

# **A Cultural Heritage Due Dilligence Assessment for South Jerrabomberra, NSW.**

By Matthew Barber

**A report to Queanbeyan City Council**

**May 2014**



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| Document Management |                |  |
|---------------------|----------------|--|
| Written By          | Matthew Barber |  |
| Status              | Final          |  |
| Date                | May 2014       |  |

# Contents

|       |                                                                         |    |
|-------|-------------------------------------------------------------------------|----|
| 1.0   | Introduction .....                                                      | 1  |
| 1.1   | Participants .....                                                      | 1  |
|       | IHE Archaeologists .....                                                | 1  |
|       | Participation & Consultation with Indigenous Groups .....               | 1  |
| 1.2   | Format of this report.....                                              | 1  |
| 1.3   | Study Aims .....                                                        | 1  |
| 2.0   | Ground Disturbance.....                                                 | 4  |
| 3.0   | Register Searches .....                                                 | 4  |
| 4.0   | Landscape Features .....                                                | 7  |
| 5.0   | Impact Avoidance .....                                                  | 11 |
| 6.0   | Desktop Assessment and Visual Inspection.....                           | 11 |
| 6.1   | Review of Aboriginal Archaeological Context.....                        | 11 |
| 6.1.1 | Ethnohistoric Setting.....                                              | 11 |
| 6.1.2 | Aboriginal Archaeological Setting .....                                 | 12 |
| 6.2   | Archaeological Inspection Results .....                                 | 15 |
| 6.2.1 | Survey Aims.....                                                        | 15 |
| 6.2.2 | Survey Coverage.....                                                    | 15 |
| 6.2.3 | Survey Results .....                                                    | 15 |
| 6.3   | Non Aboriginal Heritage.....                                            | 19 |
| 7.0   | Further Assessment .....                                                | 20 |
| 7.1   | Assessment of NOHC Reports.....                                         | 21 |
| 8.0   | Conclusions .....                                                       | 21 |
| 9.0   | Recommendations .....                                                   | 23 |
| 10.0  | References .....                                                        | 24 |
|       | Appendix A: Site Photos.....                                            | 26 |
|       | Figure 1. Location of Study Area .....                                  | 3  |
|       | Figure 2. Location of Previously Recorded Sites .....                   | 6  |
|       | Figure 3. Location of Heavily Disturbed Areas .....                     | 9  |
|       | Figure 4. Landforms defined by Slope Class .....                        | 10 |
|       | Figure 5. Location of Sites and PADs.....                               | 18 |
|       | Table 1. Summary of previous heritage assessments in the district ..... | 13 |
|       | Table 2. Summary of Aboriginal Sites within Study Area.....             | 16 |

# 1.0 Introduction

Ironbark Heritage and Environment Pty Ltd (IHE) was commissioned by Queanbeyan City Council to undertake a Due Diligence level assessment for Aboriginal heritage sites of land in South Jerrabomberra with a view to rezoning the land for urban development purposes.

The subject area consists of Lots 1-3 DP1001136 and Lots 176 and 148 DP754912, with in the Queanbeyan City Council Local Government area. The land comprises three parcels, each owned independently and totalling 140.2 hectares in area (Figure 1). Parcel 1 comprises the land owned by the Forrest and Morrison families, parcel 2 is part of Tralee Station owned by the Walsh family and parcel 3 is owned by a second Morrison family.

The assessment was undertaken following the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* produced by the NSW Office of Environment and Heritage (OEH – formerly DECCW). The Due Diligence process was followed to ensure compliance with the code.

This due diligence study examines the three parcels as a whole but provides details of separate cultural heritage assessments for each parcel.

Two previous cultural heritage assessments have been conducted for parts of the study area. Navin Officer Heritage Consultants (NOHC) conducted a preliminary archaeological assessment (NOHC 2014) for the Morrison and Forrest parcel of land (Parcel 1 of current study). They also conducted a desktop review of the Morrison/Forrest parcel (NOHC 2013). These studies form the basis for the current research and their results have been included in the current investigation.

## 1.1 Participants

### *IHE Archaeologists*

The due diligence assessment was undertaken by Matthew Barber of IHE, including field inspection and report preparation.

### *Participation & Consultation with Indigenous Groups*

The due diligence process does not formally require consultation with Aboriginal community groups. No Aboriginal groups were contacted for this due diligence level assessment.

## 1.2 Format of this report

This report has been drafted in keeping with the sequence of steps identified in the OEH *Due Diligence Code of Practice*. Each section below covers the relevant step outlined in the Code of Practice. Additional information is provided regarding the non- Aboriginal heritage of the study area and incorporated into the OEH structure for the Due Diligence assessment.

## 1.3 Study Aims

The aim of the study is to investigate the Aboriginal and non-Aboriginal heritage within the study area and to assess the impacts of the proposed rezoning on heritage sites and places.

Further, the study was to provide the following outcomes:

- An assessment/analysis of previous studies of the area, in particular those of NOHC;
- A report that identifies and maps areas of known or identified cultural heritage value;
- Identifies and maps areas of disturbance where heritage sites are unlikely to be present;

- Identifies the location of any heritage places likely to meet the criteria for listing on the State, National and Commonwealth Heritage lists, and
- Provide QCC with confidence it has acted with Due Diligence and to provide adequate guidance for the process to rezone and develop the area in the future.

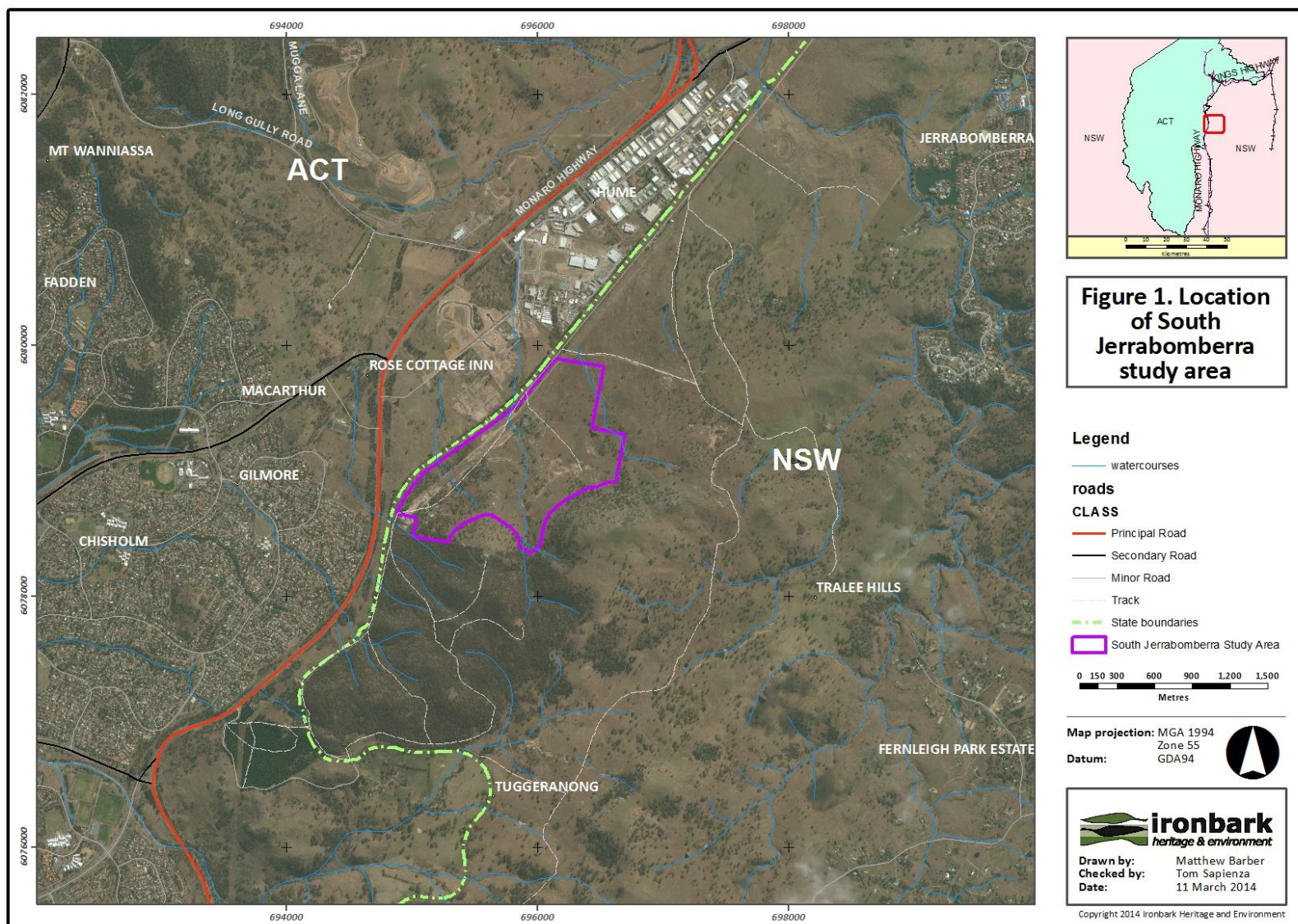


Figure 1. Location of Study Area



## 2.0 Ground Disturbance

### Step 1. Will the activity disturb the ground surface?

Currently there is no proposal to disturb the ground for the rezoning process. However, the rezoning of the land for purposes of urban development would eventually lead to disturbance of the landscape. Construction of infrastructure including roads, water and sewerage lines, power and communication cables will all involve extensive ground disturbance. The construction of dwellings and other urban buildings such as schools and shops will invariably impact a large proportion of any development area. These activities would involve disturbance of the ground by large machinery including grading, bulldozing and excavation.

The construction of services and buildings will include clearing of vegetation, excavation of trenches, levelling and modifying the natural ground surface and possibly waterways. The modification of the land and development activity has potential therefore to disturb or destroy any heritage sites and cultural landscapes within the study area.

It may be possible to avoid some heritage sites through planning and management of any future development but for the current Due Diligence process there are no plans available and therefore it must be assumed that there may be some impact, either directly or indirectly, on heritage items if development proceeds.

The affirmative answer to this question means the next step of the due diligence process is required.

## 3.0 Register Searches

### Step 2a. Search the AHIMS database and other information sources.

A search of relevant heritage registers for Aboriginal and non-Aboriginal sites and places provide an indication of the presence of previously recorded sites. A register search is not conclusive however, as it requires that an area has been inspected and any sites are provided to the relevant body to add to the register. However, as a starting point, the search will indicate whether sites are known.

The Aboriginal Heritage Information Management System (AHIMS) is maintained by OEH and provides a database of previously recorded Aboriginal heritage sites. A search provides basic information about any sites previously identified within a search area. The results of the search are able to be relied upon for 12 months for the purposes of a due diligence level assessment.

In addition to examining the registers, a number of reports were also examined to provide an archaeological and historic context to the study area.

A search of the AHIMS database, of an area approximately 10km east-west x 7km north-south centred on the study area, was undertaken on 5 March 2014. Fifty-four Aboriginal sites have been recorded within this search area, but no Aboriginal Places have been declared. All of the sites are artefact scatters or isolated finds. The AHIMS list provides one site incorrectly as an art site but the site card (#52-5-0778) clearly identifies an isolated find.

Within the study area there were two sites previously recorded on the AHIMS database (Tralee Isolated Find 1 #57-2-0778 and Tralee Isolated Find 3 #57-2-0780), both were isolated artefacts. They were located during a survey for a Telstra fibre optic cable but no report has been submitted to OEH so no further details other than that on the site card are available. Figure 2 shows the location of known sites within and adjacent to the study area.

In addition to these sites listed by AHIMS, NOHC (2014) list a further 14 Aboriginal sites recorded within parcel 1 (Forrest and Morrison land). The sites do not appear on the AHIMS register search so it is assumed no site cards were submitted to OEH.

In order to provide an assessment of non-Aboriginal heritage sites, other heritage registers were also examined and included:

- State Heritage register (NSW);
- World Heritage Register;
- National Heritage Register, and
- Commonwealth Heritage Register.
- Queanbeyan Local Environmental Plan (LEP)

No heritage sites were located within the South Jerrabomberra study area on these registers.

The non- statutory, Register of the National Estate was also examined but there were no listings for the South Jerrabomberra study area.



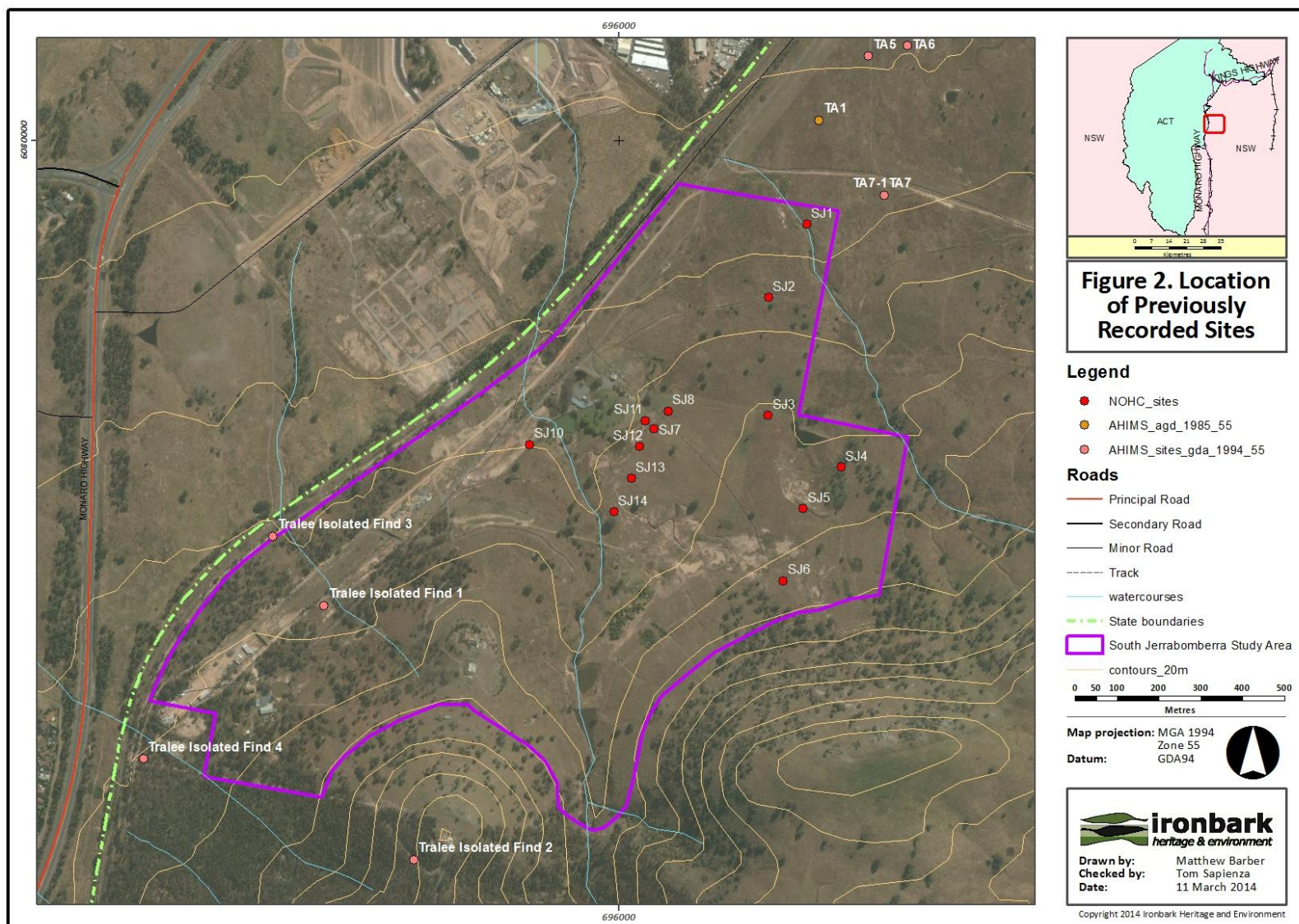


Figure 2. Location of Previously Recorded Sites

## 4.0 Landscape Features

### Step 2b. Assess activities in landscape features where Aboriginal objects can occur.

The underlying geology of the study area consists mainly of Late Silurian Tuggeranong granite, extending across the eastern three quarters of the area, with some undifferentiated volcanic and Colinton volcanic comprising tuff, crystal tuff, dacite, shale and sandstone in the western portion of the study area adjacent to the ACT/NSW border (Gilligan 1974). Soils within the eastern part of the study area, are colluvial, with deep sandy/gravelly deposits noted, much of which has been removed by mechanical excavation. Other portions of the study area reveal a sandy, clayey deposit, some areas are more highly eroded than others.

The topography of the local area is dominated by Tralee Hills, a prominent, steep sided, elongated hill, elevation 860m AHD, situated just outside the study area boundary on the south eastern margin. The northerly and north westerly facing mid to lower slopes of this high hill form the main part of the study area within Parcel 1 and part of Parcel 2. Outside the southern boundary is another prominent hill, elevation 620 AHD, and its northerly to north westerly mid and lower slopes form part of Parcel 2 and Parcel 3. Between these high landmarks, is the gully forming the headwaters of Dog Trap Creek, a major tributary of Jerrabomberra Creek. Within the study area, Dog Trap Creek is a second order stream with low water flow and steep sided hills as banks, running in a northerly direction out onto the lower slopes and plain of the Jerrabomberra Creek valley.

The hill slope gradients vary from nearly level on some of the major spur crests, to 15- 20 degrees in small portions of the southern part of Parcel 2. The topography comprises hill slopes, prominent spurs and associated spur side slopes and basal slopes, small micro spurs and benches and Dog Trap Creek, on which there are three large dams.

The presence of Aboriginal sites in particular, and non-Aboriginal heritage sites to a lesser extent, is often linked to particular landforms and environments. The concept of site modelling of Aboriginal heritage sites is especially important to be able to investigate and assess the presence or absence of heritage sites.

As will be discussed below, the terrain and topographic setting of the study area, in particular the occurrence of spur crests, low gradient basal slopes and a creekline are all landforms in which Aboriginal people could have accessed and utilised for hunting and camping purposes.

The land use practices of post Aboriginal settlement are also a significant factor in the assessment of the potential presence of Aboriginal heritage sites. A great deal of the study area has been significantly impacted and modified by European activities. In particular, the study area has largely been cleared of native vegetation for grazing purposes, only a few mature Eucalypt trees remain and there are some areas of regrowth. The original vegetation regime would likely have consisted of a yellow box/red box woodland with an understorey of shrubs and native grasses.

Since European settlement of the area, grazing of stock and modification of the land has occurred. These include the construction of dwellings, roads, and tracks, farm outbuilding and dams. A significant disturbance has been the installation of contour banks, for erosion control and water runoff control into dams. However, the most significant modification has been the removal of topsoil through deliberate extraction/quarrying and the partial construction of an aircraft landing ground.

Figure 3 shows the extent of heavy ground disturbance across the three parcels of land. The mapped areas include soil and gravel removal, the landing strip, farm dams, contour banks and the homesteads and associated home paddock disturbances such as sheds and landscaping. The figure shows that there is approximately 45 hectares that has been significantly disturbed and altered through mechanical movement and displacement of the natural ground surface. This equates to 32%

of the study area effectively having no intact natural land surface and therefore no potential to contain Aboriginal archaeological sites.

The landing ground was never completed but was built over a number of years, the work of Mr B Morrison until his death over 20 years ago. The landing ground has been built through cut and fill, excavated into some of the basal slopes and low spurs with material filled into the gullies and depressions. The fill material for the landing ground is likely to have originated from the property, where large areas of soil and gravel extraction have been noted.

Figure 4 shows the breakdown of terrain by slope class, revealing that most of the study area comprises slopes of less than 12 degrees. It has been shown in various archaeological studies within the region that archaeological sites are unlikely to be situated on slopes over 10 degrees. While it is possible that archaeological material in the form of isolated stone artefacts can occur anywhere, the location of campsites is reflective of lower gradient slopes to level terrain.

The residual landscapes that occur all have the potential to contain heritage sites and in particular, Aboriginal heritage sites. The agricultural and grazing activities, including ploughing, fencing and stock movement may impact Aboriginal heritage sites but they will not totally destroy such sites if present. The areas of greater disturbance, especially the sand and gravel extraction areas and the landing ground have negligible potential for retaining Aboriginal heritage sites.

Despite this, it has been shown by previous surveys, in particular NOHC (2013, 2014) that Aboriginal stone artefacts occur within the study area and within disturbed contexts, including contour banks, farm dams and on the edge of extraction areas.

The study area contains spur crests, low gradient basal hill and spur slopes and ephemeral drainage lines with elevated areas between drainages and therefore contains landscapes with potential to contain Aboriginal sites. The next step in the due diligence process therefore applies.



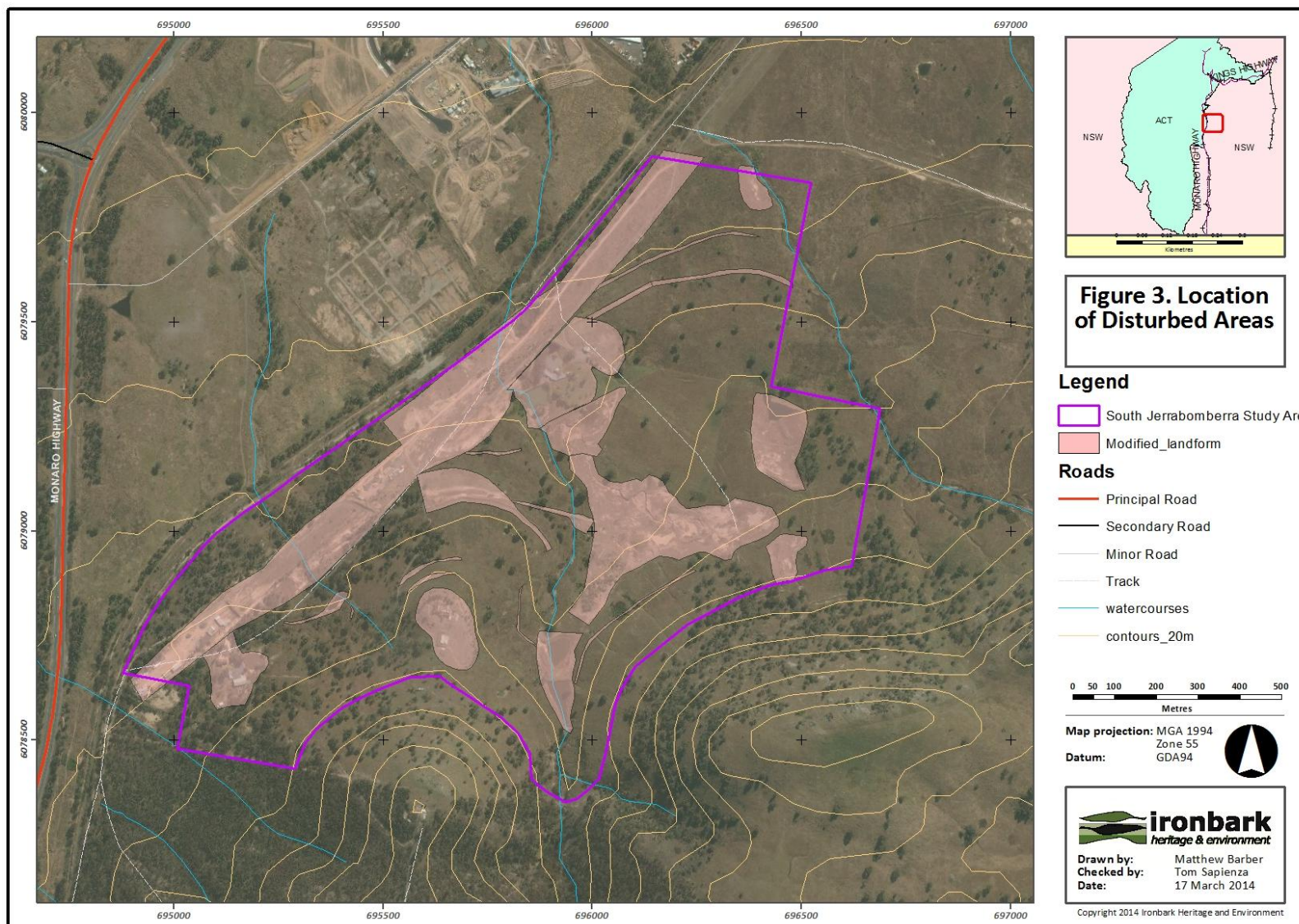


Figure 3. Location of Heavily Disturbed Areas

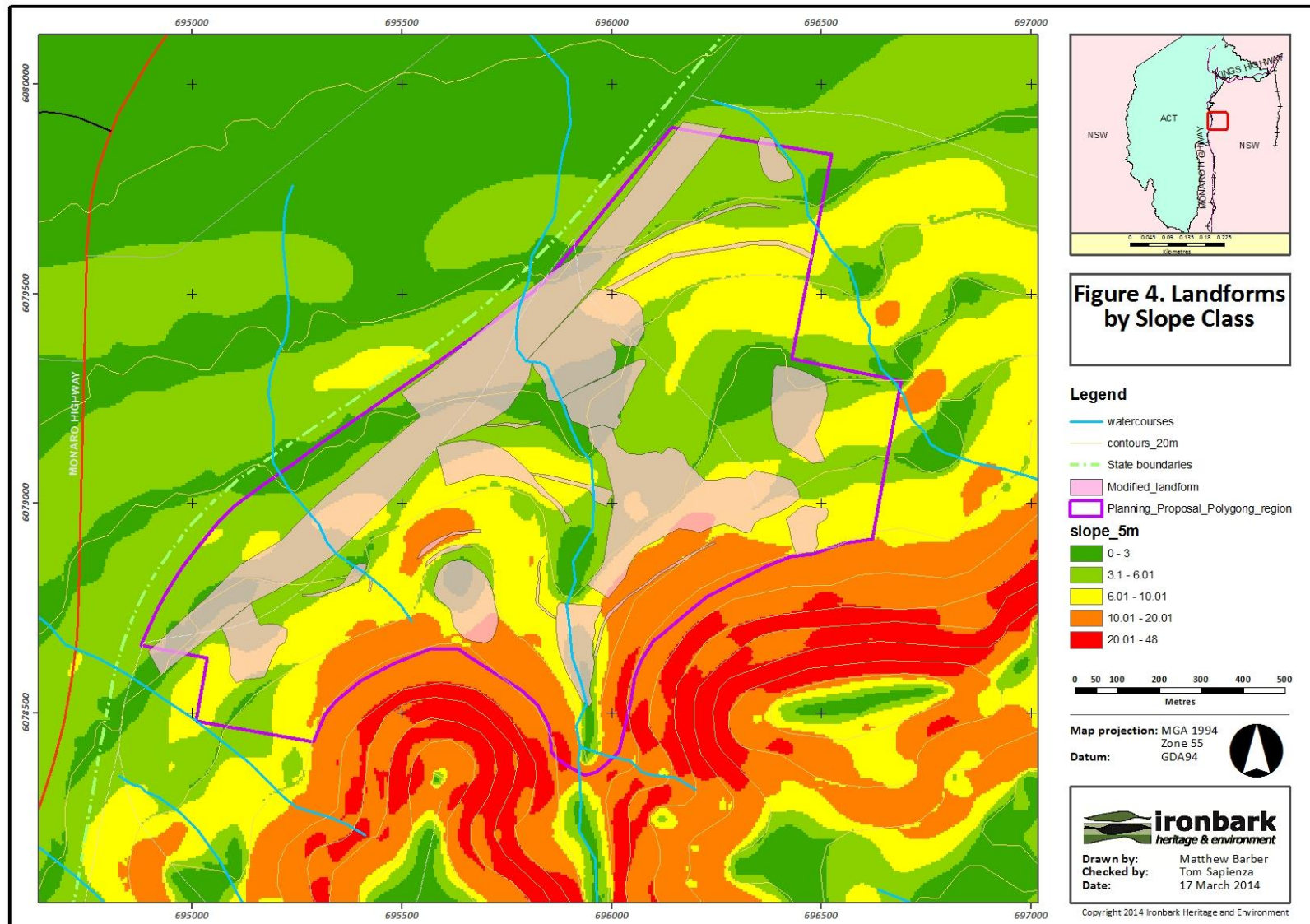


Figure 4. Landforms defined by Slope Class



## 5.0 Impact Avoidance

### Step 3. Can the objects or landscape feature be avoided?

The nature of the proposed development, being urban residential style housing, means that much of the landscape will be impacted by proposed development. It is unlikely that the development would be able to avoid all impacts to all landforms where archaeological material may or does occur. Infrastructure and services as well as houses and accompanying landscaping will invariably impact the study area.

It may also be possible to realign infrastructure and services as well as planning to provide open space to avoid some heritage sites but to avoid all landscape features is not considered feasible. However, logistical, engineering, environmental and land constraints not known to the heritage consultant may also limit the potential flexibility of any development. This Due Diligence is therefore concerned only with the potential development across the entire study area. It is assumed for the purposes of this investigation that there is likely to be some impact to landscapes in an urban subdivision and therefore potentially impact to heritage sites.

As the avoidance of the landscape features is not possible, the due diligence process must proceed to step 4.

## 6.0 Desktop Assessment and Visual Inspection

### Step 4. Examine readily available information and undertake visual inspection of area.

#### 6.1 Review of Aboriginal Archaeological Context

##### 6.1.1 Ethnohistoric Setting

Aboriginal people have occupied what we now know as the Australian continent for at least 40,000 years and perhaps 60,000 years and beyond (Mulvaney and Kamminga 1999, Hiscock 2007). The earliest archaeological date for occupation in the surrounding region is over 20,000 years BP, in rock shelters in the Australian Alps (Flood 1980).

Cultural areas are difficult to define and “must encompass an area in which the inhabitants have cultural ties, that is, closely related ways of life as reflected in shared meanings, social practices and interactions”(Egloff *et al.* 2005:8). Depending on the culture defining criteria chosen - i.e. which cultural traits and the temporal context (historical or contemporary) - the definition of the spatial boundary may vary. In Australia, Aboriginal “marriage networks, ceremonial interaction and language have been central to the constitution of regional cultural groupings” with the distribution of language speakers being the main determinate of groupings larger than a foraging band (Egloff *et al.* 2005:8 & 16).

While an examination of these cultural traits in isolation produces differing boundaries for the cultural area in question, the current study area is generally noted as being on the border between the Ngun(n)awal, Ngarigo and Walgalu groups (Tindale 1974, Flood 1980, Horton 1994).

The early white settlement of the Canberra/Queanbeyan region meant that there was rapid displacement of Aboriginal people from the region. Disease in particular, as well as dispossession from traditional lands and even acts of violence against the Aboriginal people meant there was great



social upheaval and partial disintegration of the traditional way of life. This meant that access to traditional resource gathering and hunting areas, religious life and marriage links and access to sacred ceremonial sites were disrupted or destroyed.

However, despite these disruptions, Aboriginal people continued to try and maintain their connections to sites and the land in the early days of European settlement. Some of the early settlers and pastoralists, surveyors, explorers, administrators and others observed some activities and recorded these in letters, journals and books. These early records of Aboriginal lifestyle and society within the region assist in understanding parts of the traditional Aboriginal way of life, albeit already disrupted at the time of the observations.

Later researchers such as Flood (1980) in particular examined these ethnographic records for the region and identified that there were certain rituals and ceremonies surrounding the influx of the Bogong Moth to the high country during the spring and summer.

Howitt (1904), recorded events relating to the ceremonial and religious life of Aboriginal people of south eastern Australia and other recorders such as Wright (1923) noted the numbers of Aboriginal people living in the region, which dwindled rapidly in the late 19<sup>th</sup> century.

These early observations provide an indication of the food and other resources used by the Aboriginal people of the area. They include animal food sources such as possum, bandicoot, snakes, wallabies and kangaroos, wombats, emus, brolgas and other birds, lizards 'native cats', fish, yabbies, mussels, bogong moths and plant foods such as yams, berries and seeds of grasses and some trees (Bennett 1934, Bluett 1954).

The early observations also note that some weapons and tools were carried, some made from wood such as barbed and unbarbed spears, spear throwers, clubs, shields, boomerangs, digging sticks, bark vessels and canoes. Other materials were observed in use such as stone axes, shell and stone scrapers, bone needles. Skins from kangaroos and possums were also used for apparel including cloaks in winter (Wright 1923, Helms 1895, Bennett 1834, Flood 1980).

In an archaeological context, few of these items would survive, particularly in an open site context. Anything made from bark and timber and animal skins would decay quickly in an open environment. However, other items, in particular those made of stone would survive where they were made, placed or dropped. Shell material may also survive in an archaeological context. Sources of raw materials, such as the extraction of wood or bark would leave scars on the trees that are archaeologically visible, although few trees of sufficient age survive in the modern context. Outcropping stone sources also provide clues to their utilisation through flaking, although pebble beds may also provide sources of stone which leave no archaeological trace.

### ***6.1.2 Aboriginal Archaeological Setting***

There have been a number of Aboriginal archaeological studies have been undertaken in the study area and the local district, including the ACT over the last 30 years. These studies have been conducted as part of environmental studies into various development proposals. The Navin Officer Heritage Consultants (2010) study for the South Jerrabomberra project compiled a summary of the archaeological assessments within NSW up to that point. There is no requirement therefore to provide all of that information here in its entirety. Table 1 provides a summary of the results for the heritage studies undertaken in the local area with additional information provided from the ACT, which is also of relevance, being within the same Jerrabomberra valley region.

Table 1. Summary of previous heritage assessments in the district

| Reference                | Location                                      | Area/Site                                     | Results                                                                 | Comments                                       |
|--------------------------|-----------------------------------------------|-----------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------|
| Lewis 1984               | Jerrabomberra Park                            | 400ha                                         | 2 artefact scatter                                                      | Thick ground cover, poor visibility            |
| Access Archaeology 1992  | Jerrabomberra Creek                           | 4km section of creek flats                    | 3 isolated artefacts                                                    |                                                |
| Klaver 1997              | Hume                                          | 200ha                                         | 3 artefact scatters, 6 isolated artefacts, 1 possible quarry            |                                                |
| Saunders 1999            | Symonston                                     | Block 2 Section 102                           | 2 PADs                                                                  |                                                |
| NOHC 2001                | Symonston                                     | 2 PADs Block 2 section 102                    | Nothing found                                                           | Revise site location model                     |
| Walshe 1994              | Hume                                          | 30ha                                          | Nil                                                                     |                                                |
| Kuskie 1994              | Hume                                          | Block 2 Section 6                             | Nil                                                                     |                                                |
| Avery 1997               | Hume                                          | 27.5ha                                        | Possible scarred tree                                                   |                                                |
| Barber 2000              | Hume, Tuggeranong and Jerrabomberra districts | 800ha                                         | 8 artefact scatters, 9 isolated artefacts, 17 PADs, 2 scarred trees     | Poor visibility                                |
| AASC 2003                | Hume                                          | Salvage HA11, and testing PAD1 and PAD2       | 35 artefacts from HA11, 1 artefact from PAD1, 13 artefacts from PAD2    |                                                |
| Hughes et al 2007        | Hume                                          | HID 1391 (HA11) and HID1395 (PAD2) monitoring | 300 artefacts recovered from grader scrapes                             | Recommend to conserve if possible              |
| NOHC 2004a               | Hume                                          | Emergency Services Facility                   | Nil                                                                     |                                                |
| NOHC 2004b               | Hume                                          | ACT Prison                                    | 1 PAD (JPAD1)                                                           |                                                |
| NOHC 2005                | Hume                                          | JPAD1                                         | Grader scrape and 8 test pits - Nil                                     |                                                |
| NOHC 2003                | Tralee – north and south                      | 229ha                                         | 1 artefact scatter, 1 PAD                                               |                                                |
| NOHC 2009                | Tralee north and south                        |                                               | 3 artefact scatters, 3 isolated artefacts                               | Review of 2003 study                           |
| NOHC 2014                | South Jerrabomberra                           | Forrest/Morrison                              | 2 artefact scatters, 2 artefact scatters with PAD, 2 isolated artefacts |                                                |
| AHMS 2010                | Hume                                          | Stonyhurst                                    | PAD 2 – 12 pits<br>SD09- 2 pits                                         | 1 artefact<br>1 artefact                       |
| O'Sullivan and Huys 2010 | Hume                                          | HW1/PAD2                                      | 18 x 0.5x0.5m pits, 5sqm trench                                         | 3 artefacts from pits, 9 artefacts from trench |

| Reference             | Location | Area/Site                                                 | Results                                                               | Comments                                                                                                    |
|-----------------------|----------|-----------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Huys 2011             | Hume     | PAD1 (100m from Dog Trap Ck), PAD2 (50m from Dog Trap Ck) | 15 x 0.5x0.5m pits<br>10 x 0.5x0.5m pits                              | 1 artefact<br>1 artefact                                                                                    |
| Huys and Collins 2012 | Hume     | Site 5                                                    | Stage 1-21 x 0.5x0.5m test pits, Stage 2 -2 x 2x1m, 4 x 1x1m trenches | Stage 1 = 19 artefacts, Stage 2 = 21 stone artefacts<br><br>Potential use of ceramics and glass for flaking |

As a result of these studies, it is possible to develop a model of Aboriginal site location within the district, including the broad Jerrabomberra Creek valley. The model is not definitive, nor is it able to account for all human behaviours but it does establish a set of parameters to use when identifying areas likely to contain Aboriginal sites. The model is largely based on that developed by Flood (1980) and refined in particular by Barber (2000) and NOHC 2014. The model suggests that;

- open artefact scatters are the most common site type and most likely to be found in areas of level, well-drained elevated ground, such as spur and ridge crests, terraces, and elevated creek banks;
- the larger artefact scatters are most likely to be found within 100-150m of major drainage lines;
- where artefact scatters are found away from the major creek lines, they tend to be smaller and lower in density and situated on low gradient basal slopes or low gradient spur slopes;
- major ridgelines which could serve as natural access routes contain artefact scatters;
- suitable topographic features in lower valley contexts in proximity to the treeline may be preferred to otherwise suitable topographic locations in mid valley contexts, (NOHC 2001);
- sites are more often found in locations away from cold air drainage, within sheltered areas from the prevailing winds and with an easterly or north easterly aspect (Flood 1980);
- scarred trees may occur wherever old growth trees of sufficient age have survived, and
- stone procurement sites may occur where suitable rock outcrops on the surface.

The Due Diligence assessment process is primarily a desktop exercise, using available information such as the AHIMS search results and relevant archaeological reports that have been previously completed in the area. The AHIMS register search revealed that there were heritage sites in the surrounding district, recorded as part of assessments undertaken for other subdivision projects.

Open artefact scatters are the most common site type to be found in the area. These types of sites are characterised by stone artefacts lying in clusters on the open ground. Artefact scatters can represent overnight camps, specific manufacturing or maintenance activities, base camps or a combination of all these. In addition there is likely to be a sparse 'background' scatter of artefacts "between nodal activity areas which the [larger] sites represent" (Byrne 1991:385). Scatters can range from 1 to 100 artefacts but most are small and less than 30 artefacts. The background scatter of artefacts referred to may take the form of Isolated Artefacts, which are artefacts found with no apparent association with any others.

The archaeological studies carried out by other archaeologists as noted above suggest that there is some potential for the subject areas to contain archaeological material in the form of stone artefacts. In NSW all Aboriginal artefacts (objects) are protected by the *NSW National Parks and Wildlife Act*.

The other site type that might be expected in the area is scarred trees. These are trees that have had bark or wood removed for a variety of purposes such as carrying dishes, shields or shelter. Scarring of trees will only be found on trees that are of sufficient age to have been a mature tree when such traditional practices were carried out. This means in effect that trees need to be over 150 years old and as much of the area has been cleared over the last 150 years of European occupation, old trees that retain cultural scars are rare.

## **6.2 Archaeological Inspection Results**

### **6.2.1 Survey Aims**

A visual inspection of the study area was carried out on the 13-14 March 2014. The inspection was not designed to be a comprehensive archaeological survey. The aims of the inspection were to:

- locate and assess the accuracy and integrity of previously recorded archaeological sites;
- assess the study area for intact landforms that may contain archaeological sites;
- record any identified archaeological sites to a basic level;
- assess the extent and level of previous disturbance in relation to landforms and the potential for archaeological sites to remain, and
- identify the archaeological potential for remaining areas of undisturbed land.

### **6.2.2 Survey Coverage**

Although the survey was not comprehensive, nonetheless, 20km of transects were walked across the study area, providing an estimated survey coverage of 10 hectares (based on 5m view width), or 7.1% of the study area. The effective coverage however is less than this, as the generally poor visibility conditions due to grass cover, reduced the opportunity to view the ground surface. On average, the incidence of exposures across the survey transects was about 30% and within those exposures, the average archaeological visibility was 25%. Thus the effective survey coverage of the study area was only 750 sqm, or 0.05% of the study area. Despite this apparent low number, the survey was considered effective as a number of sites were relocated and a number of new sites recorded.

### **6.2.3 Survey Results**

There were ten previously recorded Aboriginal site locations within the boundaries of the current study area at South Jerrabomberra, these are shown in table 2. Of those, five were relocated with the presence of artefacts, the other five had no visible artefacts present at the time of survey. The nature of small artefact scatters, in particular isolated finds is that from year to year, the artefacts may be hidden, by grass or soil, or exposed by stock, erosion or other animals. The absence of artefacts during this survey therefore does not mean that the site is no longer extant.

In addition to the sites previously recorded and relocated, another eight sites were identified. These are also shown in Table 2. The location of all sites is shown in Figure 5 and photos of the new sites are shown in Appendix A. The site numbering system established by NOHC was continued for this project to avoid confusion.



Table 2. Summary of Aboriginal Sites within Study Area

| Site Name | Recorder  | Site Content              | Topographic Location                                           | Parcel | Current inspection results                                                         |
|-----------|-----------|---------------------------|----------------------------------------------------------------|--------|------------------------------------------------------------------------------------|
| SJ1       | NOHC 2014 | 4 artefacts and PAD       | Creek bank and terrace                                         | 1      | No artefacts relocated- location accurate, has PAD                                 |
| SJ2       | NOHC 2014 | 6 artefacts and PAD       | Low gradient spur crest                                        | 1      | No artefacts relocated- location accurate, has PAD                                 |
| SJ3       | NOHC 2014 | 12 artefacts and PAD      | Broad level spur crest                                         | 1      | 1 artefact found, accurate location, has PAD                                       |
| SJ4       | NOHC 2014 | 1 artefact                | Low gradient simple slope                                      | 1      | No artefacts relocated, no significant PAD                                         |
| SJ5       | NOHC 2014 | 3 artefacts and PAD       | Spur crest                                                     | 1      | 3 artefacts found, location accurate, some PAD remaining                           |
| SJ6       | NOHC 2014 | 1 artefact                | Low to moderate gradient mid/upper slope                       | 1      | No artefacts relocated                                                             |
| SJ7       | NOHC 2014 | 2 artefacts               | Low gradient lower slope                                       | 1      | No artefacts relocated, possible PAD                                               |
| SJ8       | NOHC 2014 | 3 artefacts and PAD       | Low gradient lower slope                                       | 1      | No artefacts relocated, possible PAD                                               |
| SJ10      | NOHC 2014 | Over 40 artefacts and PAD | Lower slope/valley bottom interface adjacent to Dog Trap Creek | 1 & 2  | Over 30 artefacts noted, location accurate, has PAD                                |
| SJ11      | NOHC 2014 | 3 artefacts and PAD       | Very gentle gradient lower slope                               | 1      | No artefacts relocated                                                             |
| SJ12      | NOHC 2014 | 3 artefacts and PAD       | Low gradient lower slope/valley bottom interface               | 1      | 1 artefact relocated, location accurate, has PAD                                   |
| SJ13      | NOHC 2014 | 3 artefacts and PAD       | Lower slope/valley bottom interface                            | 1      | 1 artefact relocated, location accurate, possible PAD but much disturbance in area |

| Site Name  | Recorder    | Site Content         | Topographic Location                                                  | Parcel | Current inspection results                                                 |
|------------|-------------|----------------------|-----------------------------------------------------------------------|--------|----------------------------------------------------------------------------|
| SJ14       | NOHC 2014   | 17 artefacts and PAD | Low gradient creek bank                                               | 1      | 5 artefacts relocated, location accurate, PAD is minimal, highly disturbed |
| SJ15       | IHE 2014    | 1 artefact           | Modified ground                                                       | 2      | Situated on imported fill of landing ground                                |
| SJ16       | IHE 2014    | 1 artefact           | Very low gradient lower slope                                         | 2      | Adjacent to fill area                                                      |
| SJ17       | IHE 2014    | 1 artefact and PAD   | Flat/low gradient mid valley slope adjacent to drainage line          | 1      | Potential for deep deposits                                                |
| SJ18       | IHE 2014    | 1 artefact and PAD   | Edge of basal slope of micro spur, within mid/lower basal hill slopes | 3      |                                                                            |
| SJ19       | IHE 2014    | 2 artefacts and PAD  | Moderate gradient mid side slope of wide spur                         | 1      |                                                                            |
| SJ20       | IHE 2014    | 1 artefact           | Moderate gradient mid to upper side slope of spur                     | 1      |                                                                            |
| SJ21       | IHE 2014    | 1 artefact and PAD   | Break of slope on lower slope                                         | 2      | Broad area of PAD                                                          |
| SJ22       | IHE 2014    | 1 artefact and PAD   | Low gradient spur slope within broader mid-lower valley slope context | 3      |                                                                            |
| Tralee IF1 | OZ Ark 2012 | 1 artefact           | Low to moderate gradient mid slope                                    | 3      | No artefacts relocated, highly eroded area                                 |
| Tralee IF2 | OzArk 2012  | 1 artefact           | Moderate to steep side spur slope                                     |        | Situated just on outside of boundary fence- not within study area          |

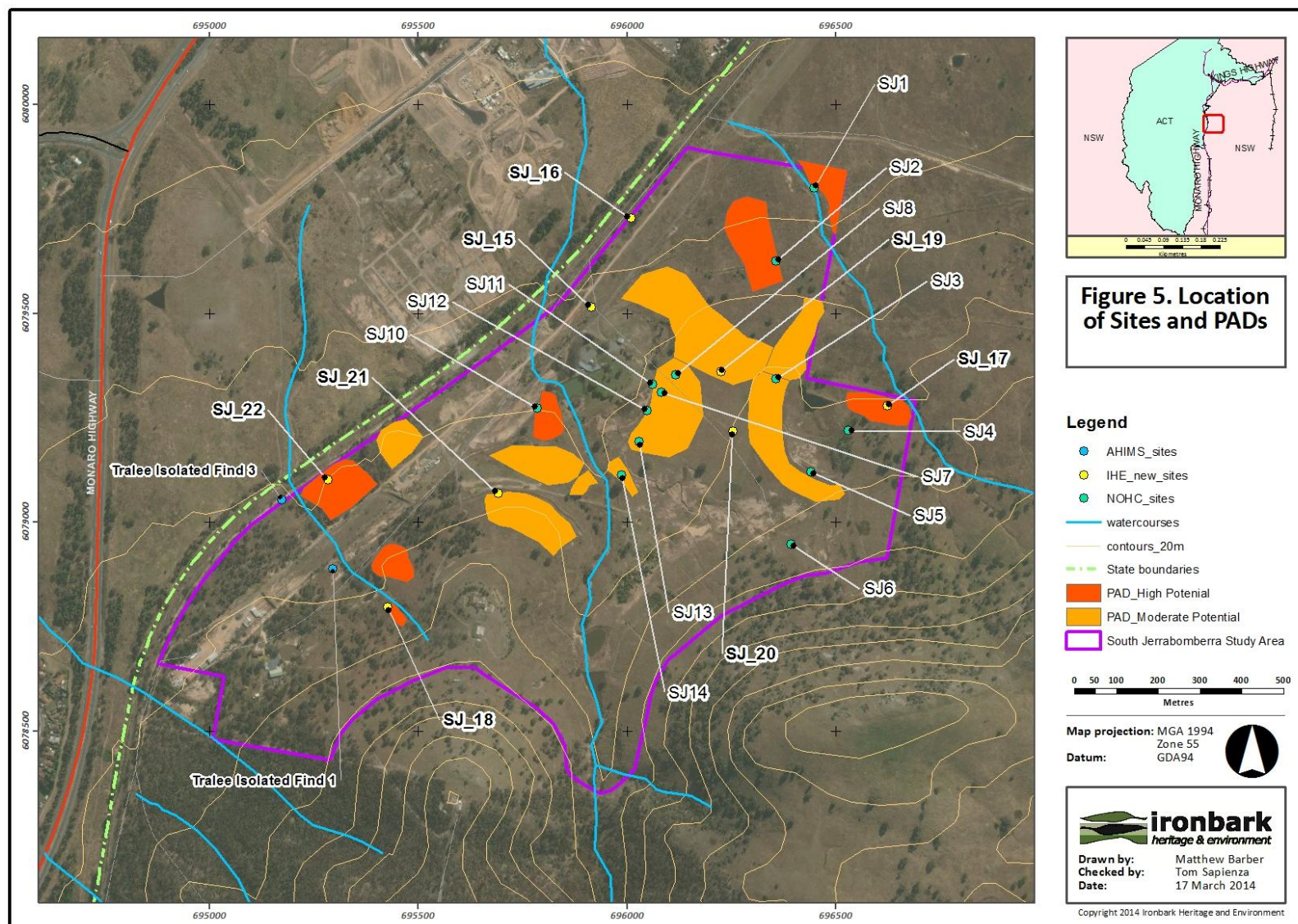


Figure 5. Location of Sites and PADs

The identification of 23 locations of Aboriginal archaeological material within the study area provides a good indication that the area was well utilised by Aboriginal people. There is also a very high probability that additional artefacts will occur across the study area. The identification of areas of potential archaeological deposit is therefore based on the evidence for Aboriginal occupation of certain landforms and the remaining potential for those landforms to contain subsurface material. It is likely that even though there are 11 isolated artefacts, each represents a location where there is potential for other artefacts to be found. Indeed, even where there are no artefacts identified in a particular landform, the presence of sites in similar landforms would indicate that there is a high probability for sites to occur within the same landform.

The density of artefactual material is likely to vary considerably. There are small topographic features that may serve to concentrate activity and which can therefore result in higher density. There are also broad landforms, such as extensive low gradient basal or lower slopes, which were suitable for Aboriginal occupation. However, such occupation may have been spread out across these large landforms and therefore artefact densities may be lower by comparison. Nevertheless, the presence of Aboriginal sites in all of these locations is important in establishing the nature of occupation and the use of the area by Aboriginal people.

Based on the results of the field survey, the identification of Aboriginal artefacts and an appraisal of the landforms present and the areas of modified or heavily disturbed ground, a series of PADs have been identified. These are mapped in Figure 5. The PADs with high potential are those where the topographic setting is likely to provide a concentration of occupation, which assuming revisits over hundreds or thousands of years leads to a concentration of archaeological materials. The high rating therefore applies not only to the potential for the area to contain a site, but also indicates the likely higher density, compared to other areas.

The PAD areas of moderate potential are those landforms that are broader in area, not specifically concentrating any occupation of Aboriginal people. As a result, the presence of artefacts and sites in these areas is more likely to be spread out, dispersed across the landform and therefore less dense.

The areas in between these PADs are not necessarily devoid of archaeological material. As evidence by the sites SJ6, SJ15, SJ16 and SJ20, artefacts can occur across all landforms. It is important therefore to realise that Aboriginal occupation evidence, in the form of stone artefacts, is likely to occur across the entire South Jerrabomberra study area. The management implications therefore must examine the areas where scientific research value is best achieved and where further assessment would provide information about the nature and character of the Aboriginal use of the area. See section 7.0 for further discussion.

### **6.3 Non Aboriginal Heritage**

The NOHC (2014) study examined the non-Aboriginal heritage for their study area. They provide a rough chronology of when each land portion was bought and sold and how the various parcels changed from one owner to another. There is no merit in providing the same information here. The main point to note is that the area was settled very early on, with squatters and then selectors arriving in the Queanbeyan region in the 1820's. The development of the 1861 Robertson Land Act and the subsequent division of land into smaller blocks meant that there has been a long history of European occupation of the area.

The non-Aboriginal heritage of the study area is likely to be mainly comprised of agricultural and land management items such as old fences, access roads, ploughlands and animal husbandry places such as dips and yards. There is also some potential for remnant hut platforms, chimneys and associated sheds and farm buildings.



It should be noted that for the current investigation, the homestead paddocks of the three private houses located within the study area were not entered. There is potential for historic sites or items to be present within these areas that were not identified during the field inspection.

There was one potential non-Aboriginal heritage site located by NOCH. This was some stonework in a paddock and was of indeterminate origin. No new evidence for the origin of this item was observed during the current inspection.

Within the Morrison/Forrest home paddock, a free standing stone chimney and fireplace were observed, the remnant of a building. The paddock was not entered and so this item will need to be inspected and assessed before any conclusion can be made as to its origin and potential significance.

## 7.0 Further Assessment

### **Step 5. Is further investigation or impact assessment required?**

If, after the desktop research and visual inspection is completed, it is evident that harm will occur to Aboriginal objects or heritage places if the development proceeds, then further and more detailed assessment is required. If however, the research and inspection conclude that there are no or unlikely to be any objects impacted by the work, then the work can proceed with caution.

This study has found that the presence of Aboriginal archaeological material is spread across the study area. It is unlikely that all such material could be avoided if the area is to be developed for residential housing. Before any work can occur in this area, the proponent will need to obtain an Aboriginal Heritage Impact Permit (AHIP) that allows disturbance of the objects. In order to obtain an AHIP, the proponent will need to engage in Aboriginal community consultation and undertake a comprehensive Aboriginal Cultural Heritage Assessment (ACHA) for the development site.

The high potential for subsurface archaeological material to be present in a number of areas means that additional work in the form of subsurface investigation should be carried out prior to any disturbance of these areas. Subsurface testing could be undertaken with or without an AHIP, depending whether certain criteria are met and certain procedures outlined in the relevant OEH guidelines are followed.

If testing was undertaken without an AHIP, only hand excavation would be permitted. If mechanical excavation was deemed an appropriate method to investigate the area, an AHIP would be required. Either way, before any development of the area proceeds, further archaeological assessment is required in order to assess the cultural and scientific significance of the sites and the cultural values of the area.

As noted above, there are differences in the degree of archaeological potential across the study area. It has been noted that there are areas of high archaeological potential (high rating for potential and likely high density) and moderate archaeological potential (moderate rating for potential and for moderate density). Between these areas, there is also the potential for a lower density of artefactual material to occur.

Development of the area as a whole would see impacts to Aboriginal cultural heritage. It is considered, based on the widespread occurrence of archaeological material, that an assessment of the impacts to that heritage and its values would require a landscape based approach. This means in effect that in order to understand the nature, distribution and character of the Aboriginal heritage, a comprehensive subsurface testing program is required. The lack of concentrated artefact scatters, apart from SJ10 and potentially SJ14, suggests that stone artefacts are spread across the area. Only a broad testing methodology would be adequate to identify the varying densities and to adequately explain the significance and values of the Aboriginal heritage, as required in order to obtain an AHIP.



It is suggested therefore, that a testing program, involving excavation of a range of PADs, and the low density areas in between would be warranted for this landscape. It is not possible to accurately explain the nature and significance of the heritage values through concentrating on one or two “sites”, as may be conventionally used in Aboriginal heritage assessments.

## 7.1 Assessment of NOHC Reports

Part of the brief for this project required the consultant to review the adequacy of the Navin Officer Heritage Consultants reports, of 2013 and 2014. The 2013 report was a desktop overview of an earlier report, which was in turn amended to form the 2014 report. These reports are restricted to the Morrison and Forrest properties, equating to Parcel 1 of the current investigation. The 2013 report therefore simply provided an excerpt in essence from the earlier report.

The 2014 report by NOHC was found to be comprehensive and entirely adequate for the purpose and aims of that investigation. The report dealt with both the Aboriginal and non-Aboriginal heritage issues, providing a summary of background information and a detailed field survey program, which yielded 102 heritage items across the 733ha of their study area.

The NOHC study only dealt with Parcel 1 of the current study area but recorded 14 places, comprising 13 Aboriginal sites and a likely non-Aboriginal site. The current investigation has identified another two sites within their study area. This is not surprising given the nature of the sites and it should be noted that the current inspection did not relocate artefacts at seven of the NOHC sites.

They provided a series of recommendations, which were appropriate to the time of reporting but rightly updated the recommendations in relation to changes to the National Parks and Wildlife Act and its Regulations. The recommendations provided in 2013 desktop report are suitable for the level of knowledge at the time.

## 8.0 Conclusions

The assessment of the three parcels of land at South Jerrabomberra has shown the presence of 23 Aboriginal heritage sites and the potential for non-Aboriginal sites to also occur. The intention of this study was to provide Queanbeyan City Council with information about the location and extent of heritage sites and the places where heritage sites are unlikely to occur.

With regard to the areas of disturbance, they have been mapped and are shown in Figure 3. This mapping shows that extensive areas of disturbance do occur, where there is negligible potential to find significant heritage sites. However, it has also been shown that the margins of these areas, where the land surface has not been heavily disturbed, contain Aboriginal heritage sites. The pattern of the distribution of these locations indicates a widespread presence of Aboriginal artefacts, although they are likely to be in highly variable densities.

The project was also tasked with providing some guidance on what process is required to advance the proposal to development application stage. The presence of Aboriginal heritage relics across each of the land parcels means that any development (outside of the heavily modified areas) will likely impact the Aboriginal heritage of the area. In order to legally impact such locations, an Aboriginal Heritage Impact Permit is required. In order to obtain an AHIP, a Cultural Heritage Assessment Report (ACHAR), detailing the scientific and cultural values of the sites is required. In order to obtain an AHIP, the local Aboriginal community must be involved in meaningful consultation and engaged in assessing the values of the sites and the landscape in which they are found.

In tandem with the engagement of the local Aboriginal community, the QCC will need to investigate the extent and scientific values of the sites, through a program of subsurface testing.

The following guidelines, developed by OEH provide an outline of the steps required to obtain an AHIP to impact Aboriginal heritage sites.

- *Due Diligence Code of Practice*  
<http://www.environment.nsw.gov.au/resources/cultureheritage/ddcop/10798ddcop.pdf>
- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*  
<http://www.environment.nsw.gov.au/resources/cultureheritage/20110263ACHguide.pdf>
- *Code of Practice for Archaeological Investigations*  
<http://www.environment.nsw.gov.au/resources/cultureheritage/10783FinalArchCoP.pdf>
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*  
<http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf>

In summary, the following is required to obtain an AHIP to impact the sites for development.

1. Conduct Aboriginal consultation through advertising for stakeholders and engaging in consultation about the development proposals and to seek information about the cultural values of the area.
2. Assess the subsurface extent and content of the Aboriginal sites. This can either be done through mechanical excavation (where an AHIP is required) or through hand excavation (where no AHIP is required but Aboriginal consultation must still be conducted).
3. Complete and ACHAR, detailing the results of the subsurface investigations, the results of Aboriginal consultation and detailing the significance of the sites. The report must also show how the sites are to be avoided or impacts mitigated by the development.
4. Apply for an AHIP to impact the sites (OEH has a turn-around time of 60 days for AHIP applications). The AHIP is likely to contain a number of conditions, which may or may not agree with the recommendations in the ACHAR. OEH is responsible for issuing the AHIP and its conditions.

By following the Due Diligence process (the NOHC report and this current report), QCC has shown it is complying with the NPWS Act and Regulations. The onus is on the QCC to follow through with the recommendations if development is to proceed.

It is a requirement of the consultant, under Section 89a of the Act to submit Site cards and it is also an offence to disturb, damage or destroy an Aboriginal object. QCC should inform the landowners that the sites should not be interfered with in any way.

This report, along with those by NOHC (2013, 2014) should be seen as providing sufficient detail and assessment to allow QCC to proceed with planning for the rezoning and development of the area. The process of investigating the sites identified can be undertaken concurrently. Any future recommendations about the management of the sites, once they have been fully investigated and assessed, could be implemented prior to development proceeding.

## 9.0 Recommendations

The NOHC recommendations from their 2013 desktop report for the Morrison/Forrest (Parcel 1) property are appropriate for the study area and are reproduced here in full.

Based on current knowledge and OEH requirements, it is recommended that:

1. The OEH Aboriginal cultural heritage consultation requirements for proponents 2010 (NSW DECCW 2010) be enacted.
2. A program of archaeological subsurface testing at all Aboriginal sites associated with potential archaeological deposits should be undertaken. Excavations for the subsurface testing program should be conducted in accordance with the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales.

The results of the subsurface testing will determine the need for any additional archaeological investigations such as salvage of archaeological deposits.

3. Salvage of surface artefacts, and subsurface deposits (where necessary) should be undertaken prior to any development impacts.
4. An Aboriginal Heritage Impact Permit (AHIP) will be required for all salvage works and development impacts.
5. A combined Archaeological Assessment report and Aboriginal Cultural Heritage Assessment report (ACHAR) will be required in support of an AHIP application.
6. Further investigation should be undertaken into the item of unidentified origin (SJ9). This should include more detailed archival and oral history research to ascertain the origin and significance of the site, which will then inform appropriate management and impact mitigation strategies. If the origin and significance of this site cannot be effectively determined through desktop research then further field investigations may be required. (NOHC 2013:2)

Additional recommendations for the current assessment of all land parcels are included below.

1. The subsurface investigation into the Aboriginal sites should examine all landforms, the areas of PAD and the intervening ground, using a landscape based sampling testing strategy.
2. QCC should remain open to the possibility of designing any future development with open space to preserve areas of high cultural value, if the additional investigations identify such areas.
3. The stone chimney on the Morrison/Forrest property should be investigated through archival research and field inspection if required.
4. All works must remain within the area inspected by this due diligence. Any work outside this area will require further assessment.

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## Appendix A: Site Photos

|                                                                                               |                                                                                                        |
|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
|              |                      |
| Plate 1. View NNE to SJ15, artefact at bag. Note level ground of airstrip, imported material. | Plate 2. View SW to SJ16, artefact at bag.                                                             |
|              |                      |
| Plate 3. View W to SJ17, artefact at bag on spoil from wombat burrow.                         | Plate 4. View SE to SJ18, artefact at bag on right, note micro spur to left – PAD.                     |
|            |                    |
| Plate 5. View West downslope to SJ19, on exposure on left.                                    | Plate 6. View West downslope to SJ20.                                                                  |
|            |                    |
| Plate 7. View NNE to SJ21 at bag in front of contour bank. Area is broad PAD.                 | Plate 8. View South to SJ22, artefact in exposure cutting, note micro spur PAD at trees in background. |