Ltd on behalf of Sasanadhaja Buddhist Association Incorporated in May 2018, to prepare a Due Diligence Aboriginal Archaeological Assessment for the proposed place of worship at Lot 66 DP 27550, 53 Dwyer Road, Bringelly, New South Wales.

Subsequently, AMAC was engaged to upgrade the investigation and conduct a full Aboriginal Cultural Heritage Assessment, including full Aboriginal community consultation in accordance with Part 6; National Parks and Wildlife Act, *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010).

As part of this investigation a programme of test excavation was conducted under the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010). This report forms the results and analysis of said test excavation.

### **Aboriginal Consultation**

Consultation for this report has been undertaken in accordance with the Office of Environment and Heritage and National Parks and Wildlife Act 1974: Part 6; *National Parks and Wildlife Act Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010), as part of the Aboriginal Cultural Heritage Assessment and programme of test excavation under the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010).

Due to the high number of registered stakeholders and limited time on site, it was not feasible to have everyone on site and as such a tender document was dispatched to all parties with the opportunity to register for fieldworks. All registered parties whether successful with their fieldworks tender, were supplied with site updates and a draft ACHA document as well as this test excavation report for review and comment.

This report is to be reviewed and commented on by all Registered Aboriginal Parties (RAPs). These comments have been incorporated into the final version of this report.

### **Physical Evidence**

Test excavation was undertaken over two days 23/10/18 and 24/10/18 and was conducted under the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010) and consisted of the excavation of 12 test trenches (50cm x 50cm).

The proposed development, including access and associated infrastructure, will impact the study site. The results of the test excavation indicated that the natural soil profile has been heavily truncated. No Aboriginal archaeological/cultural objects, deposits or features were located. Therefore, no further Aboriginal archaeological investigation is warranted, and works (Figure 9.1 – 9.7) may proceed with caution.



### **Significance**

The site is found to be of nil-low archaeological significance this is on account to the test excavation resulting in no Aboriginal objects and/or deposits of cultural or archaeological significance being located.

### **Recommendations**

The findings from the test excavation indicate the site to be of nil-low archaeological significance and heavily truncated resulting in no *intact* A1 or A2 soil horizons. Test excavation also resulted in no Aboriginal objects and/or deposits of cultural significance being located, therefore the development should be allowed to proceed with caution.

The recommendations have been formulated after consultation with RAPs, the proponent and the OEH;

It is recommended that:

- A full Aboriginal Cultural Heritage Assessment is being undertaken in accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in New South Wales*, Part 6 National Parks and Wildlife Act 1974 (DECCW 2010); This report has reached Stage 3 of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010). Therefore, this process need not be completed prior to the Development Application being lodged.
- Consultation with the registered Aboriginal stakeholders should continue. Stakeholders have been given the opportunity to comment on the recommendations of this report and these comments have been included in this report;
- Archaeological test excavation in accordance with *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010) revealed no Aboriginal archaeological objects or deposits: As the nature and extent of the archaeological site has been established through test excavation and the data has been analysed and synthesised into a test excavation report (AMAC 2018), the proposed development subdivision as shown (Figure 9.1 – 9.7) should be allowed to 'proceed with caution'. An Aboriginal Heritage Impact Permit (AHIP) will not need to be applied for in order for the development to proceed.
- After this, and before any ground disturbance takes place as part of the construction, all development staff, contractors and workers should be briefed prior to works commencing on site, as to the status of the area and their responsibilities regarding any Indigenous archaeological deposits and/or objects that may be unexpectedly located during the following development.

**If any Aboriginal archaeological deposits and/or objects are located during the development, then the following should take place;**

- All work is to cease in the immediate vicinity of the deposits and/or objects
- The area is to be demarcated
- OEH, a qualified archaeologist and the participating RAPs are to be notified.

**Should any human remains be located during the following development;**

- 
- All excavation in the immediate vicinity of any objects of deposits shall cease immediately;
  - The NSW police and OEH's Enviroline be informed as soon as possible:
  - Once it has been established that the human remains are Aboriginal ancestral remains, OEH and the relevant Registered Aboriginal Parties will identify the appropriate course of action.

## CONTACT DETAILS

The contact details for the following archaeologist, NSW Police, OEH and the Local Aboriginal Land Council are as follows:

Organisation	Contact	Contact Details
NSW Environment Line		131 555
NSW Camden Police Area Command		PAC Office: Cnr Camden Valley Way and Wilson Crescent Narellan NSW 2567 Ph: (02) 4632 4499 Fax: (02) 4632 4411
Archaeological Management & Consulting Group	Mr. Benjamin Streat or Mr. Martin Carney	122c-d Percival Road Stanmore NSW 2048 Ph:(02) 9568 6093 Fax:(02) 9568 6093 Mob: 0405 455 869 Mob: 0411 727 395 <a href="mailto:benjaminstreat@archaeological.com.au">benjaminstreat@archaeological.com.au</a>
Office of Environment & Heritage NSW Regional operations: Parramatta	Archaeologist – Head Office	PO Box 644 Parramatta NSW 2124 Ph: (02) 9995 5000 <a href="mailto:info@environment.nsw.gov.au">info@environment.nsw.gov.au</a>
Tharawal Local Aboriginal Land Council (TLALC)	Rebecca Jarvis	220 West Parade Couridjah NSW 2571 Ph: (02) 4681 0059 <a href="mailto:informationofficer@tharawal.com.au">informationofficer@tharawal.com.au</a>
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Darug Aboriginal Land Care	Des Dyer	<a href="mailto:desmond4552@hotmail.com">desmond4552@hotmail.com</a>
Darug Land Observation	Anna O'Hara	<a href="mailto:daruglandobservations@gmail.com">daruglandobservations@gmail.com</a>
Kamilaroi-Yankuntjatjara Working Group	Phil Khan	<a href="mailto:philipkhan.acn@live.com.au">philipkhan.acn@live.com.au</a>



## 1.0 INTRODUCTION

### 1.1 BACKGROUND

Archaeological Management and Consulting Group (AMAC) in conjunction with Streat Archaeological Services (SAS) was commissioned by VT Architects Pty Ltd on behalf of Sasanadhaja Buddhist Association Incorporated in May 2018, to prepare a Due Diligence Aboriginal Archaeological Assessment for the proposed place of worship at Lot 66 DP 27550, 53 Dwyer Road, Bringelly, New South Wales.

Subsequently, AMAC was engaged to upgrade the investigation and conduct a full Aboriginal Cultural Heritage Assessment, including full Aboriginal community consultation in accordance with Part 6; National Parks and Wildlife Act, *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010).

As part of this investigation a programme of test excavation was conducted under the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010). This report forms the results and analysis of said test excavation.

### 1.2 STUDY AREA

The study site is that piece of land described as Lots 66 of the Land and Property Information, Deposited Plan 27550, forming the following consolidated street address of 53 Dwyer Road, Bringelly in the Parish of Bringelly, County of Cumberland (Figure 1.1 – Figure 1.2).

Street Address	Lot	Deposited Plan
53 Dwyer Road	66	27550

### 1.3 SCOPE

The aims of this assessment are to assess the Aboriginal archaeological potential of the study area and to measure the impact of the proposed development on any intact soil profiles with the potential to contain Aboriginal archaeological deposits and/or objects, to develop mitigative strategies under the appropriate legislation and to devise an appropriate strategy for the management of Aboriginal archaeological and cultural heritage values of the area.

### 1.4 ABORIGINAL CONSULTATION & PARTICIPATION SUMMARY

Consultation for this report has been undertaken in accordance with the Office of Environment and Heritage and National Parks and Wildlife Act 1974: Part 6; *National Parks and Wildlife Act Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010), as part of the Aboriginal Cultural Heritage Assessment and programme of test excavation under the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010).

Due to the high number of registered stakeholders and limited time on site, it was not feasible to have everyone on site and as such a tender document was

dispatched to all parties with the opportunity to registered for fieldworks. All registered parties whether successful with their fieldworks tender, were supplied with site updates and a draft ACHA document as well as this test excavation report for review and comment.

This report is to be reviewed and commented on by all Registered Aboriginal Parties (RAPs). These comments have been incorporated into the final version of this report.

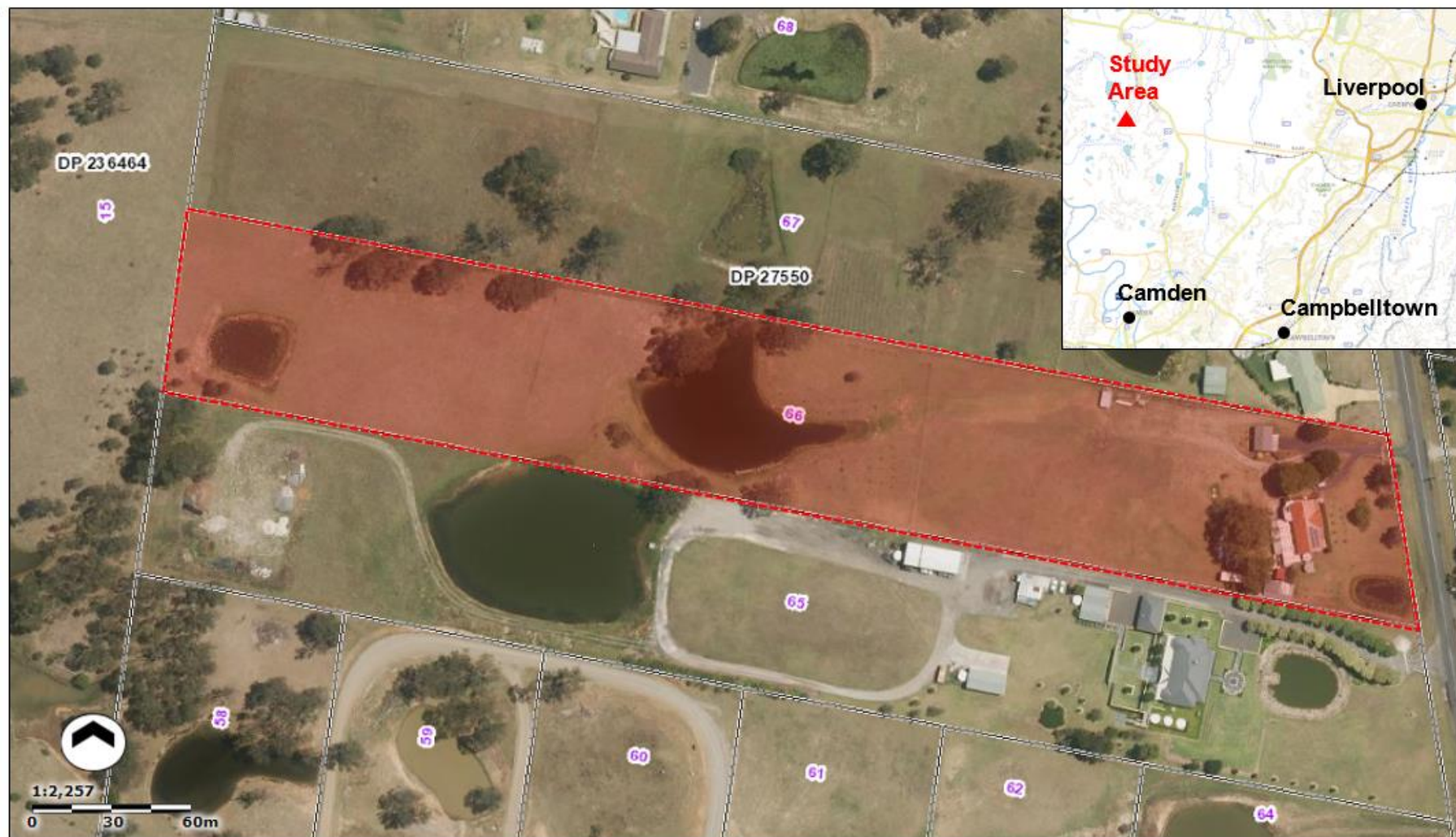
## **1.5 AUTHOR IDENTIFICATION**

The analysis of the archaeological background and the reporting were undertaken by Mr. Benjamin Streat (BA, Grad Dip Arch Her, Grad Dip App Sc), archaeologist and Director of Streat Archaeological Services Pty Ltd in association with archaeologists Ms. Yolanda Pavincich (B. Arch., Grad Dip Cul Her.) and Steven J. Vasilakis (B. Arch. Hons) under the guidance of Mr. Martin Carney archaeologist and Managing Director of AMAC Group.

## **1.6 ACKNOWLEDGEMENTS**

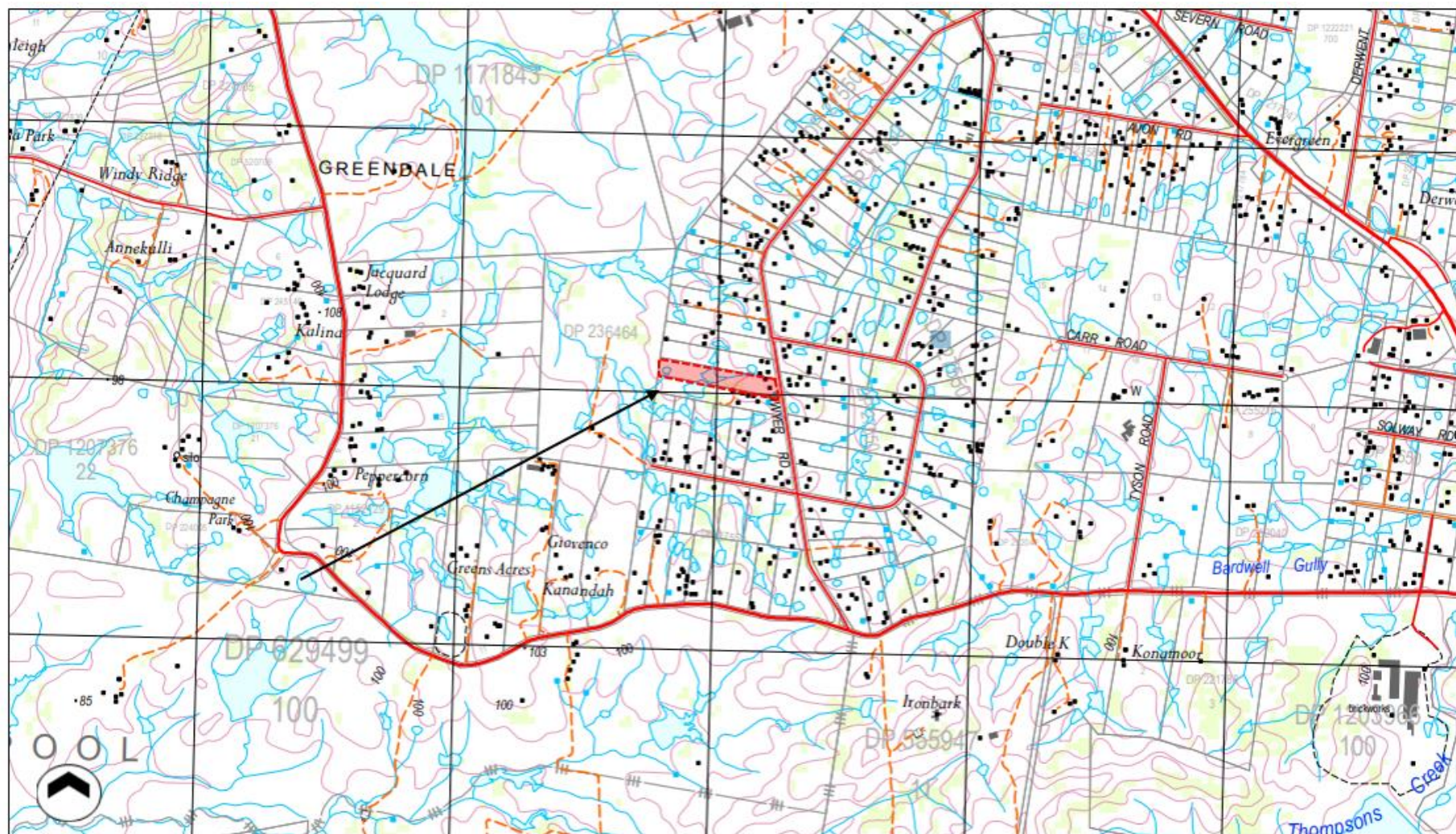
The author would like to thank the following for advice and/or input into this assessment;

- Sasanadhaja Buddhist Association Incorporated;
- Della Kueh of VT Architects Pty Ltd;
- Tharawal Local Aboriginal Land Council;
- Didge Ngunawal Clan;
- Gandangara Local Aboriginal Land Council;
- Gulaga CHTS;
- Darug Tribal Aboriginal Corp;
- Cubbitch Barta;
- Murramarang;
- Goobah;
- Biamanga;
- Cullendulla;
- Darug Aboriginal Land Care;
- Darug Land Observation;
- Kamilaroi-Yankuntjatjara Working Group;



**Figure 1.1 Aerial of study area.**  
Study area outlined in red with red fill. Six Maps, LPI Online (accessed 18/05/18).





**Figure 1.2 Topographic map with site location.**  
Study area outlined in red with red fill and black arrow. Six Maps, LPI Online (accessed 18/05/18).

## **2.0 LEGISLATIVE CONTEXT AND STATUTORY CONTROLS**

This section of the report provides a brief outline of the relevant legislation and statutory instruments that protect Aboriginal archaeological and cultural heritage sites within the state of New South Wales. Some of the legislation and statutory instruments operate at a federal or local level and as such are applicable to Aboriginal archaeological and cultural heritage sites in New South Wales. This material is not legal advice and is based purely on the author's understanding of the legislation and statutory instruments. This document seeks to meet the requirements of the legislation and statutory instruments set out within this section of the report.

### **2.1 COMMONWEALTH HERITAGE LEGISLATION AND LISTS**

One piece of legislation and two statutory lists and one non-statutory list are maintained and were consulted as part of this report: The National Heritage List; the Commonwealth Heritage List and the Register of the National Estate.

#### **2.1.1 Environmental Protection and Biodiversity Conservation Act 1999**

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) offers provisions to protect matters of national environmental significance. This act establishes the National Heritage List and the Commonwealth Heritage List which can include natural, Indigenous and historic places of value to the nation. This Act helps ensure that the natural, Aboriginal and historic heritage values of places under Commonwealth ownership or control are identified, protected and managed (Australian Government 1999).

#### **2.1.2 National Heritage List**

The National Heritage List is a list which contains places, items and areas of outstanding heritage value to Australia; this can include places, items and areas overseas as well as items of Aboriginal significance and origin. These places are protected under the Australian Government's EPBC Act.

#### **2.1.3 Commonwealth Heritage List**

The Commonwealth Heritage List can include natural, Indigenous and historic places of value to the nation. Items on this list are under Commonwealth ownership or control and as such are identified, protected and managed by the Federal Government.

### **2.2 NEW SOUTH WALES STATE HERITAGE LEGISLATION AND LISTS**

The state (NSW) based legislation that is of relevance to this assessment comes in the form of the acts which are outlined below.

#### **2.2.1 National Parks and Wildlife Act 1974**

The NSW National Parks and Wildlife Act 1974 (as amended) defines Aboriginal objects and provides protection to any and all material remains which may be

evidence of the Aboriginal occupation of lands continued within the state of New South Wales. The relevant sections of the Act are sections 84, 86, 87 and 90. An Aboriginal object, formerly known as a relic is defined as:

*any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains” (NSW Government, 1974).*

It is an offence to harm or desecrate an Aboriginal object or places under Part 6, Section 86 of the NPW Act:

Part 6, Division 1, Section 86: Harming or desecrating Aboriginal objects and Aboriginal places:

- (1) *A person must not harm or desecrate an object that the person knows is an Aboriginal object.*

*Maximum penalty:*

- (a) *in the case of an individual—2,500 penalty units or imprisonment for 1 year, or both, or (in circumstances of aggravation) 5,000 penalty units or imprisonment for 2 years, or both, or*
- (b) *in the case of a corporation—10,000 penalty units.*

- (2) *A person must not harm an Aboriginal object.*

*Maximum penalty:*

- (a) *in the case of an individual—500 penalty units or (in circumstances of aggravation) 1,000 penalty units, or*
- (b) *in the case of a corporation—2,000 penalty units.*

- (3) *For the purposes of this section, **circumstances of aggravation** are:*

- (a) *that the offence was committed in the course of carrying out a commercial activity, or*
- (b) *that the offence was the second or subsequent occasion on which the offender was convicted of an offence under this section.*

*This subsection does not apply unless the circumstances of aggravation were identified in the court attendance notice or summons for the offence.*

- (4) *A person must not harm or desecrate an Aboriginal place.*

*Maximum penalty:*

- (a) *in the case of an individual—5,000 penalty units or imprisonment for 2 years, or both, or*
- (b) *in the case of a corporation—10,000 penalty units.*

- (5) *The offences under subsections (2) and (4) are offences of strict liability and the defence of honest and reasonable mistake of fact applies.*

- (6) *Subsections (1) and (2) do not apply with respect to an Aboriginal object that is dealt with in accordance with section 85A.*

- (7) *A single prosecution for an offence under subsection (1) or (2) may relate to a single Aboriginal object or a group of Aboriginal objects.*



- (8) *If, in proceedings for an offence under subsection (1), the court is satisfied that, at the time the accused harmed the Aboriginal object concerned, the accused did not know that the object was an Aboriginal object, the court may find an offence proved under subsection (2).*

### 2.2.2 Environmental Planning & Assessment Act 1979

The *Environmental Planning and Assessment Act 1979 (EP&A Act)* states that environmental impacts of proposed developments must be considered in land use planning procedures. Four parts of this act relate to Aboriginal cultural heritage.

- Part 3, divisions 3, 4 and 4A refer to Regional Environmental Plans (REP) and Local Environmental Plans (LEP) which are environmental planning instruments and call for the assessment of Aboriginal heritage among other requirements.
- Part 4 determines what developments require consent and what developments do not require consent. Section 79C calls for the evaluation of *The likely impacts of that development, including environmental impacts on both the natural and built environments and the social and economic impacts in the locality (NSW Government 1979).*
- Part 5 of this Act requires that impacts on a locality which may have an impact on the aesthetic, anthropological, architectural, cultural, historic, scientific, recreational or scenic value are considered as part of the development application process (NSW Government, 1979).

### 2.2.3 The Aboriginal Land Rights Act 1983

The NSW *Aboriginal Land Rights Act 1983 (ALR Act)*, administered by the NSW Department of Aboriginal Affairs, established the NSW Aboriginal Land Council (NSWALC) and Local Aboriginal Land Councils (LALCs). The ALR Act requires these bodies to:

- take action to protect the culture and heritage of Aboriginal persons in the council's area, subject to any other law;
- promote awareness in the community of the culture and heritage of Aboriginal persons in the council's area.

These requirements recognise and acknowledge the statutory role and responsibilities of New South Wales Aboriginal Land Council and Local Aboriginal Land Councils.

The ALR Act also establishes the Office of the Registrar whose functions include but are not limited to, maintaining the Register of Aboriginal Land Claims and the Register of Aboriginal Owners.

Under the ALR Act the Office of the Registrar is to give priority to the entry in the Register of the names of Aboriginal persons who have a cultural association with:

- lands listed in Schedule 14 to the NPW Act;
- lands to which section 36A of the ALR Act applies (NSW Government, 1974 & DECCW 2010).

### 2.2.4 The Native Title Act 1993

The *Native Title Act 1993 (NTA)* provides the legislative framework to:

- recognise and protect native title;

- establish ways in which future dealings affecting native title may proceed, and to set standards for those dealings, including providing certain procedural rights for registered native title claimants and native title holders in relation to acts which affect native title;
- establish a mechanism for determining claims to native title;
- provide for, or permit, the validation of past acts invalidated because of the existence of native title.

The National Native Title Tribunal has a number of functions under the NTA including maintaining the Register of Native Title Claims, the National Native Title Register and the Register of Indigenous Land Use Agreements and mediating native title claims (NSW Government, 1974 & DECCW 2010).

### **2.2.5 New South Wales Heritage Register and Inventory 1999**

The State Heritage Register is a list of places and objects of particular importance to the people of NSW. The register lists a diverse range of over 1,500 items, in both private and public ownership. Places can be nominated by any person to be considered to be listed on the Heritage register. To be placed an item must be significant for the whole of NSW. The State Heritage Inventory lists items that are listed in local council's local environmental plan (LEP) or in a regional environmental plan (REP) and are of local significance.

### **2.2.6 Register of Declared Aboriginal Places 1999**

The NPW Act protects areas of land that have recognised values of significance to Aboriginal people. These areas may or may not contain Aboriginal objects (i.e. any physical evidence of Aboriginal occupation or use). Places can be nominated by any person to be considered for Aboriginal Place gazettal. Once nominated, a recommendation can be made to EPA/OEH for consideration by the Minister. The Minister declares an area to be an 'Aboriginal place' if the Minister believes that the place is or was of special significance to Aboriginal culture. An area can have spiritual, natural resource usage, historical, social, educational or other type of significance.

Under section 86 of the NPW Act it is an offence to harm or desecrate a declared Aboriginal place. Harm includes destroying, defacing or damaging an Aboriginal place. The potential impacts of the development on an Aboriginal place must be assessed if the development will be in the vicinity of an Aboriginal place (DECCW 2010).

## **2.3 LOCAL PLANNING INSTRUMENTS**

### **2.3.1 Liverpool Local Environmental Plan (2008)**

The Liverpool Council Local Environment Plan was endorsed in 2008. Heritage Conservation is discussed in Part 5; Clause 5.10. The following section highlights the archaeological considerations of a site in relation to developments:

#### **5.10 Heritage conservation**

##### **(1) Objectives**

*The objectives of this clause are as follows:*

- (a) *to conserve the environmental heritage of Liverpool*

- (b) *to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,*
- (c) *to conserve archaeological sites,*
- (d) *to conserve Aboriginal objects and Aboriginal places of heritage significance.*

**(2) Requirement for consent**

*Development consent is required for any of the following:*

- (a) *demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance):*
  - (i) *a heritage item,*
  - (ii) *an Aboriginal object,*
  - (iii) *a building, work, relic or tree within a heritage conservation area,*
- (b) *altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,*
- (c) *disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,*
- (d) *disturbing or excavating an Aboriginal place of heritage significance,*
- (e) *erecting a building on land:*
  - (i) *on which a heritage item is located or that is within a heritage conservation area, or*
  - (ii) *on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,*
- (f) *subdividing land:*
  - (i) *on which a heritage item is located or that is within a heritage conservation area, or*
  - (ii) *on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.*

**(3) When consent not required**

*However, development consent under this clause is not required if:*

- (a) *the applicant has notified the consent authority of the proposed development and the consent authority has advised the applicant in writing before any work is carried out that it is satisfied that the proposed development:*
  - (i) *is of a minor nature or is for the maintenance of the heritage item, Aboriginal object, Aboriginal place of heritage significance or archaeological site or a building, work, relic, tree or place within the heritage conservation area, and*
  - (ii) *would not adversely affect the heritage significance of the heritage item, Aboriginal object, Aboriginal place, archaeological site or heritage conservation area, or*

- (b) *the development is in a cemetery or burial ground and the proposed development:*
  - (i) *is the creation of a new grave or monument, or excavation or disturbance of land for the purpose of conserving or repairing monuments or grave markers, and*
  - (ii) *would not cause disturbance to human remains, relics, Aboriginal objects in the form of grave goods, or to an Aboriginal place of heritage significance, or*
- (c) *the development is limited to the removal of a tree or other vegetation that the Council is satisfied is a risk to human life or property, or*
- (d) *the development is exempt development.*

**(8) Aboriginal places of heritage significance**

*The consent authority must, before granting consent under this clause to the carrying out of development in an Aboriginal place of heritage significance:*

- (a) *consider the effect of the proposed development on the heritage significance of the place and any Aboriginal object known or reasonably likely to be located at the place by means of an adequate investigation and assessment (which may involve consideration of a heritage impact statement), and*
- (b) *notify the local Aboriginal communities, in writing or in such other manner as may be appropriate, about the application and take into consideration any response received within 28 days after the notice is sent*

**(10) Conservation incentives**

*The consent authority may grant consent to development for any purpose of a building that is a heritage item or of the land on which such a building is erected, or for any purpose on an Aboriginal place of heritage significance, even though development for that purpose would otherwise not be allowed by this Plan, if the consent authority is satisfied that:*

- (a) *the conservation of the heritage item or Aboriginal place of heritage significance is facilitated by the granting of consent, and*
- (b) *the proposed development is in accordance with a heritage management document that has been approved by the consent authority, and*
- (c) *the consent to the proposed development would require that all necessary conservation work identified in the heritage management document is carried out, and*
- (d) *the proposed development would not adversely affect the heritage significance of the heritage item, including its setting, or the heritage significance of the Aboriginal place of heritage significance, and*
- (e) *the proposed development would not have any significant adverse effect on the amenity of the surrounding area*

### **2.3.2 Liverpool Development Control Plan (2008)**

The Liverpool Council Development Control Plan was endorsed in 2008. Aboriginal Culture and Heritage is discussed in Chapter 16 – Aboriginal Archaeology. The following outlines Aboriginal heritage requirements as discussed in this section.

#### Applies to

*This section applies to land:*

- 1. In which Aboriginal sites, places or relics have been previously identified.*
- 2. Within an identified cultural landscape.*
- 3. That has not been cleared.*

#### Background

*The Liverpool LGA was occupied by Aboriginal people prior to European settlement. Relics of this still remain.*

#### Objectives

*To identify and where possible preserve relics of the occupation of the land by Aboriginal communities.*

#### Controls

##### *Initial Investigation*

*An initial investigation must be carried out to determine if the proposed development or activity occurs on land potentially containing an item of aboriginal archaeology. If any of the above features apply then the relevant Aboriginal community must be consulted, as part of the initial investigation to ensure that the potential for the land to contain Aboriginal sites, places or relics has not been overlooked by previous studies.*

##### Detailed Investigation

- 1. If any of the features apply, then an Aboriginal Heritage Impact Assessment (AHIA) must be prepared in accordance with the NSW Department of Environment and Climate Change Draft Guidelines for Aboriginal Heritage Impact Assessment and submitted with the initial investigation report.*
- 2. An AHIA will also be required if the relevant local Aboriginal community provides sufficient information to the Council that leads it to conclude that the site may have Aboriginal heritage significance.*
- 3. Once the AHIA is submitted, the Council will send copies to representatives of the relevant local Aboriginal communities and the NSW Department of Environment and Climate Change for comment.*

### **2.4 DUE DILIGENCE CODE OF PRACTICE FOR THE PROTECTION OF ABORIGINAL OBJECTS IN NEW SOUTH WALES**

This assessment conforms to the parameters set out in the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974*, (DECCW 2010).

*The Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales states that if;*

- a desktop assessment and visual inspection confirm that there are Aboriginal objects or that they are likely, then further archaeological investigation and impact assessment is necessary.

## **2.5 CODE OF PRACTICE FOR ARCHAEOLOGICAL INVESTIGATION OF ABORIGINAL OBJECTS IN NSW**

Any further work resulting from recommendations should be carried out conforming to the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974*, (DECCW 2010).

## **2.6 GUIDELINES**

This report has been carried out in consultation with the following documents which advocate best practice in New South Wales:

- Aboriginal Archaeological Survey, Guidelines for Archaeological Survey Reporting (NSW NPWS 1998);
- Aboriginal Cultural Heritage Standards and Guidelines Kit (NPWS 1998);
- Australia ICOMOS 'Burra' Charter for the conservation of culturally significant places (Australia ICOMOS 1999);
- Part 6; National Parks and Wildlife Act Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010);
- Protecting Local Heritage Places: A Guide for Communities (Australian Heritage Commission 1999).



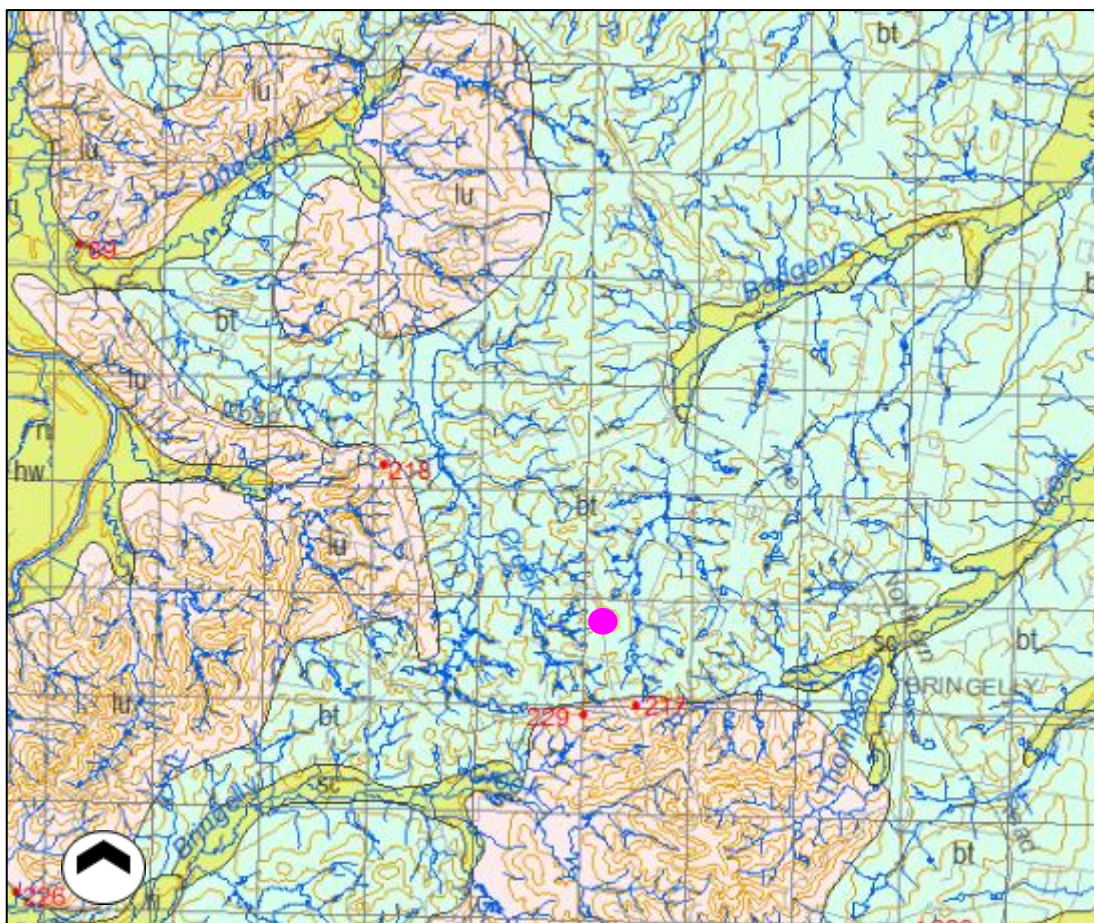
## 3.0 ENVIRONMENTAL CONTEXT

To adequately understand and assess the potential Aboriginal archaeological resource that may be present within the study area it is vital to understand the environment in which the Aboriginal inhabitants of the study area carried out their activities. The environment that Aboriginal inhabitants lived in is a dominant factor in shaping their activity and therefore the archaeological evidence created by this activity. Not only will the resources available to the Aboriginal population have an influence on the evidence created but the survival of said evidence will also be influenced by the environment.

### 3.1 TOPOGRAPHY

The study area lies between the terraces of the Hawkesbury/Nepean River System. It is in the vicinity of major tributaries, such as the Nepean River as well as minor ones including Redback Creek and Stonequarry Creek.

The Blacktown (bt) soil landscape consists of mostly gently undulating rises on Wianamatta Shale with a local relief 10-30m and slopes generally <5%. The crests and ridges are found to be broad and rounded (200-600m). Shale outcrops are not naturally located but can be the result of the removal of upper soils.



**Figure 3.1 Study area on soil map.**  
Study area in pink. Soil Landscapes of the Penrith 1:100 000 Sheet Report (Hazelton *et al*).

### 3.2 GEOLOGY AND SOILS

The geology of the study area consists of Quaternary alluvium of sand silt and gravel derived from the erosion of the Hawkesbury and Nepean sandstones and shale from the Wianamatta and Bringelly groups, which are the dominant geological formations of the Sydney Basin. The nature of the alluvial deposit varies according to the lithology of its source and how far it has been transported.

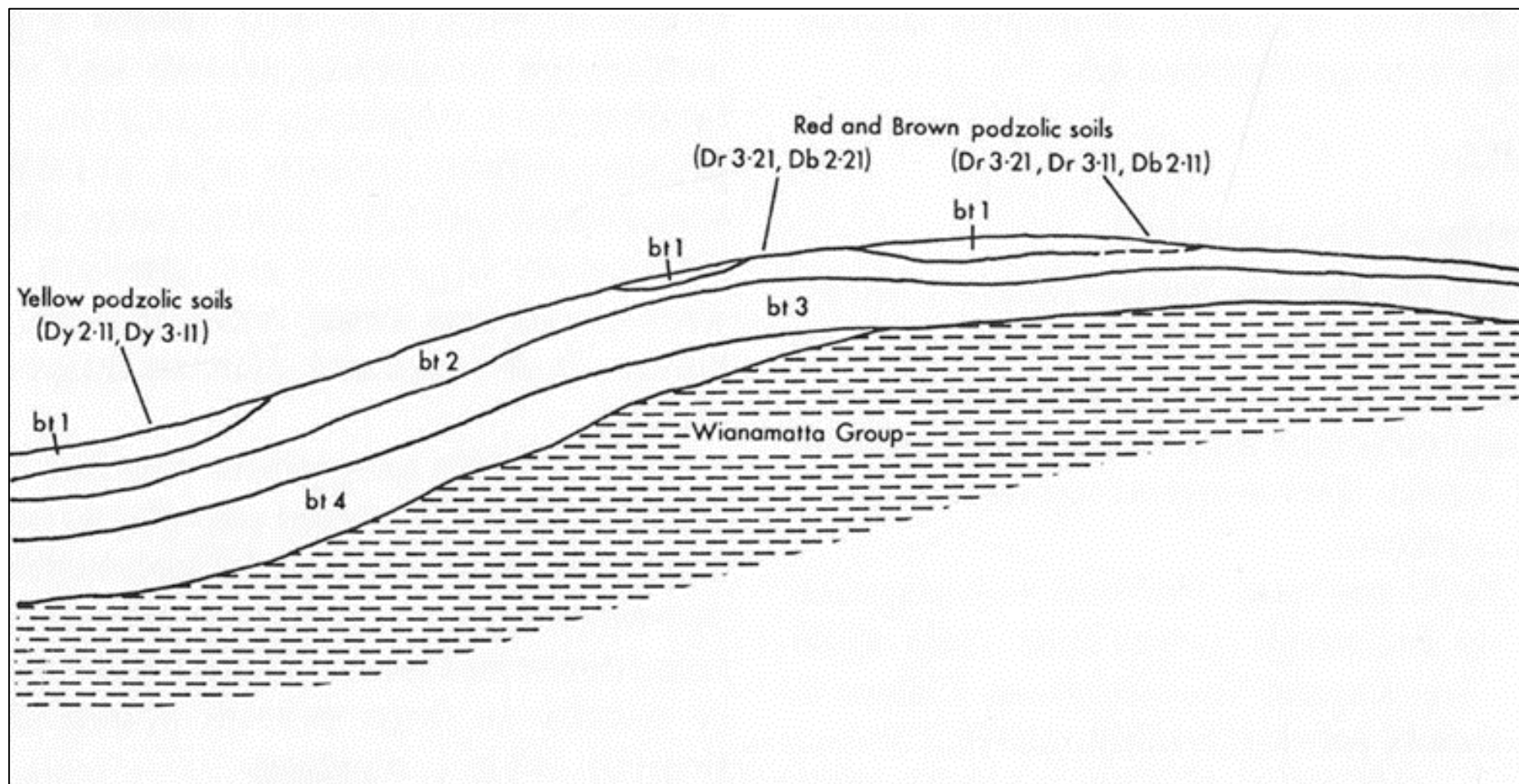
The Blacktown (bt) soil profile is located over much of the Cumberland Lowlands and the Moss Vale Tablelands as well as on the Woronora Plateau at Menai, Engadine, Sutherland, Caringbah and Darkes Forest. The geology is Ashfield laminite and siltstone and Bringelly shale containing occasional claystone, laminite and coal. Soils are typically shallow to moderately deep red and brown podsols on crests and upper slopes and deeper yellow podsols and soloths on lower slopes along drainage lines. Soil acidity, ironstone and gravel shale fragments tend to increase with depth.

**Table 3.1 Description of dominant soil material**

Dominant Soil Material	Soil Horizon	Description
<b>bt1</b>	A1 Horizon	Friable brownish-black loam to clay loam, can range from dark reddish brown to dark yellowish-brown. Blocky structure with rounded iron indurated fine gravel-sized shale fragments and charcoal fragments.
<b>bt2</b>	A2 Horizon	Hardsetting brown clay loam to silty clay loam, can range from dark reddish brown to dark brown. Weakly pedal structure with platy ironstone and gravel sized shale fragments as well as charcoal fragments.
<b>bt3</b>	B Horizon	Brown light- medium clay, can range from reddish brown to brown. Mottles of red, yellow and grey are common, increasing in depth. Strongly pedal polyhedral or sub angular blocky structure with fine coarse gravel sized shale fragments, these often occur in stratified bands.
<b>bt4</b>	B/C Horizon	Plastic light grey silty clay to heavy clay can range from greyish yellow. Mottles of red, yellow and grey are common. Moderate pedal polyhedral to sub angular blocky structure and smooth faced dense ped fabric, contains gravel sized shale fragments as well as strongly weather ironstone concretions and rock fragments are common.

**Table 3.2 Expected Blacktown soil profile depth based on landform**

<b>Crest</b>
<ul style="list-style-type: none"><li>➤ up to 30cm of greyish brown loam <b>(bt1)</b></li><li>➤ 10 - 20cm of brown clay loam <b>(bt2)</b></li><li>➤ up to 100cm of brown mottled light clay <b>(bt3)</b></li></ul> <p><i>N.B The total soil profile will not exceed 150cm, with the greyish loam (bt1) occasionally absent and the boundaries between the soil horizons generally clear.</i></p>
<b>Upper Slopes and Mid Slopes</b>
<ul style="list-style-type: none"><li>➤ up to 30cm of greyish brown loam <b>(bt1)</b></li><li>➤ up to 30cm of brown mottled light clay <b>(bt3)</b></li><li>➤ up to 100cm of light grey mottled clay <b>(bt4)</b></li></ul> <p><i>N.B The total soil profile will not exceed 200cm, with the greyish loam (bt1) occasionally absent and the boundaries between the soil horizons are generally clear up to 30 cm of greyish brown loam (bt1).</i></p>
<b>Lower Slopes</b>
<ul style="list-style-type: none"><li>➤ 10 - 30cm of brown clay loam <b>(bt2)</b></li><li>➤ 40 - 100cm of brown mottled light clay <b>(bt3)</b></li><li>➤ up to 100cm of light grey mottled clay <b>(bt4)</b></li></ul> <p><i>N.B The total soil profile will not exceed 200cm and the boundaries between the soil horizons are generally clear.</i></p>
<b>Poor Drainage</b>
<ul style="list-style-type: none"><li>➤ up to 20cm of greyish brown loam <b>(bt1)</b></li><li>➤ brown mottled light clay <b>(bt3)</b></li></ul> <p><i>N.B The total soil profile will not exceed 200cm and the boundaries between the soil horizons are generally clear.</i></p>



**Figure 3.2** Cross Section of soil landscape illustrating relationships between landscape features and dominant soil materials.  
Soil Landscapes of the Penrith 1:100 000 sheet report (Bannerman and PA Hazelton 1990).



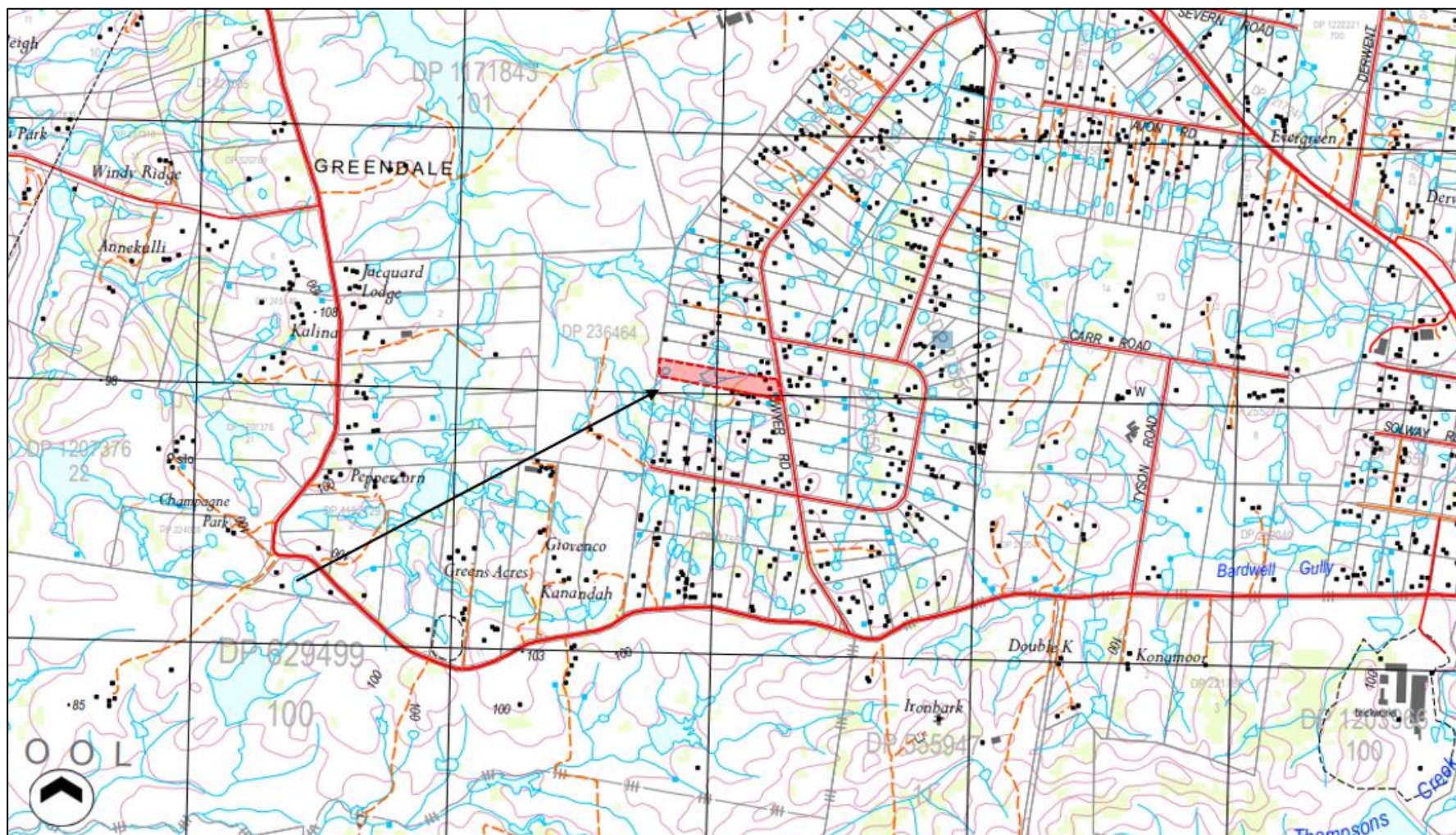
### 3.3 WATERCOURSES

The study area lies to the east of Nepean River approximately 4.5km. This is a freshwater major tributary, in the past it would have channelled Aboriginal activity as a major resource of food and water. There are also a number of drainage channels, manmade dams and minor tributaries within the vicinity as a result of European occupation and past land use. Some of the creeks within the area consist of Duncans Creek (north approx. 970m), Badgerys Creek (north east approx. 1.7km), Bardwell Gully (south east approx. 1.8km), Bringelly Creek (south approx. 1.8km) as well as a number of unnamed minor tributaries off Duncans Creek, one which is west from the study area approx. 170m.

### 3.4 VEGETATION

The vegetation found in the study area is no longer in a native state and is comprised of a variety of introduced and noxious types of vegetation. This movement away from the natural vegetation is a result of previous land clearing for farming, residential and urban development. These lands were cleared soon after European settlement due to the relatively high agricultural value of the soils upon which they are situated.

The native vegetation of this area probably comprised of dry sclerophyll forests and woodlands that are associated with the Wianamatta and Bringelly Shale Groups. These vegetative communities principally contain Grey Box (*Eucalyptus hemipholia*), Forest Red Gum (*Eucalyptus teraticornis*), Sydney Blue Gum (*Eucalyptus saligna*), Spotted gum (*Eucalyptus maculate*) and Blackbutt (*Eucalyptus pilularis*). Secondary populations of Cabbage Gum (*Eucalyptus amplifolia*), Broad Leaved Apple (*Angophora subvelutina*) and Narrow Leaved Apple (*Angophora bakeri*) may have existed along the banks of rivers and creeks in association with swamp communities of Swamp Sheoak (*Casuarina glauca*) and Tea Tree (*Melaleuca alternifolia*) (Hazelton & Tille 1990 p. 29 & 64). Understorey species included grasses, such as spear grass, shrub species such as Blackthorn, ferns including Bracken and vines such as Sarsparilla. This type of forest is typical of those located in podsoloc deposits. For the most part this indigenous vegetation has been cleared for grazing, urban residential and light industry land use throughout the Cumberland Plain (Walker 1975, p. 11 – 13).



**Figure 3.3** Topography Map indicating watercourses in blue.  
Study area outlined in red with red fill and black arrow. Six Maps, LPI Online (accessed 18/05/18).



## 4.0 BACKGROUND INFORMATION

Pre-field work research consisted of an analysis and synthesis of the background data to determine the nature of the potential archaeological and cultural heritage resource in the region.

Background research entailed a detailed review of sources of information on the history, oral history, ethno-history and archaeological background of the study area and surrounds and will include but not be limited to material from:

- OEH archaeological assessment and excavation reports and cultural heritage assessments;
- OEH Library;
- State Library of NSW including the Mitchell Library;
- Local libraries and historical associations;
- National Library of Australia.

A search of the OEH AHIMS was undertaken and the results examined. The site card for each site within 1000m in all directions from the centre of the study area was inspected (where available) and an assessment made of the likelihood of any of the sites being impacted by the proposed development.

The OEH library of archaeological reports (Hurstville) was searched and all relevant reports were examined. Searches were undertaken on the relevant databases outlined in Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010);

Further to this the following sources were examined:

- The National Heritage List;
- The Commonwealth Heritage List;
- The NSW State Heritage Inventory;
- The National Native Title Register;
- The Register of Declared Aboriginal Places;
- Prevailing local and regional environmental plans;
- Environmental background material for the study area.

### 4.1 ARCHAEOLOGICAL CONTEXT

It is generally accepted that Aboriginal occupation of Australia dates back at least 40,000 years (Attenbrow 2002 p.20 - 21 & Kohen et al 1983). The result of this extensive and continued occupation which includes the Sydney region has left a vast amount of accumulated depositional evidence and the Cumberland Lowlands is no exception. The oldest date generally considered to be reliable for the earliest occupation around the region comes from excavations at Parramatta which contain objects or features which have been dated to 30,735 ± 407 BP (McDonald et al 2005).

The majority of reliably dated archaeological sites within the region are less than 5,000 years old which places them in the mid to late Holocene period. A combination of reasons has been suggested for this collection of relatively recent dates. There is an argument that an increase in population and 'intensification' of much of the continent took place around this time, leading to a great deal more evidence being deposited than was deposited as a result of the sparser prior occupation period. It is also the case that many archaeological sites along the past coastline may have been submerged as the seas rose approximately to their current level around 6,000 years ago. This would have had the effect of covering evidence of previous coastal occupation. In addition, it is also true that the acidic soils which are predominate around the Sydney region do not allow for longer-term survival of sites (Hiscock 2008 p. 106).

Different landscape units not only influence the preservation of sites but can determine where certain site types will be located. Across the whole of the Sydney Basin, the most common Aboriginal archaeological site type is occupation evidence within Rock Shelters. However, the most common Aboriginal archaeological site type in the Cumberland Lowlands is Open Artefact Scatters or Open Campsites, which are locations where two or more pieces of stone show evidence of human modification. These sites can sometimes be very large, with up to thousands of artefacts and include other habitation remains such as animal bone, shell or fireplaces [known as *hearths*] (Attenbrow 2002 p. 75 – 76). Many hundreds of artefact sites have been recorded within the Cumberland Lowlands. This is despite the fact that at least 50% of the Cumberland Lowlands has already been developed to such an extent that any archaeological evidence which may have once been present has been destroyed.

#### **4.2 PREVIOUS ARCHAEOLOGICAL STUDIES NEAR THE STUDY AREA**

As part of the research process of this report the library of archaeological assessments, test excavation and open area salvage excavation reports which is located at the offices of DECCW at Hurstville was consulted. Presented below are summaries of indigenous archaeological survey assessments, test excavations and salvage excavations in the vicinity of the study area, which have all been carried out. This list is by no means exhaustive and is merely a representative sample of archaeological activity within the vicinity of the study area.

##### **Mary Dallas 1982 – Bents Basin State Recreation Area – Archaeological Survey**

An archaeological survey was conducted by Mary Dallas in 1982 in the Bents Basin State Recreation Area. This survey located 16 distinct Aboriginal archaeological sites and 15 potential occupation sites and 4 isolated artefacts. The type of sites located included 2 art sites, 4 art sites with occupation deposits, 11 potential archaeological deposits, 4 isolated finds, 4 occupation deposits, 2 open scatters and 1 axe grinding groove sites. A variety of recommendations were made for the many sites located as part of this assessment which included various permits being sought under relevant sections of the NPW Act and systematic excavation and recording of the majority of the sites.

##### **Mary Dallas 1988 – Luddenham Equestrian Centre – Archaeological Survey**

A preliminary archaeological survey was conducted by Mary Dallas in 1988 in the Erskine Park area in association with the Luddenham Equestrian Centre. This survey located 12 open artefact scatters. The recommendations of the study were

that the preliminary assessment be converted into a full archaeological assessment and several of the sites undergo further archaeological investigation.

**Mary Dallas 1989 – Orchard Hills Estate – Archaeological Survey**

An archaeological survey was conducted by Mary Dallas in 1989 in association with a development at Orchard Hills Estate in Luddenham. This survey did not locate any archaeological material.

**Mary Dallas & Anne Bickford 1989 – Levee banks on South Creek – Archaeological Survey**

An archaeological survey was conducted by Mary Dallas and Anne Bickford in 1989 in association with the construction of levee banks on South Creek at St Marys. This survey did not locate any archaeological material and concluded that due to the high level of disturbance it was unlikely that any Aboriginal archaeological material was present.

**Mary Dallas 1990 - South Creek Road, Shanes Park – Archaeological Survey**

An archaeological survey was conducted by Mary Dallas in 1990 in association with a development at South Creek Road, Shanes Park. This survey did not locate any archaeological material.

**James Kohen 1992 – Elizabeth Drive, Kemps Creek – Archaeological Survey**

An archaeological survey was conducted by James Kohen in 1992 in association with a landfill development at Elizabeth Drive, Kemps Creek. This survey located one open artefact scatter consisting of 22 artefacts located over a 140 square metre area. No further archaeological investigation was recommended as the site lay in an area that was not to be directly impacted by the proposed development. However, the report went on to state that should the scope or nature of the development change then the now recorded Aboriginal archaeological site would need to be subject to further investigation and the relevant DECCW permits.

**Pam Dean-Jones 1991 – Adams Road, Luddenham – Archaeological Survey**

An archaeological survey was conducted by Pam Dean-Jones in 1991 in association with a quarry development at Adams Road, Luddenham. This survey located one open artefact scatter consisting of 22 artefacts located over a 35 square metre area. No further archaeological investigation was recommended and a Section 90 Consent to Destroy permit be sought from DECCW.

**Helen Brayshaw and Jo McDonald 1992 – Kemps Creek to Bringelly 33kV powerline – Archaeological Survey**

An archaeological survey was conducted by Brayshaw–McDonald in 1992 in association with an extension of the 33kV power line between Kemps Creek and Bringelly. This survey located one open artefact scatter consisting of 11 artefacts located over an undefined area. No further archaeological investigation was recommended if the site lay in an area that was not to be directly impacted by the proposed development which consisted of four options. However, the report went on to state that should an option be selected that did result in impact to the, now recorded, Aboriginal archaeological site, it would need to be subject to further investigation and the relevant DECCW permits.

**Barry Gunther 1998 – Overtt Avenue, Kemps Creek – Archaeological Survey**

An archaeological survey was conducted by Barry Gunther in 1998 in association with a drainage channel development at Overtt Avenue, Kemps Creek. No archaeological material was located within the study area and as a result no further

archaeological investigation was recommended. However, the report went on to state that should the scope or nature of the development change then site would need to be subject to further investigation and possibly the relevant DECCW permits.

#### **SMEC 1998 – Badgerys Creek Airport – Archaeological Survey**

A broad scale survey was carried out in association with the proposed development of and airport at Badgerys Creek. While this report was not able to be located at the AHIMS Library a Draft Environmental Impact Statement referring to the Aboriginal Cultural Heritage was located and 23 of the sites recorded on the AHIMS database were associated with this study, all of which appear to be open artefact scatters.

#### **Jo McDonald 2001 – 1503 Elizabeth Dr, Kemps Creek – Archaeological Survey**

An archaeological survey was conducted by Jo McDonald in 2001 in association with a development at Nolan's Quarry, Elizabeth Drive, Kemps Creek. This survey located one artefact and a potential archaeological deposit and stated that further archaeological investigation was necessary to make an accurate assessment of the archaeological resource within the study area.

#### **Elizabeth White 2001 – McCann and Bringelly Roads, Leppington – Archaeological Survey**

An archaeological survey was conducted by Elizabeth White in 2001 in association with a development at McCann and Bringelly Roads Leppington. This survey located six isolated artefacts and a scarred tree and stated if the artefacts were not to be impacted by the development then they should be conserved within the development area and if they were to be impacted then a section 90 Consent to Destroy permit should be sought from DECCW.

#### **AHMS 2001 – Emmaus Village, Kemps Creek – Aboriginal Heritage Assessment**

An Aboriginal heritage assessment was conducted at Emmaus village, Kemps Creek, NSW as part of the proposed extension of aged car facilities. The site survey resulted in the location of four areas containing Aboriginal objects as well as being of varied potential in containing subsurface deposits and/or objects. This survey located four open artefact scatters stated that further archaeological investigation was necessary in the form of a broad scale test excavation to make an accurate assessment of the archaeological resource within the study area. Test excavation was recommended.

#### **Navin Officer 2005 – Blind Kemps Creek – Archaeological Survey**

An archaeological survey was conducted by Navin Officer in 2005 in association with a development at Blind Kemps Creek, Erskine Park. This survey did not locate any archaeological material.

#### **Navin Officer 2005 – Leppington Caravan Park – Archaeological Survey**

An archaeological survey was conducted by Navin Officer in 2005 in association with a development at Leppington Caravan Park. This survey located one artefact and stated that the development could proceed if section 90 Consent to Destroy permit was sought from DECCW.

The practical ramifications of the results of the, aforementioned, archaeological assessments and excavation are that there is a moderate potential for Aboriginal archaeological objects to be present within the study area, particularly if intact original soil profiles are present.

#### 4.3 OEH AHIMS SEARCH RESULTS

The Archaeological Heritage and Information Management System Database (AHIMS) is located at the OEH Offices at Hurstville in New South Wales. This database comprises information about all the previously recorded Aboriginal archaeological sites registered with OEH. Further to the site card information that is present about each recorded site, the assessments and excavation reports that are associated with the location of many of these sites are present in the library of reports.

The location of these sites must be viewed as purely indicative as errors in the recording of the locations of sites often occurs due to the disparate nature of the recording process, the varying level of experience of those locating the sites and the errors that can occur when transferring data. If possible, sites that appear to be located near a study area should be relocated.

An AHIMS extensive 1km search was conducted on the 18/05/18 (ID 343056). This search resulted in 0 registered sites within 1000 m of the study area.

#### 4.4 OTHER SEARCH RESULTS

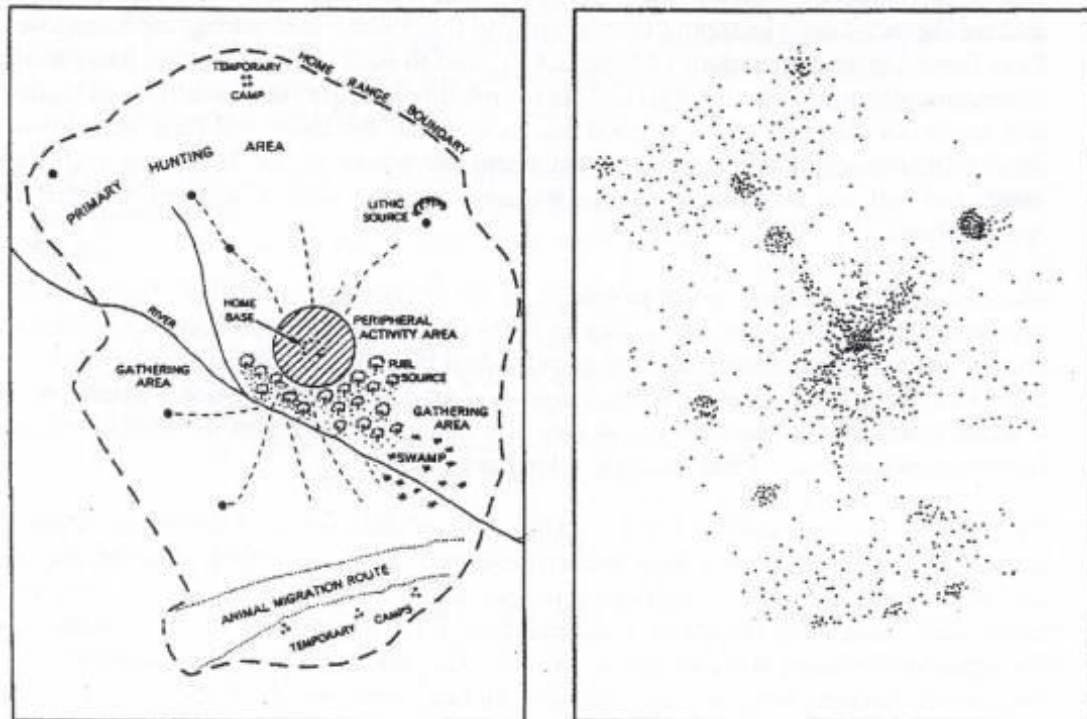
Results for other statutory databases searched are given below;

Heritage Listings/ Register/ Other	Result
National Heritage List	No results
Commonwealth Heritage List	No results
NSW State Heritage Register	No results
Register of Declared Aboriginal Places	No results
National Native Title Register	No results

#### 4.5 SUMMARY OF ARCHAEOLOGICAL PREDICTIVE MODEL FOR THE REGION

Predictive modelling is an adaptive process which relies on a framework formulated by a number of factors, including but not limited to the use of local land systems, the environmental context, archaeological work and any distinctive sets of constraints that would influence land use patterns. This is based on the concept that different landscape zones may offer different constraints, which is then reflected in the spatial distributions and forms of archaeological evidence within the region (Hall and Lomax 1996).

Early settlement models focused on seasonal mobility, with the exploitation of inland resources being sought once local ones become less abundant. These principles were adopted by Foley (1981) who developed a site distribution model for forager settlement patterns. This model identifies two distinctive types of hunter and gather settlements; 'residential base camps' and 'activities areas'. Residential base camps are predominately found located in close proximity to a reliable source of permanent water and shelter. From this point the surrounding landscape is explored and local resources gathered. This is reflected in the archaeological record, with high density artefact scatters being associated with camp bases, while low density and isolated artefacts are related to the travelling routes and activity areas (Foley 1981).



**Figure 4.1 Examples of forager settlement patterns**  
Foley (1981)

However, more recently, investigation into understanding the impacts of various episodes of occupation on the archaeological record has been explored, of which single or repeated events are being identified. This is often a complex process to establish, specifically within predictive models as land use and disturbance can often result in post depositional processes and the superimposition of archaeological materials by repeated episodes of occupation.

The principals behind this model have been incorporated into other predictive models such as that of McBryde (1976). McBryde's model is centred on the utilisation of food resources as a contributor to settlement patterns, specifically with reference to the predictability and reliability of food resources for Aboriginal people within the immediate coastal fringe and/or hinterland zone, with migratory behaviour being a possibility. Resources such as certain species of animals, particularly; small marsupials and reptiles, plant resources and nesting seabirds may have been exploited or only available on a seasonal or intermittent basis. As such, archaeological sites which represent these activities whilst not being representative of permanent occupation may be representative of brief, possibly repeated occupation.

Jo McDonald and Peter Mitchell have since contributed to this debate, with reference to Aboriginal archaeological sites and proximity to water using their Stream order model (1993). This model utilises Strahler's hierarchy of tributaries. This model correlates with the concept of proximity to permanent water and site locations and their relationship with topographical units. They identify that artefact densities are greatest on terraces and lower slopes within 100m of water.

Intermittent streams however, also have an impact on the archaeological record. It was discovered that artefacts were most likely within 50 – 100m of higher (4<sup>th</sup>) order streams, within 50m (2<sup>nd</sup>) order streams and that artefact distributions around (1<sup>st</sup>)



order streams was not significantly affected by distance from the watercourse. Landscapes associated with higher order streams (2<sup>nd</sup>) order streams were found to have higher artefact densities and more continuous distribution than lower order streams.

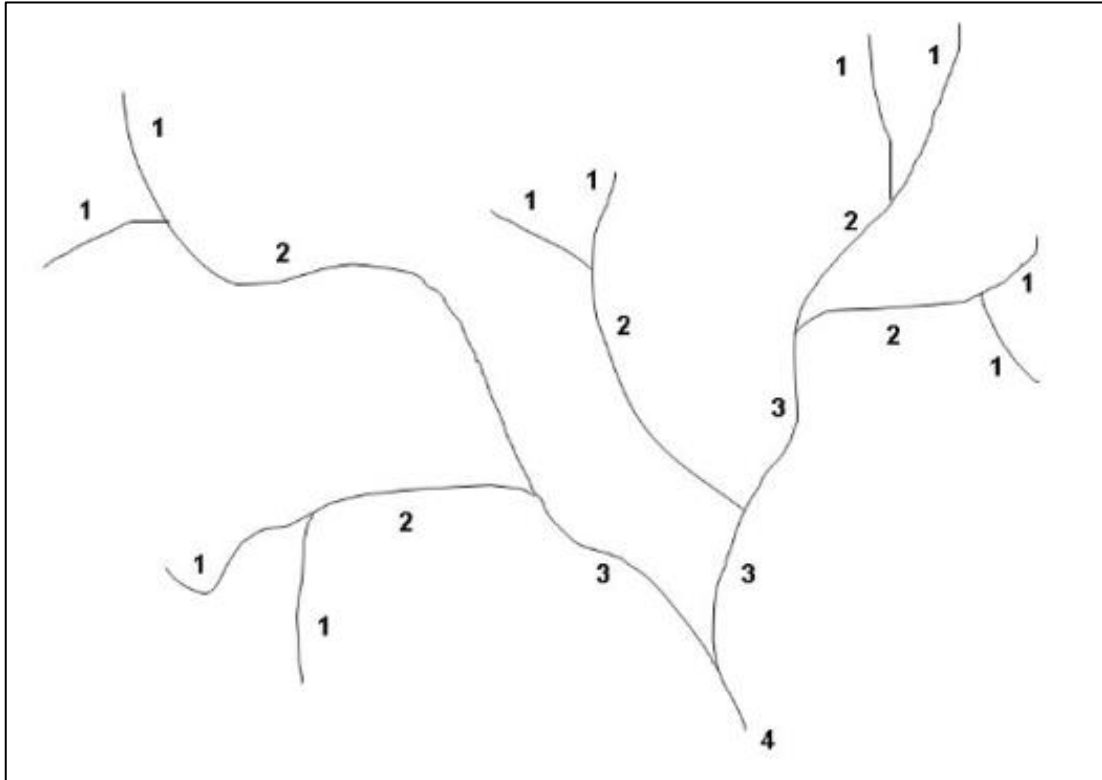


Figure 4.2

**Strahler's hierarchy of tributaries.**  
Strahler (1957).

**Table 4.1 Relationship between landscape unit and site distribution for region**

<b>Landscape Unit /Site types</b>	<b>Site Distribution and activity</b>
<b>1<sup>st</sup> order stream</b>	Archaeological evidence will be sparse and reflect little more than a background scatter
<b>Middle reaches of 2<sup>nd</sup> Order Stream</b>	Archaeological evidence will be sparse but focus activity (one off camp locations, single episodes and knapping floor)
<b>Upper reaches of 2<sup>nd</sup> order stream</b>	Archaeological evidence will have a relatively sparse distribution and density. These sites contain evidence of localised one-off behaviour.
<b>Lower reaches of 3<sup>rd</sup> order stream</b>	Archaeological evidence for frequent occupation. This will include repeated occupation by small groups, knapping floors (used and unused material) and evidence of concentrated activities.
<b>Major creeklines 4<sup>th</sup> order streams</b>	Archaeological evidence for more permanent or repeated occupation. Sites will be complex and may be stratified with a high distribution and density.
<b>Creek junctions</b>	This landscape may provide foci for site activity, the size of the confluence in terms of stream rankings could be expected to influence the size of the site, with the expectation of there being higher artefact distribution and density.
<b>Ridge top locations between drainage lines</b>	Ridge Tops will usually contain limited archaeological evidence, although isolated knapping floors or other forms of one off occupation may be in evidence in such a location.
<b>Raw Materials near water-sources</b>	The most common raw materials are silcrete and chert in sites closer to coastal headlands, though some indurated mudstone/silicified tuff and quartz artefacts may also be found.
<b>Grinding Grooves</b>	Grinding Grooves may be found in the sandstone or shale/sandstone transition areas.
<b>Scarred trees -</b>	May occur in stands of remnant vegetation.
<b>Ceremonial Sites</b>	Consultation with relevant Aboriginal Stakeholder groups, individuals and review of ethnographic sources often reveal the presence of ceremonial or social sites.

This predictive model has been refined with focus on the dominant environment and landscape zones of the Cumberland Lowlands, such as the Wianamatta Group Shales, Hawksbury Sandstone, Quaternary alluvium, Quaternary Aeolian and Tertiary alluvium. Attenbrow (2002) discovered that the Quaternary alluvial deposits had a greater concentration of archaeological sites, which is likely the result of these deposits being located towards major creeklines and rivers, such as Eastern Creek, Second Ponds Creek etc. Areas of alluvial deposits were found by Kohen (1986) to contain artefact scatters of a large and complex nature the closer they were to permanent creeks.

Umwelt (2004) have identified similar environmental – archaeological relationships which contribute to the mapping and modelling of archaeological sites, such as;

- The pattern of watercourses and other landscape features such as ridge lines affected the ease with which people could move through the landscape;

- 
- Certain landscape features such as crests or gently sloping, well-drained landforms influenced the location of camping places or vantage points that provided outlooks across the countryside;
  - The morphology of different watercourses affected the persistence of water in dry periods and the diversity of aquatic resources and so influenced where, and for how long, people could camp or procure food;
  - The distribution of rock outcrops affected the availability of raw materials for flakes and ground stone tools;
  - The association of alluvial, colluvial and stable landforms affects the potential that sites will survive;
  - European land-use practices affect the potential for site survival and/or the capacity for sites to retain enough information for us to interpret the types of activities that took place at a specific location.

All models state that the primary requirement of all repeated, concentrated or permanent occupation is reliable access to fresh water. Brief and possibly repeated occupation may be represented in areas that have unreliable access to ephemeral water sources, however these areas will not possess a high archaeological potential (Goodwin 1999).

#### 4.6 ARCHAEOLOGICAL PREDICTIVE MODEL FOR THE STUDY AREA

The following section gives an indication of the likelihood of certain site types being located within the study area. These indications are based on the research and results of assessments and excavations in the vicinity of the study area.

Site Type	Research	Likelihood
Open Artefact Scatters	Higher order streams are located within the vicinity of the study area. The dearth of known reliable raw material source within nearby landscape units, would suggest that the artefacts may be significant in number but smaller in size, on account to greater levels of stone tool reduction. Excavations in the vicinity of the study area indicate the presence of deposits that are suggestive of concentrated and repeated occupation.	Likely within undisturbed parts of the study area.
Isolated Artefacts	Higher order streams are located within the vicinity of the study area. The dearth of known reliable raw material source within nearby landscape units, would suggest that the artefacts may be significant in number but smaller in size, on account to greater levels of stone tool reduction. Excavations in the vicinity of the study area indicate the presence of deposits that are suggestive of concentrated and repeated occupation.	Likely within undisturbed parts of the study area.
Grinding Grooves	Boulders of sandstone or outcrops do not occur in the landscape units represented in the study area.	Unlikely
Stone Resource Sites	Rock outcrops of suitable flaking material are almost absent from the soil landscapes represented within the study area.	Unlikely
Scarred Trees	Trees of sufficient age onsite were inspected. No scarring/modified was present.	Unlikely
Sandstone Shelters	The soil landscapes of the study area do not contain sandstone overhangs	Unlikely
Burials	Undisturbed sandy loam deposits do not lie within the study area and the soil landscapes in which the study area is located are generally acidic. Skeletal remains tend to decompose very quickly in acidic soil profiles.	Unlikely
Ceremonial Sites	Consultation with relevant Aboriginal parties and individuals is taking place, however it is possible that such information may become available in the future as a result of further consultation	Possible that Ceremonial/Social sites will be present within the study area

#### 4.7 DISTURBANCE FACTORS

This section of the report provides an assessment of land use, the level of disturbance and the likely archaeological potential of the study area. The archaeological potential is based on the level of previous disturbance as well as the previously discussed predictive model for the region.

The Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010); defines disturbed lands as given below.

*“Land is disturbed if it has been the subject of a human activity that has changed the land’s surface, these being changes that remain clear and observable. Examples include ploughing, construction of rural infrastructure (such as dams and fences), construction of roads, trails and tracks (including fire trails and tracks and walking tracks), clearing vegetation, construction of buildings and the erection of other structures, construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure and construction of earthworks).”*

This definition is based on the types of disturbance as classified in The Australian Soil and Land Survey Field Handbook (CSIRO 2010). The following is a scale formulated by CSIRO (2010) of the levels of disturbances and their classification.

Minor Disturbance		Moderate Disturbance		Major Disturbance	
0	No effective disturbance; natural	3	Extensive clearing (eg: poisoning and ringbarking)	6	Cultivation; grain fed
1	No effective disturbance other than grazing by hoofed animals	4	Complete clearing; pasture native or improved, but never cultivated	7	Cultivation; irrigated, past or present
2	Limited clearing (eg: selected logging)	5	Complete clearing; pasture native or improved, cultivated at some stage	8	Highly disturbed (quarrying, road works, mining, landfill, urban)

N.B The above scale is used in determining the level of disturbance of the study area and its impact on the potential archaeology which may be present.

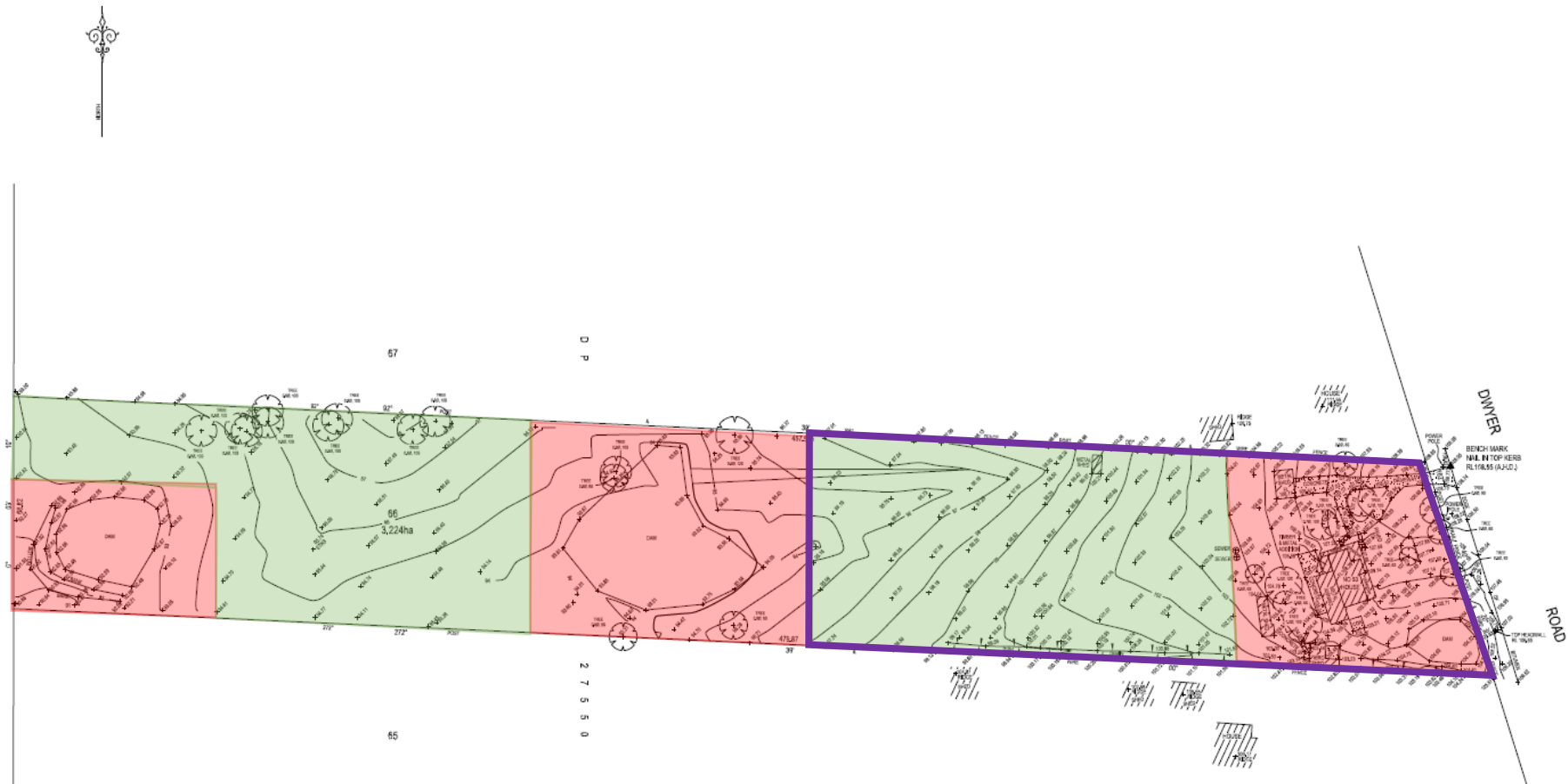
It is important to note that the following assessments describe the *archaeological* potential of the study area. It is acknowledged if the study area has little or no archaeological potential the study area may still have cultural significance to the Aboriginal community.

#### 4.7.1 Disturbance Summary

Background research indicates that past European land use has led to the clearing of the land. No deep excavations have been undertaken on the site with the standing residential building being predominately one storey with pathways and services of disturbance. The rear of the property towards the west is grass covered with two man made dams located towards the centre of the property and western boundary. The property contains natural slopes an indicator that only minor past land modifications have taken place.

In light of this and in the context of the information provided about the land use of the site, its proximity to major tributaries as well as some of the property being located on a ridge indicates that potential for Aboriginal objects and deposits of archaeological and/or cultural heritage to be present.

**Low -Moderate disturbance to sections of the landscape:** Sub-surface Aboriginal objects with potential conservation value have a low-moderate probability of being present within the study area.



**Figure 4.3 Site survey map illustrating disturbance.**  
Purple outlined area indicates development impact zone. Areas of high disturbance indicated in red, areas of low disturbance indicated in green. AMAC (2018) John McDonald Group (2018).

## 4.8 RESEARCH QUESTIONS

### 4.8.1 Aboriginal Cultural Heritage Questions

All registered stakeholders were given a copy of this research methodology and given 28 days to respond to this methodology.

- Does the study area hold any social, spiritual or cultural values to the participating Aboriginal stakeholders? If so what are these values and are they confined to particular parts of the study area?
- Why are these parts or the whole of the study area culturally significant to the participating Aboriginal stakeholders?
- Are particular parts of the study area more important than others?
- Are any previously unidentified known culturally significant places present within the study area? If so where are they located?
- Are any previously unidentified Aboriginal objects or Aboriginal places present within the study area? If so where are they located?
- Are any previously unidentified natural or archaeological resources present within the study area? If so where are they located?
- Are there any traditional stories or legends associated with the study area?
- Are there any recollections of Aboriginal people living within the study area?
- Is there any information to suggest the presence of burials within the study area?
- Are any traditional flora or fauna resources associated with the study area?
- Does the study area have any sensory scenic or creatively significant cultural values? If so what are these values and are they confined to particular parts of the study area and where are they located?
- In what way, if any, will the proposed development harm the identified cultural heritage and archaeological values of the study area?
- Do the participants have suggestions on the mitigative strategies for the management of the cultural and archaeological values of the study area?
- Are there any gender specific cultural values associated with the study area which cannot be raised in a male presence?
- Are there any gender specific cultural values associated with the study area which cannot be raised in a female presence? If so how would the Aboriginal stakeholders like these dealt with?
- Do the participants have any concerns not yet raised in this interview?



#### 4.8.2 Test Excavation Questions

No objects of archaeological and cultural heritage were located therefore there is insufficient data available in order to address these research questions.

- Are Aboriginal archaeological or cultural materials present? If so what are these archaeological or cultural materials present?
- If Aboriginal archaeological or cultural materials are not present, what reasons can be ascertained from the evidence as to why not?
- What level of disturbance is present within the study area?
- What level of bioturbation is present within the study area?
- Is it possible to assign a relative time framework to all of the excavated material?
- Is it possible to assign an absolute temporal framework (via C14 or OSL dating) to any of the excavated material?
- Are these materials present in Holocene or Pleistocene age deposits?
- Are rare or representative archaeological or cultural materials present?
- Are locally or regionally significant archaeological or cultural material present in any Holocene age deposits that may be present?
- Are locally or regionally significant archaeological or cultural material present in any Pleistocene age deposits that may be present?
- What artefact densities are represented by any assemblage located within the study area?
- What do these artefact densities suggest about the level and nature of activity that took place within the study area?
- How do these artefact densities compare at a local and regional level?
- Are features such as hearth or middens present within the study area?
- What raw materials were chosen for the manufacture of stone implements?
- Is there any observable change in raw material usage evident within any assemblage that is located within the study area?
- Is there any observable flaking technology change within any assemblage that is located within the study area?
- What was the nature and extent of the activity that took place within the study area and how does the study area compare with other sites in the immediate vicinity and similar landforms to the study area?
- Are any materials that could be associated with personal adornment located within any assemblage that is located within the study area?
- How can the information from any assemblage excavated contribute to the temporal and geographic information regarding local and regional site patterning?

## 5.0 ABORIGINAL CONSULTATION

This section documents the requirements of the Aboriginal consultation process that should be undertaken as part of any Aboriginal archaeological and cultural heritage assessment where an Aboriginal Heritage Impact Permit (AHIP) or test excavation is required. Section 4.1 outlines the guidelines for Aboriginal consultation issued by the DECCW. Section 4.2 documents the steps taken for this Aboriginal cultural assessment and the outcomes of the consultation.

### 5.1 OEH CONSULTATION REQUIREMENTS

Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010), referring to Part 6 Approvals under the NPW Act were released in April 2010. The responsibilities of the proponent when test excavation is to take place and/or permit under section 90 of the NPW Act are listed below.

<http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf>

#### Stage 1 – Notification of project proposal and registration of interest

Stage 1 states that:

“4.1.2- Proponents are responsible for ascertaining, from reasonable sources of information, the names of Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal *objects* and/or *places*. Reasonable sources of information could include (a) to (g) below. Proponents must compile a list of Aboriginal people who may have an interest for the proposed project area and hold knowledge relevant to determining the cultural significance of Aboriginal *objects* and/or *places* by writing to:

- (a) the relevant DECCW (sic) EPRG regional office
- (b) the relevant Local Aboriginal Land Council(s)
- (c) the Registrar, *Aboriginal Land Rights Act 1983* for a list of Aboriginal owners
- (d) the National Native Title Tribunal for a list of registered native title claimants, native title holders and registered Indigenous Land Use Agreements
- (e) Native Title Services Corporation Limited (NTSCORP Limited)
- (f) the relevant local council(s)
- (g) the relevant catchment management authorities for contact details of any established Aboriginal reference group.

4.1.3- Proponents must write to the Aboriginal people whose names were obtained in step 4.1.2 and the relevant Local Aboriginal Land Council(s) to notify them of the proposed project. The proponent must also place a notice in the local newspaper circulating in the general location of the proposed project explaining the project and its exact location. The notification by letter and in the newspaper must include:

- (a) the name and contact details of the proponent
- (b) a brief overview of the proposed project that may be the subject of an application for an AHIP, including the location of the proposed project

- (c) a statement that the purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP and to assist the Director General of DECCW in his or her consideration and determination of the application
- (d) an invitation for Aboriginal people who hold cultural knowledge relevant to determining the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation with the proposed applicant regarding the proposed activity
- (e) a closing date for the registration of interests.

4.1.4- There must be a minimum of 14 days from the date the letter was sent or notice published in the newspaper to register an interest. The time allowed to register an interest should reflect the project's size and complexity.

4.1.5- The proponent must advise Aboriginal people who are registering an interest that their details will be forwarded to DECCW and the Local Aboriginal Land Council (LALC) unless they specify that they do not want their details released.

4.1.6- The proponent must make a record of the names of each Aboriginal person who registered an interest and provide a copy of that record, along with a copy of the notification from 4.1.3 to the relevant DECCW EPRG regional office and LALC within 28 days from the closing date for registering an interest.

4.1.7- LALCs holding cultural knowledge relevant to determining the significance of Aboriginal objects and places in the proposed project area who wish to register an interest to be involved in consultation must register their interest as an Aboriginal organisation rather than as individuals.

4.1.8- Where an Aboriginal organisation representing Aboriginal people who hold cultural knowledge has registered an interest, a contact person for that organisation must be nominated. Aboriginal cultural knowledge holders who have registered an interest may indicate to the proponent they have appointed a representative to act on their behalf. Where this occurs, the registered Aboriginal party must provide written confirmation and contact details of those individuals to act on their behalf.

## **Stage 2 – Presentation of information about the proposed project**

Stage 2 states that:

“4.2.1- The proponent must initiate arrangements for presenting the proposed project information to the registered Aboriginal parties (from Stage 1).

4.2.2- The presentation of proposed project information should provide the opportunity for:

- (a) the proponent to present the proposal, outline project details relevant to the nature, scope, methodology and environmental and other impacts
- (b) the proponent to outline the impact assessment process including the input points into the investigation and assessment activities
- (c) the proponent to specify critical timelines and milestones for the completion of assessment activities and delivery of reports
- (d) the proponent and registered Aboriginal parties to clearly define agreed roles, functions and responsibilities

- (f) the registered Aboriginal parties to identify raise and discuss their cultural concerns, perspectives and assessment requirements (if any).

4.2.3- The proponent should record or document that the proposed project information has been presented. This record or documentation should include any agreed outcomes, and any contentious issues that may require further discussion to establish mutual resolution (where applicable). The proponent should provide a copy of this record or documentation to registered Aboriginal parties.

4.2.4- Depending on the nature, scale and complexity of the proponent's project, it may be reasonable and necessary for the proponent to:

- (a) conduct additional project information sessions to ensure that all necessary information about the project is provided and enable registered Aboriginal parties to provide information about the cultural significance of Aboriginal object(s) and/or place(s) that may be present on the proposed project area
- (b) create the opportunity for registered Aboriginal parties to visit the project site" (DECCW 2010).

### **Stage 3 – Drafting, review and finalisation of the Cultural Heritage Assessment Report**

Stage 3 states that:

“4.3.1- The proponent must present and/or provide the proposed methodology(s) for the cultural heritage assessment to the registered Aboriginal parties.

4.3.2- The registered Aboriginal parties must be given the opportunity to review and provide feedback to the proponent within a minimum of 28 days of the proponent providing the methodology. The review should identify any protocols that the registered Aboriginal parties wish to be adopted into the information gathering process and assessment methodology and any matters such as issues/areas of cultural significance that might affect, inform or refine the assessment methodology. Comments should be provided in writing or may be sought verbally by the proponent and accurately recorded.

4.3.3- As part of this consultation, the proponent must also seek cultural information from registered Aboriginal parties to identify:

- (a) whether there are any Aboriginal objects of cultural value to Aboriginal people in the area of the proposed project
- (b) whether there are any places of cultural value to Aboriginal people in the area of the proposed project (whether they are Aboriginal places declared under s.84 of the NPW Act or not). This will include places of social, spiritual and cultural value, historic places with cultural significance, and potential places/areas of historic, social, spiritual and/or cultural significance.

4.3.4- Some information obtained from registered Aboriginal parties may be sensitive or have restricted public access. The proponent must, in consultation with registered Aboriginal parties, develop and implement appropriate protocols for sourcing and holding cultural information. In some cases, the sensitive information may be provided to the proponent by an individual and the proponent should not share that information with all registered Aboriginal parties or others without the express permission of the individual.

4.3.5- Information obtained in 4.3.4 is used to understand the context and values of Aboriginal object(s) and/or place(s) located on the proposed project site. This information must be integrated with the scientific (archaeological) assessment of significance. Together the context, values, and scientific assessment provide the basis for assessing Aboriginal heritage values and recommending management options.

The information collected by the proponent during the consultation process must be used only to inform decision making for any application for an AHIP, unless the registered Aboriginal parties agree otherwise.

4.3.6- The proponent must seek the views of registered Aboriginal parties on potential management options. Management options will include ways to avoid or mitigate harm and/or conserve known Aboriginal object(s) and/or place(s). Management options should consider how Aboriginal people can continue their association with identified Aboriginal heritage values.

4.3.7- The proponent must document all feedback received in Stage 3 from registered Aboriginal parties in the final cultural heritage assessment report. This must include copies of any submissions received and the proponent's response to the issues raised. In some cases, this may require an acknowledgment of sensitive information and a list of Aboriginal people who should be contacted for permission to receive further details" (DECCW 2010).

#### **Stage 4 – Review of draft cultural heritage assessment report.**

Stage 4 states that:

"4.4.1- The proponent must prepare a draft cultural heritage assessment report.

4.4.2- The proponent must provide a copy of the draft cultural heritage assessment report to registered Aboriginal parties for their review and comment.

4.4.3- The proponent must give registered Aboriginal parties a minimum of 28 days from sending the draft report to make submissions. The time allowed for comment on the draft report should reflect the project's size and complexity. Comments should be provided in writing or, where provided verbally, accurately recorded.

4.4.4- After considering the comments received on the draft report the proponent must finalise the report. The final report must include copies of any submissions received, including submissions on the proposed methodology and on the draft report. The final report must also include the proponent's response to each submission. The report must then be submitted to DECCW for consideration with the proponent's application for an AHIP.

4.4.5- The proponent must provide or make available copies of the final cultural heritage assessment report and the AHIP application to registered Aboriginal parties and the relevant LALC(s) (whether or not the LALC is registered in Stage 1). The report and application must be provided or made available within 14 days of the AHIP application being made" (DECCW 2010).

## **5.2 CONSULTATION SUMMARY**

Consultation for this report has been undertaken in accordance with the Office of Environment and Heritage and National Parks and Wildlife Act 1974: Part 6; National



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Parks and Wildlife Act *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010).

An Aboriginal Cultural Heritage Assessment is currently being prepared where full Aboriginal consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010) is being undertaken and is within the third stage of consultation.

All Registered Aboriginal Parties (RAPs) that have registered for this project have reviewed and agreed to the recommendations of the Aboriginal Cultural Heritage Methodology and testing methodology.

Due to the high number of registered stakeholders and limited time on site, it was not feasible to have everyone on site and as such a tender document was dispatched to all parties with the opportunity to registered for fieldworks. All registered parties whether successful with their fieldworks tender, were supplied with site updates and a draft ACHA document as well as this test excavation report for review and comment.

This report is to be reviewed and commented on by all Registered Aboriginal Parties (RAPs). These comments have been incorporated into the final version of this report.

## 6.0 SITE INSPECTION

The field inspection was undertaken on the 22nd May 2018 by archaeological Benjamin Streat of AMAC/ SAS. A second site inspection was carried out on 28<sup>th</sup> June 2018. A member of Tharawal Local Aboriginal Land Council was present.

The TLALC have been provided a copy of this report for review and comment.

### 6.1 SURVEY METHODS

The study site was inspected on foot. Where practical the whole of the study area was inspected, however, there were a number of limiting factors such as dense grass/weeds covering areas of the site as well as bitumen surface encompassing the western end of the study area. Any areas of exposed soil or areas of erosion were inspected in detail.

All visible landscape units were inspected as well as photographed where informative details as to land use and disturbance could be ascertained. Information was also collected regarding land surface and vegetation conditions as encountered during the survey.

The following broadly outlines the methods adopted;

- field inspections will be carried out on foot;
- attempts will be made to relocate the registered sites within the study area and assess their condition;
- highly disturbed areas indicated on plans will be inspected to verify the level of disturbance and depending on level of disturbance will be included or excluded from the additional survey;
- undisturbed areas will be inspected in as much detail as the remaining surface coverage and environment will allow and the results will be recorded;
- areas of exposed ground such as tracks or eroded surfaces which allow good surface visibility will form the focus of the field inspections;

### 6.2 INSPECTION RESULTS

The study area contains a number of standing dwellings towards the eastern boundary of the site including bitumen driveway facilities. The rear of the property which makes up the majority of the proposed study area is grassed covered resulting in low visibility. Disturbance was observed in the form of man-made dams towards the centre and rear of the property. Areas of exposure were low. Where soils were present were found to be natural.

All trees within the study area were inspected and were found to not be of a mature age.

Table 6.1

Unit	Landform	Area (sq. m)	Visibility (%)	Exposure (%)	Effective Coverage (sq. m)	Effective Coverage (%)
Site	Slope	32,410	10%	10%	324.10	1%

## 7.0 TEST EXCAVATION

Test excavation was undertaken by Streat Archaeological Services in association with AMAC Group in response to the proposed subdivision development and its impact on any potential intact Aboriginal archaeological and cultural deposits and/or objects. The study area was considered to have low-moderate potential in containing Aboriginal objects.

Previous reports have identified the area as a resource rich zone due to the sites proximity to reliable fresh water, the area is known to contain concentrated densities of Aboriginal objects and features of archaeological and cultural heritage. It is likely that Aboriginal movement and land use would be channelled to this location and therefore the site may hold information regarding cultural activities of the area.

Test excavations were carried out by Benjamin Streat as director of Indigenous Archaeology and archaeologist Prue Newton as well as representatives from the following Registered Aboriginal Parties;

Organisation
Cubbitch Barta Native Title Claimants
Kamillaroi Yakuntjanya Working Group
Darug Land Observations
Tharawal Local Aboriginal Land Care
Gandagara Local Aboriginal Land Council

Test excavation was undertaken over two days 23/10/18 and 24/10/18 and was conducted under the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* and consisted of the excavation of 12 test trenches (50cm x 50cm).

The proposed development including access and associated infrastructure will impact the study site. The test excavation results indicated that the natural soil profile has been heavily truncated. No Aboriginal archaeological/cultural objects, deposits or features were located. Therefore, no further Aboriginal archaeological investigation is warranted, and works (Figure 9.1 – 9.7) may proceed with caution.

### 7.1 AIMS

The purpose of subsurface test excavation is to identify the nature and extent of any intact archaeological deposit and/ or objects which may be situated within the study area and its significance.

It aims to collate additional information regarding any site characteristics which may enhance our understanding of the local and/or regional prehistory of the area. The results of the test excavation aid in the formalisation of appropriate management recommendations and conservation goals for the proposed development and any archaeological material recovered.

The methodology and recommendations presented in the following section of the report take into account the following:

- Legislation which protects Aboriginal cultural and archaeological objects and places in New South Wales;
- Research and assessment carried out by the author/s of this report and previous reports;
- Results of previous archaeological assessment and excavation in the vicinity of the study area;
- The impact of the proposed development on any Aboriginal archaeological material that may be present;

## 7.2 TEST EXCAVATION UNDER THE CODE OF PRACTICE

As detailed in the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*, Part 6 National Parks and Wildlife Act 1974 (DECCW 2010). The purpose for test excavation

*“...is to collect information about the nature and extent of sub-surface Aboriginal objects, based on a sample derived from sub-surface investigations. Test excavations contribute to the understanding of site characteristics and local and regional prehistory and they can be used to inform conservation goals and harm mitigation measures for the proposed activity”*

As the proposed test excavation is not being carried out in the following areas;

- in or within 50 m of an area where burial sites are known or are likely to exist
- in or within 50 m of a declared Aboriginal place
- in or within 50 m of a rock shelter, shell midden or earth mound
- in areas known or suspected to be Aboriginal missions or previous Aboriginal reserves or institutes
- in areas known or suspected to be conflict or contact sites.

It is therefore excluded from the definition of harm and as such will not require an Aboriginal Heritage Impact Permit and can be completed under the *Code of Practice* (DECCW 2010).

As set out in the *Code of Practice for the Investigation of Archaeological Objects in NSW*:

*“The test excavation should be sufficiently comprehensive to allow characterisation of the Aboriginal objects present without having a significant impact on the archaeological value of the subject area” (DECCW 2010)*

Any test excavation carried out under this requirement must cease when:

- suspected human remains are encountered;
- enough information has been recovered to adequately characterise the objects present, with regard to their nature and significance.

The *Code of Practice for the Investigation of Archaeological Objects in NSW* ‘enough information’ means that the sample of excavated material clearly and self-evidently demonstrates the deposit’s nature and significance, and may include things like:

- locally or regionally high object density
- presence of rare or representative objects

- presence of archaeological features or locally or regionally significant deposits, stratified or not.

Decisions regarding the nature and significance of the site and choices about discontinuing the test excavation program shall be made by the excavation director in consultation with the registered Aboriginal stakeholders and OEH if required. Information will be reviewed on a daily basis and the excavation director reserves the right to cease all excavation if he/she believes the nature and extent of the site is understood in accordance with the *Code of Practice for the Investigation of Archaeological Objects in NSW*.

### 7.3 TESTING METHODOLOGY

The following measures will be taken to establish the nature and extent of any such material discovered during test excavations under the *Code of Practice* (DECCW 2010)

The proposed development does have the potential to disturb any Aboriginal archaeological deposits and/or objects which are/or may be present. Therefore, in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*, Part 6 National Parks and Wildlife Act 1974 (DECCW 2010), it is recommended a programme of test excavation be conducted before the development can proceed.

The first priority in test excavations, and recording Aboriginal objects during test excavations, must always be to avoid or minimise, as far as practicable, the risk of harm to the objects under investigation. This means due care must be taken when excavating and collecting objects.

In compliance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010) the following test excavation methodology will be conducted;

- Test excavation units will be placed on a systematic grid appropriate to the scale of the area – either PAD or site – being investigated e.g. 10 m intervals, 20 m intervals, or other justifiable and regular spacing.
- Any test excavation point will be separated by at least 5 m.
- Test excavations units will be excavated using hand tools only.
- Test excavations will be excavated in 50 cm x 50 cm units.
- Test excavations units may be combined and excavated as necessary to understand the site characteristics, however: the maximum continuous surface area of a combination of test excavation units at any single excavation point conducted in accordance with point (above) will be no greater than 3 m<sup>2</sup>. The maximum surface area of all test excavation units will be no greater than 0.5% of the area – either PAD or site – being investigated.
- The first excavation unit will be excavated and documented in 5 cm spits at each area – either PAD or site – being investigated. Based on the evidence of the first excavation unit, 10 cm spits or sediment profile/stratigraphic excavation (whichever is smaller) will then be implemented.



- Test excavation units will be excavated to at least the base of the identified Aboriginal object-bearing units, and will continue to confirm the soils below are culturally sterile.
- Photographic and scale-drawn records of the stratigraphy/soil profile, features and informative Aboriginal objects will be made for each single excavation point.
- Test excavations units will be backfilled as soon as practicable.
- Following test excavation, an Aboriginal Site Impact Recording form will be completed and submitted to the AHIMS Registrar as soon as practicable

### 7.3.1 Sieving

The excavated soil from each spit is to be placed in buckets of uniform size (9-10kg limit); these buckets will be counted, and all material excavated from the test excavation units will be sieved using a 5 mm aperture wire-mesh sieve. All archaeological material that is recovered from sieving will be placed in a zip lock bag and labelled with the site number, date, trench and spit. All of the bags will then be placed in a larger zip lock bag for processing.

### 7.3.2 Recording

A photographic record will be kept of the progress of each test trench as well as photographic and scale-drawn records of the stratigraphy/soil profile and features will be made for each single excavation point.

Details pertaining to individual spits will be recorded through the completion of site forms. The details on the form include site name, pit number, location and landform, area, spit number, spit depth, soil horizon, artefacts, stratigraphic profile as well as additional notes relating to the soil deposits encountered.

Personal records are also to be noted in the director's field journal. Any artefacts recovered shall be recorded under the parameters set out in the *Code of Practice for the investigation of Archaeological objects in NSW* and will be stored as outlined in the care and control agreement.

### 7.3.3 Care and Control Agreement

Any archaeological material recovered shall be subject to a care and control agreement established after the nature and significance of the archaeological or cultural material is understood as per requirement 26 of the *Code of Practice for the investigation of Archaeological objects in NSW*. A secure temporary storage location in accordance with requirement 26 of the *Code of Practice for the investigation of Archaeological objects in NSW*, shall be established (AMAC Offices) pending any agreement being reached as to the long-term management of the salvaged Aboriginal objects. The excavation director is responsible for ensuring that procedures are put in place so that Aboriginal objects are not harmed. The location of the secure temporary storage location will be submitted to AHIMS with a site update record card for the site(s) in question.

If long term management of any objects recovered has not been decided in a timely fashion, the objects will be lodged with the Australian Museum

#### 7.4 TEST PIT LOCATION

Test trench locations were placed with reference to known or suspected locations of Aboriginal archaeological deposits, the location of development excavation and areas of known disturbance as well as services.

The order of excavation was established on site as logistics and site access were factors that needed to be considered, as well as ensuring the investigation of all landforms were performed accordingly in order to maximise the results.

The study area was divided into three transects. Due to the scale of the study area the transects assisted in ensuring a systematic approach was undertaken.

#### 7.5 RESULTS

The testing programme involved the excavation of 12 test trenches (50cm x 50cm). These test pits were situated in order to obtain information and data that could systematically determine a distribution pattern and/or density pattern within a localised scale of the site.

It is clear and observable that the soil profile contained a heavily truncated A horizon in of the study area. (The A horizon is found to be the artefact bearing deposit.). The soil profile encountered was otherwise generally consistent of the Cumberland Plains, of which shallow clayey loamy duplexes were observed. The excavation of each pit ceased once it was ascertained that the soil was sterile or B horizon was located (whichever came first)

No Aboriginal archaeological and cultural material/ deposits were located as a result of the programme of test excavation.

Further investigation is not warranted and works may proceed with caution.

**Table 7.1 Test Trench Summary**

Test Trench No.	Transect	No. Spits	Final depth	Description	No. Artefacts
1	1	3	25cm	Brownish black loamy friable clay loam, gravel inclusions, roots to a depth of 3- 4 cm A1 Horizon, Blacktown soil landscape. B Horizon reddish brown medium clay	0
2	1	3	25cm	Brownish black loamy friable clay loam, gravel inclusions, roots to a depth of 3- 4 cm A1 Horizon, Blacktown soil landscape. B Horizon reddish brown medium clay	0
3	1	3	25cm	Brownish black loamy friable clay loam, gravel inclusions, roots to a depth of 3- 4 cm A1 Horizon, Blacktown soil landscape. B Horizon reddish brown medium clay	0
4	1	2	15cm	Brownish black loamy friable clay loam, gravel inclusions, roots to a depth of 3- 4 cm A1 Horizon, Blacktown soil landscape. B Horizon reddish brown medium clay	0
5	2	3	25cm	Brownish black loamy friable clay loam, gravel inclusions, roots to a depth of 3- 4 cm A1 Horizon, Blacktown soil landscape. B Horizon reddish brown medium clay	0
6	2	2	15cm	Brownish black loamy friable clay loam, gravel inclusions, roots to a depth of 3- 4 cm A1 Horizon, Blacktown soil landscape. B Horizon reddish brown medium clay	0
7	2	2	15cm	Brownish black loamy friable clay loam, gravel inclusions, roots to a depth of 3- 4 cm A1 Horizon, Blacktown soil landscape. B Horizon reddish brown medium clay	0
8	2	3	25cm	Brownish black loamy friable clay loam, gravel inclusions, roots to a depth of 3- 4 cm A1 Horizon, Blacktown soil landscape. B Horizon reddish brown medium clay	0
9	3	3	25cm	Brownish black loamy friable clay loam, gravel inclusions, roots to a depth of 3- 4 cm A1 Horizon, Blacktown soil landscape. B Horizon reddish brown medium clay	0
10	3	2	15cm	Brownish black loamy friable clay loam, gravel inclusions, roots to a depth of 3- 4 cm A1 Horizon, Blacktown soil landscape. B Horizon reddish brown medium clay	0
11	3	3	25cm	Introduced Fill B Horizon reddish brown medium clay	0
12	3	3	25cm	Brownish black loamy friable clay loam, gravel inclusions, roots to a depth of 3- 4 cm A1 Horizon, Blacktown soil landscape. B Horizon reddish brown medium clay	0

### 7.5.1 Test Trench Photographs



**ATT1: Final Shot**  
Facing North [DSCN2714]



**ATT2: Final Shot**  
Facing North [DSCN2720]



**ATT3: Final Shot**  
Facing North [DSCN2726]



**ATT4: Final Shot**  
Facing North [DSCN2732]



**ATT5: Final Shot**  
Facing North [DSCN2738]



**ATT6: Final Shot**  
Facing North [DSCN2744]





**ATT7: Final Shot**  
Facing North [DSCN2750]



**ATT8: Final Shot**  
Facing North [DSCN2756]



**ATT9: Final Shot**  
Facing North [DSCN2762]



**ATT10: Final Shot**  
Facing North [DSCN2768]

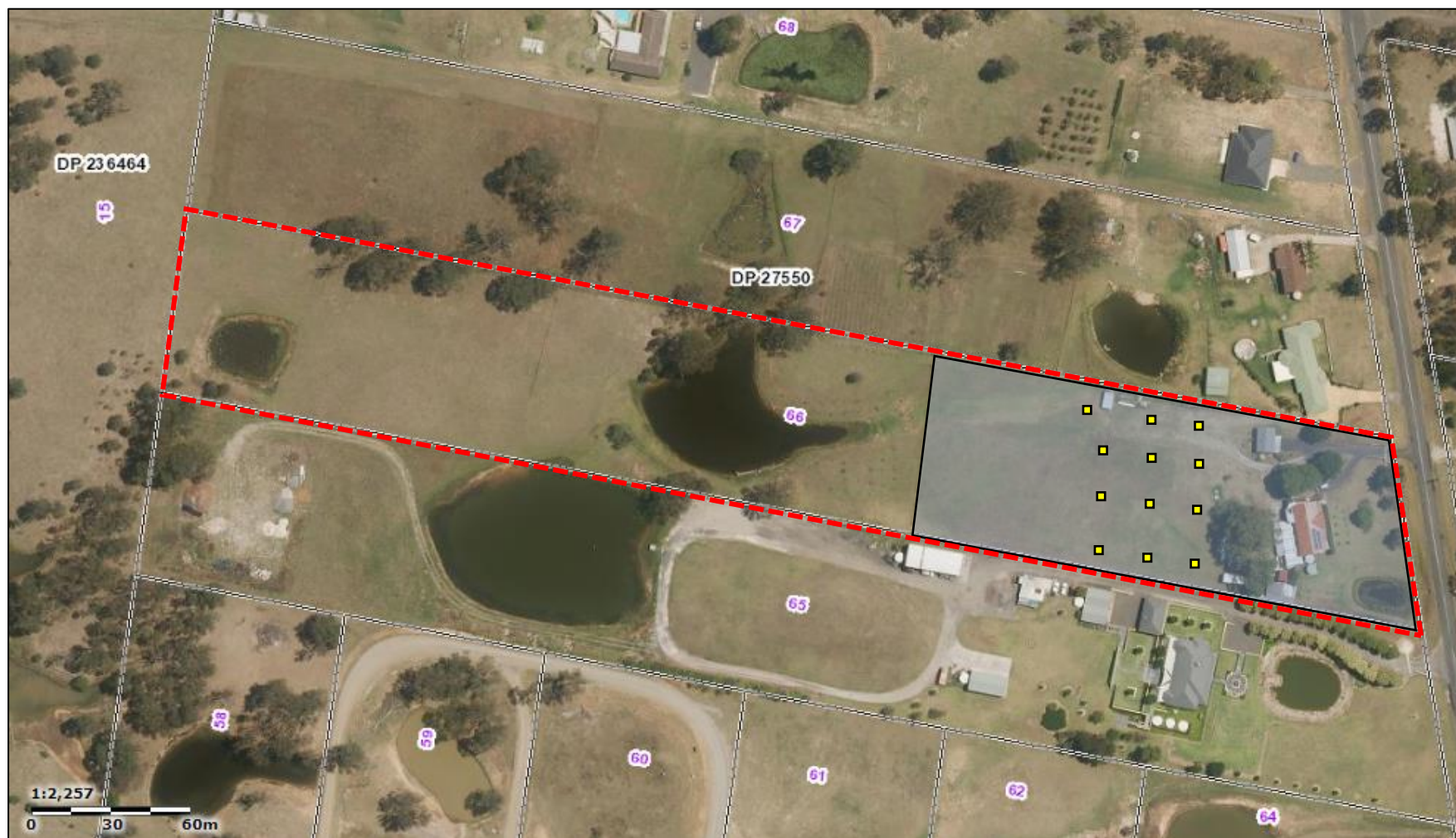


**ATT11: Final Shot**  
Facing North [DSCN2770]



**ATT12: Final Shot**  
Facing North [DSCN2774]





**Figure 7.1 Study area with test pit location**  
Study area outlined in red, development zone indicated by light blue zone and test trenches shown in yellow. Six Maps, LPI Online (accessed 20/11/18).

## 8.0 SIGNIFICANCE ASSESSMENT

The processes of assessing significance for items of cultural heritage value are set out in *The Australian ICOMOS Charter for the Conservation of Places of Cultural Significance: the Burra Charter* (amended 1999) formulated in 1979 and based largely on the Venice Charter of International Heritage established in 1966. Archaeological sites may be significant according to four criteria, including scientific or archaeological significance, cultural significance to Aboriginal people, representative significance which is the degree to which a site is representative of archaeological and/or cultural type, and value as an educational resource. In New South Wales the nature of significance relates to the scientific, cultural, representative or educational criteria and sites are also assessed on whether they exhibit historic or cultural connections.

### 8.1 ARCHAEOLOGICAL SIGNIFICANCE

#### 8.1.1 Educational Significance

The educational value of any given location will depend on the importance of any archaeological material located, on its rarity, quality and the contribution this material can have on any educational process (Australia ICOMOS, 1999 p. 11).

No archaeological and/or Aboriginal cultural material was located as a result of the programme of test excavation. Therefore, no educational significance can be assigned to the study area

#### 8.1.2 Scientific Significance

The scientific value of any given location will depend on the importance of the data that can be obtained from any archaeological material located, on its rarity, quality and on the degree to which this may contribute further substantial information to a scientific research process. (Australia ICOMOS, 1999 p.11).

No archaeological and/or Aboriginal cultural material was located as a result of the programme of test excavation. Therefore, no scientific significance can be assigned to the study area.

#### 8.1.3 Representative Significance

The representative value of any given location will depend on rarity and quality of any archaeological material located and on the degree to which this representativeness may contribute further substantial information to an educational or scientific research process. (Australia ICOMOS, 1999 p.11).

No archaeological and/or Aboriginal cultural material was located as a result of the programme of test excavation. Therefore, no representative significance can be assigned to the study area.

## 9.0 PROPOSED ACTIVITY

This section outlines the proposed activity including the staging and timeframes along with the potential harm of the proposed activity on Aboriginal objects and or declared Aboriginal places, assessing both the direct and indirect result of the activity on any cultural heritage values associated with the study area.

### 9.1 DESCRIPTION OF PROPOSED ACTIVITY AND IMPACTS

The proposed activity is for the design and construction of a place of worship with associated car parking (Figure 9.1 – 9.7). This activity will involve the demolition of existing sheds within the study area. The eastern half of the property will be subject to development and modification as part of this project, while the western end which includes existing dams, will remain undeveloped (Figure 9.1).

The development will include the construction of a central main shrine with the following amenities; kitchen/dining building to the south, WC block to the north as well as car parking towards the eastern end near the entrance with a designated overflow car parking area to the northern boundary. The design also includes an open courtyard at the front of the main shrine and a forecourt and lower ground storage facility at the rear end of the main shrine with surrounding fruit tree orchards towards the southern boundary of the property (Figure 9.2).

The design accounts for the sloping topography of the property which slopes east to west and uses piles to level the forecourt RL 101.34 at the rear, creating a slightly tiered design in order to minimise the height of the courtyard RL 102.18. A series of steps have been incorporated between these tiered courtyards and corridors. There are steps on both the north and south side of the forecourt to provide access to the storage room RL 98.32. The lower ground storage facility will be cut into the slope RL 99.00 in areas. The retaining wall at the front of the place of worship will also require cutting into the slope to create a level carpark.

The proposed development activity will impact any potential intact soils and as such any Aboriginal archaeological and/or cultural material that may be present.

There is a low-moderate potential for Aboriginal artefacts and/or deposits of archaeological and cultural significance to be present.

No formal areas of exclusion have been identified in the current plans.



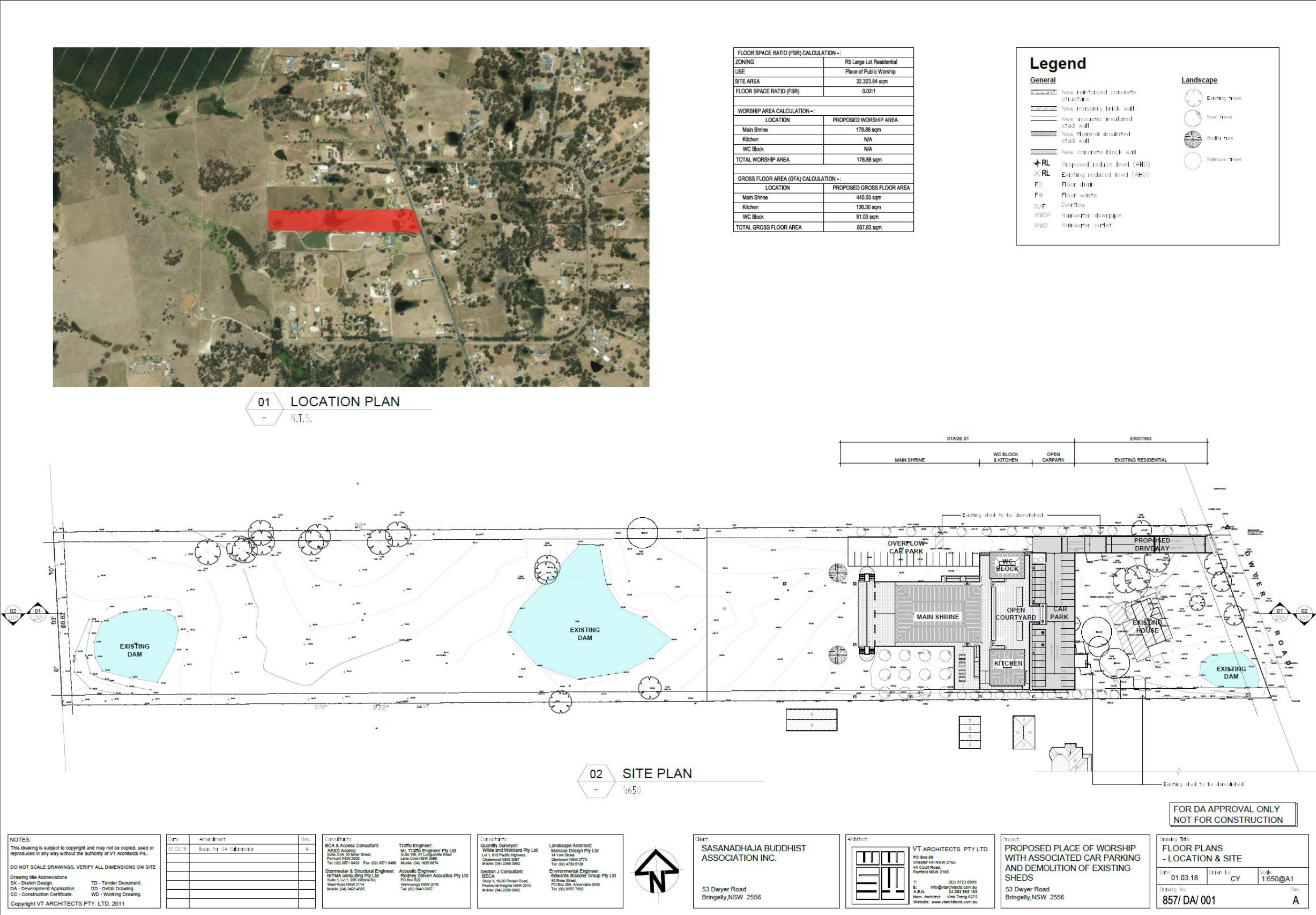


Figure 9.1 Floor Plans—Location & Site.  
VT Architects Pty Ltd (March 2018) Drawing No. 857/DA/001 Rev. A.

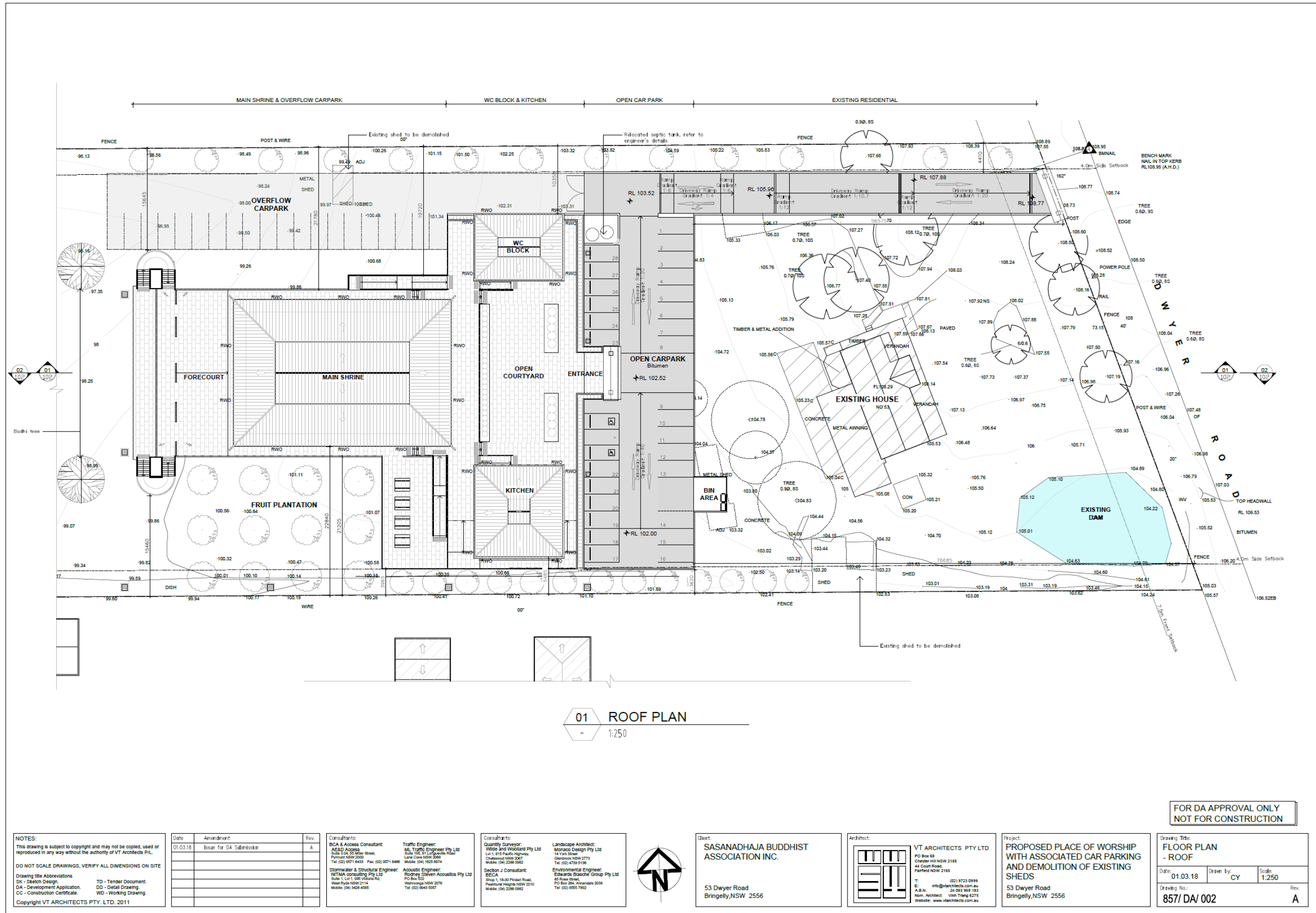


Figure 92 Floor Plan—Roof.  
VT Architects Pty Ltd (March 2018) Drawing No. 857/DA002 Rev. A.



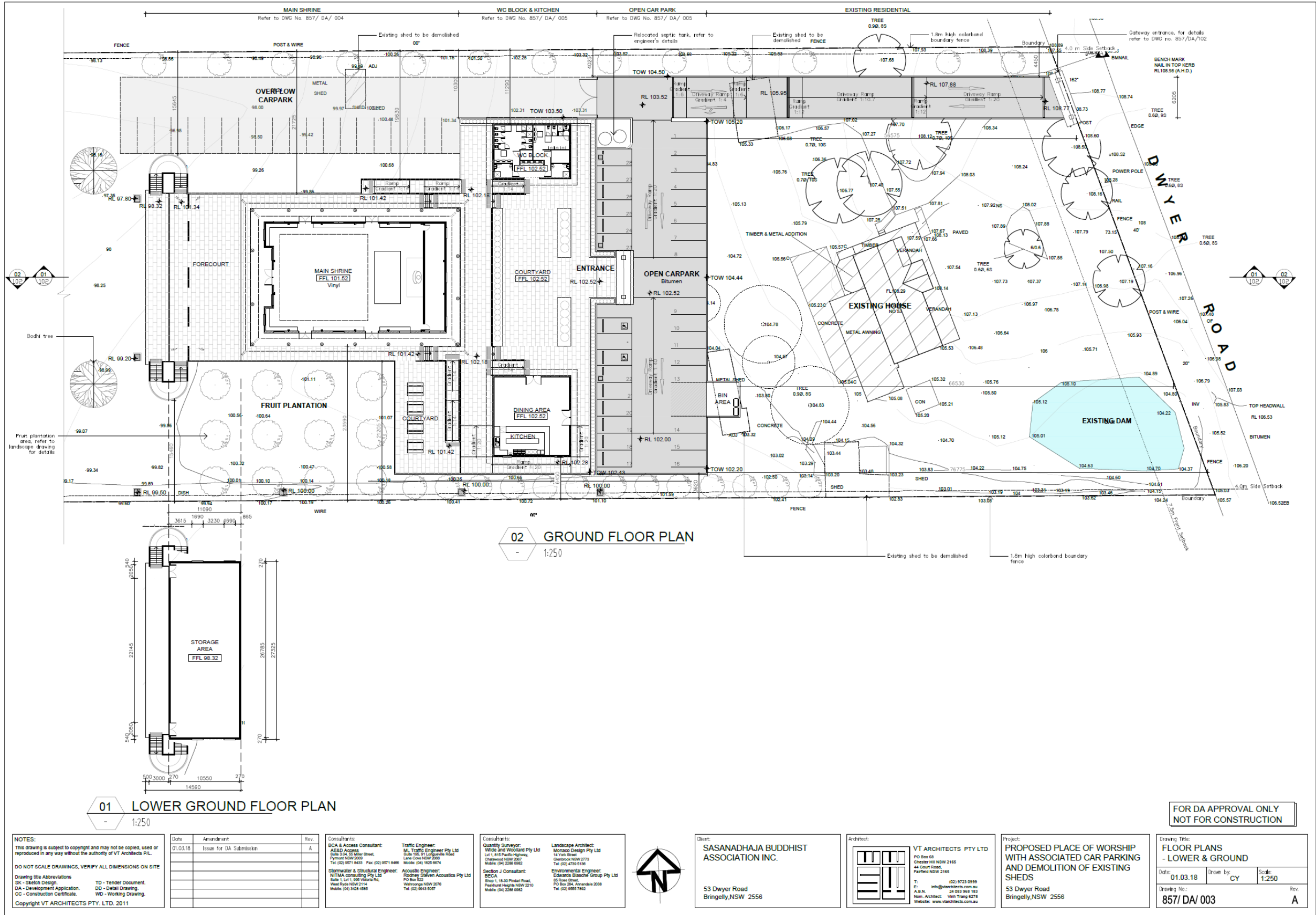
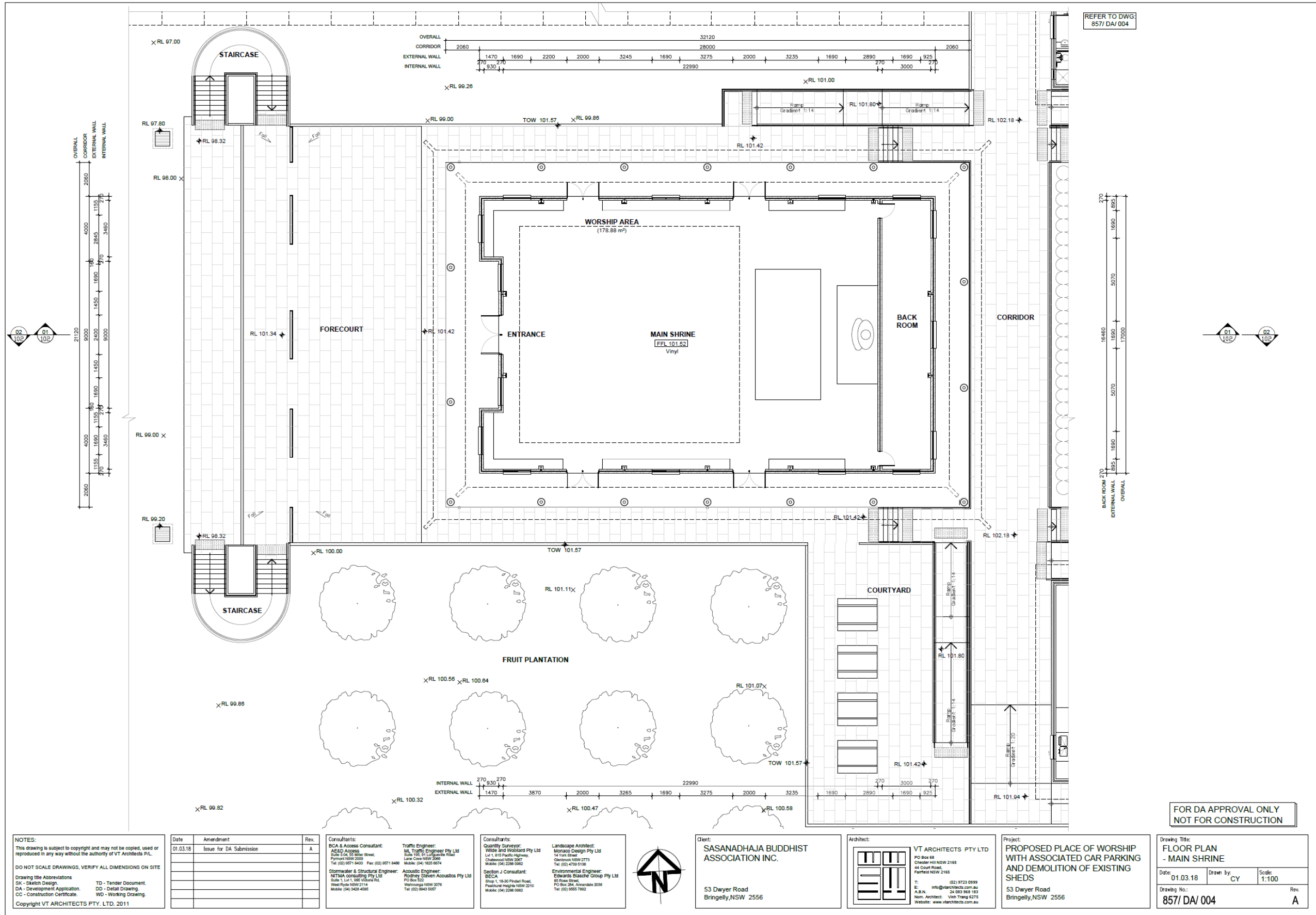
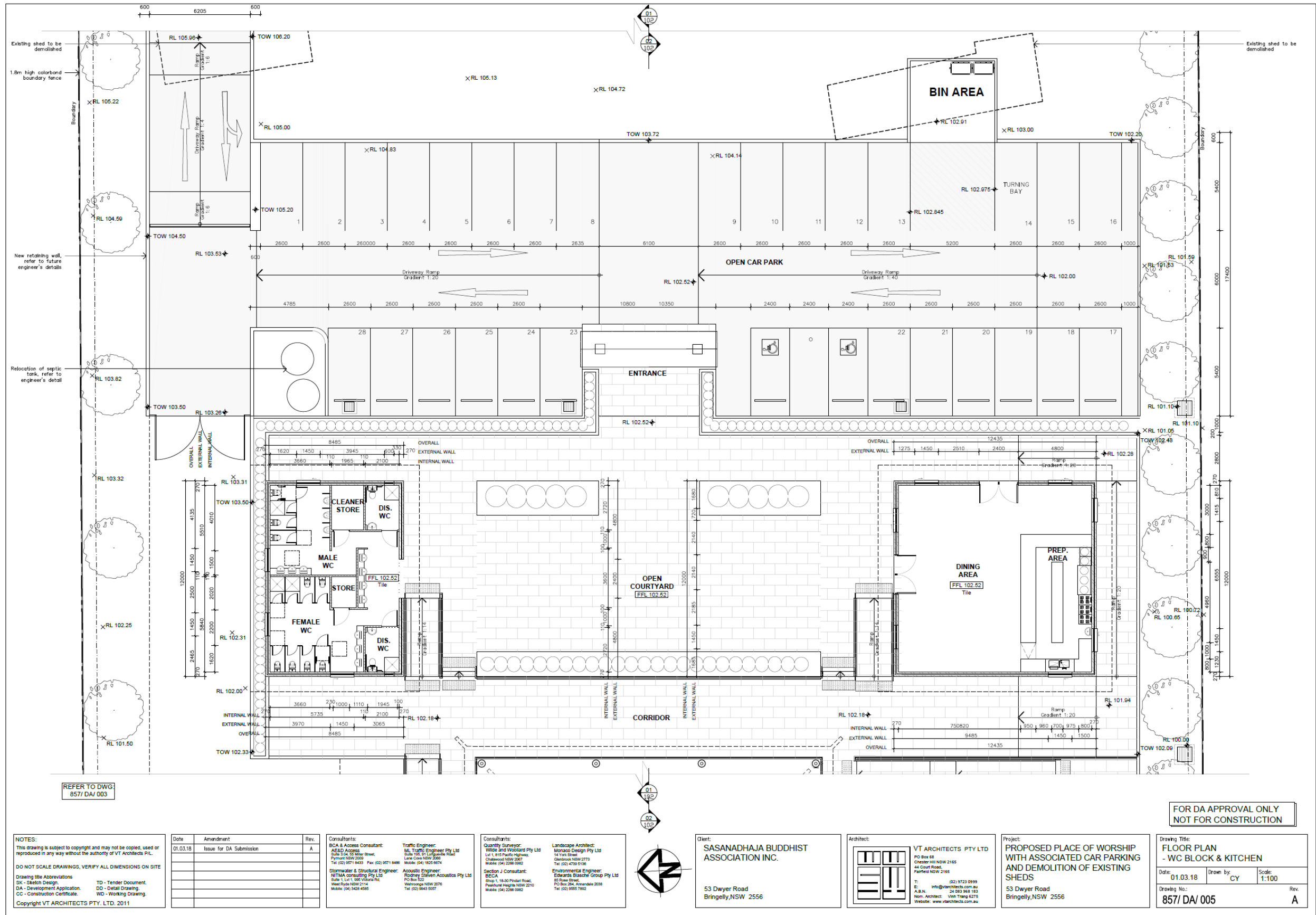


Figure 9.3 Floor Plans—Lower & Ground  
VT Architects Pty Ltd (March 2018) Drawing No. 857/DA/003 Rev. A













## 10.0 MANAGEMENT AND MITIGATION

The management recommendations presented in the following section of the report take into account the following:

- Legislation outlined in this report which protects Aboriginal cultural and archaeological objects and places in New South Wales;
- Research and assessment carried out by the author/s of this report;
- Results of previous archaeological assessment and excavation in the vicinity of the study area;
- The impact of the proposed development on any Aboriginal archaeological material that may be present;
- The requirements of the consent authority (Liverpool City Council).

### 10.1 RECOMMENDATIONS

The findings from the test excavation indicate the site to be of nil-low archaeological significance and heavily truncated resulting in no *intact* A1 or A2 soil horizons. Test excavation also resulted in no Aboriginal objects and/or deposits of cultural significance being located, therefore the development should be allowed to proceed with caution.

The recommendations have been formulated after consultation with RAPs, the proponent and the OEH;

It is recommended that:

- A full Aboriginal Cultural Heritage Assessment is being undertaken in accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in New South Wales*, Part 6 National Parks and Wildlife Act 1974 (DECCW 2010); This report has reached Stage 3 of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010). Therefore, this process need not be completed prior to the Development Application being lodged.
- Consultation with the registered Aboriginal stakeholders should continue. Stakeholders have been given the opportunity to comment on the recommendations of this report and these comments have been included in this report;
- Archaeological test excavation in accordance with *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010) revealed no Aboriginal archaeological objects or deposits: As the nature and extent of the archaeological site has been established through test excavation and the data has been analysed and synthesised into a test excavation report (AMAC 2018), the proposed development subdivision as shown (Figure 9.1 – 9.7) should be allowed to 'proceed with caution'. An Aboriginal Heritage Impact Permit (AHIP) will not need to be applied for in order for the development to proceed.
- After this, and before any ground disturbance takes place as part of the construction, all development staff, contractors and workers should be

briefed prior to works commencing on site, as to the status of the area and their responsibilities regarding any Indigenous archaeological deposits and/or objects that may be unexpectedly located during the following development.

**If any Aboriginal archaeological deposits and/or objects are located during the development, then the following should take place;**

- All work is to cease in the immediate vicinity of the deposits and/or objects
- The area is to be demarcated
- OEH, a qualified archaeologist and the participating RAPs are to be notified.

**Should any human remains be located during the following development;**

- All excavation in the immediate vicinity of any objects of deposits shall cease immediately;
- The NSW police and OEH's Enviroline be informed as soon as possible:
- Once it has been established that the human remains are Aboriginal ancestral remains, OEH and the relevant Registered Aboriginal Parties will identify the appropriate course of action.



## GLOSSARY

Term	Definition
Aboriginal/ Aborigine	These terms apply to indigenous Australians throughout time.
Aboriginal Object	A term now used (formerly 'relic') within the NSW <i>National Parks and Wildlife Act, 1974</i> to refer to "...any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction and includes Aboriginal remains."
AHIP	Aboriginal Heritage Impact Permit, issued under Part 6 of the National Parks and Wildlife Act 1974, where harm to an Aboriginal object or Aboriginal place cannot be avoided.
Alluvial	Describes material deposited by, or in transit in flowing water.
AMAC	Archaeological Management and Consulting Group.
Artefact	Any object, usually portable, that has been made or shaped by human hand.
Assemblage	A collection of artefacts found in close proximity with one another often excavated together.
Axe grinding Grooves	Areas on a stone surface where other items such as stone tools, wood or bones have been sharpened.
Basalt	A dark coloured, basic volcanic rock.
Bioturbation	Reworking of sediments through the action of ground dwelling life forms. This can also include soil cracking and root activity.
Broken Flake	A flake fragment which displays only part of the diagnostic features of a complete flake.
BP	Before present (AD1950).
Burial	Sites containing the physical remains of deceased Aboriginal people.
Ceremonial Sites	Places or objects of ceremonial, religious or ritual significance to Aboriginal people.
DCP	Development Control Plan.
DoPE	Department of Planning and Environment
DP	Deposited Plan.
Erosion	Process where particles are detached from rock or soil and transported away principally via water, wind and ice.
Flake	A piece of stone, detached by striking a core with another stone.
Flaking/Knapping	The process of making stone tools by detaching flakes from a piece of stone.
Friable	Easily crumbled or cultivated.
Hard setting	Soil which is compact and hard. It appears to have a pedal structure when dried out.
Heritage Division	Formerly known as the Heritage Branch

Term	Definition
Holocene	The period of time since the last retreat of the polar icecaps, commencing approximately 10,000 – 110,000
Intensification	Increased social and economic complexity.
Landscape Unit	An area of land where topography and soils have distinct characteristics, are recognisable, describable by concise statements and capable of being represented on a map.
Laminite	A thinly bedded, fine grained sedimentary rock.
LEP	Local Environment Plan.
LGA	Local Government Area.
Lithics	A term used to describe stone and stone artefacts.
Loam	A medium textured soil of approximate composition of 10-25% clay, 25-50% silt and 2% sand.
Loose	A soil which is not cohesive.
Matrix	Finer grained fraction, typically a cementing agent within soil or rock in which larger particles are embedded.
Midden	Aboriginal occupation site consisting chiefly of shells, which can also include bone, stone artefacts and other debris.
NPW Act	National Parks and Wildlife Act 1974
OEHS	NSW Office of Environment and Heritage (formerly known as the DECCW)
Open Campsite	A surface accumulation of stone artefacts and/ or other artefacts exposed on the ground surface.
Potential Archaeological Deposit (PAD)	An area where no surface archaeological remains are visible but where it has been assessed that there is some potential for sub-surface archaeological remains to be present.
Ped	An individual, natural soil aggregate.
Pedal	Describes a soil in which some or all of the soil material occurs in the form of peds in a moist state.
Plastic	Describes soil material which is in a condition which allows it to undergo permanent deformation without appreciable volume change or elastic rebound and without rupture.
Pleistocene	The epoch of geological time starting 1.8 million years ago.
RAP	Registered Aboriginal Parties
Rock Painting	Encompassing drawing, paintings or stencils that have been placed on a rock surface usually within a rock shelter.
Rock Engraving	Pictures which have been carved, pecked or abraded into a rock surface, usually sandstone and predominantly open, flat surfaces.
Sandstone	A detrital sedimentary rock with predominantly sand sized particles.
Scarred/ Carved Tree	A tree from which bark has been deliberately removed.
Sclerophyll	Denoting the presence of hard stiff leaves, typically used to classify forest and indicative of drier conditions.
Sedimentation	Deposition of sediment typically by water.
Silcrete	A sedimentary rock comprising of quartz grains in a matrix of fine grained – amorphous silica.
Silt	Fine soil particles in size ranges of 0.02 – 0.002mm.

Term	Definition
Slope	A landform element inclined from the horizontal at an angle measured in degrees or as a percentage.
SHI	State Heritage Inventory
SHR	State Heritage Register
Subsoil	Subsurface material comprising the B and C horizons of soils with distinct profiles.
Stone Resource Site	A geological feature in the landscape from which raw material for the manufacture of stone tools was obtained.
Texture	The coarseness or fineness of a soil as measured by the behaviour of a moist ball of soil when pressed between the thumb and forefinger.
Topsoil	A part of the soil profile, typically the A1 Horizon, containing material which is usually darker, more fertile and better structured than the underlying layers.
Weathering	The physical and chemical disintegration, alteration and decomposition of rocks and minerals at or near the earth's surface by atmospheric and biological agents.

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## APPENDIX A – SAMPLE TEST EXCAVATION RECORDING SHEET

Archaeological Management and Consulting Group | [amac@archaeological.com.au](mailto:amac@archaeological.com.au) | (02)95686093 | 0411727395

LEVELS			Context No.	
Location of Datum:	Level	RL (=HOI - Lvl)	Level	RL (=HOI - Lvl)
	1.		6.	
Datum:	2.		7.	
Backsight (BS):	3.		8.	
Height Of Instrument (HOI) (= Dat + BS):	4.		9.	
	5.		10.	

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