PastTraces Heritage Consultants

Aboriginal Cultural Heritage Due Diligence Assessment

12 TAIT STREET GOULBURN NSW – LOT 47 DP1204727

Report Prepared for SRLE

23rd January 2019

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Document Verification

12 Tait Street Goulburn NSW – Lot 47 DP1204727

Past Traces Heritage Consultants

Project Number:	2019-17
Project File Name:	Due Diligence 14 Tait Street Goulburn

Revision	Date	Prepared by (name)	Reviewed by (name)
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2	23/01/2019	Lyn O'Brien	

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ABBREVIATIONS

AHIMS – Aboriginal Heritage Information System

AHIP – Aboriginal Heritage Impact Permit

GSV – Ground Surface Visibility

OEH – NSW Office of Environment and Heritage

PAD – Potential Archaeological Deposit

EXECUTIVE SUMMARY

This report provides Aboriginal heritage due diligence advice for the rezoning application for subdivision of Lot 47 DP1204727 Goulburn NSW. The land parcel is currently used as rural grazing paddocks. The lot is located on the southern outskirts of the town of Goulburn, north of the Mulwaree River on approximately 13 hectares at 12 Tait Street Goulburn. The property has been only moderately impacted by the construction of the current structure, associated infrastructure and ongoing use of the property. The study area is shown on Figure 1 in a regional context, and detail in Figure 2. The current proposed subdivision layout is provided in Figure 3.

This Due Diligence Aboriginal heritage assessment has been undertaken in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (DECCW 2010a).

The proposal would involve the following impacts:

- Construction of housing foundations involving removal of top and subsoils
- Construction of access roads
- Connection to infrastructure, such as water, sewerage, communications and electricity
- Installation of boundary fencing and potential impacts from landscaping

One Aboriginal heritage site (51-6-0019) and no areas of Potential Archaeological Deposit (PAD) were identified within the project area based on a review of previous reports.

Field survey was undertaken across the project area in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010b). The field survey covered the entirety of the project area. Ground visibility was moderate at the time of field survey, identifying two additional Aboriginal heritage sites (51-6-0844 and 51-6-0845) with associated areas of PAD.

As a result of the field survey and background research completed for the project, the following recommendations have been developed:

Recommendation 1: Avoid impacts to area of heritage sites 51-6-0019, 51-6-0844 and 51-6-0845.

Impacts should be avoided to Aboriginal heritage sites identified within the project area. If works are to proceed in the vicinity of sites or areas of PAD then barrier fencing with a boundary of 10m must be installed and no impacts can occur to the site and associated area of PAD. The location of boundary fencing should be installed by a qualified heritage consultant with the participation of the Local Aboriginal Land Council. Barrier fencing must remain until any works are completed in the site vicinity.

Recommendation 2: If impacts cannot be avoided then further investigation is required at Aboriginal heritage sites and areas of PAD to support an application for an AHIP.

If impacts cannot be avoided to Aboriginal heritage sites (51-6-0019, 51-6-0844 and 51-6-0845) then subsurface testing of the area of the associated PADs is required to determine the extent of heritage impacts. For subsurface testing to proceed a detailed Aboriginal Cultural Heritage Assessment including consultation with the Aboriginal community will need to be undertaken. Following investigation, an Aboriginal Heritage Impact Permit (AHIP) approved by NSW OEH will be required prior to any works commencing in the vicinity of the heritage sites.

Recommendation 3: Works to proceed without further heritage assessment with caution in areas classed as holding low potential for heritage sites.

The development proposal should be able to proceed with no additional archaeological investigations in all other areas of the project area. No further areas of potential archaeological deposits or heritage sites have been identified within the development area and the potential for Aboriginal heritage objects within the development area has been assessed as low.

Recommendation 4: Discovery of Unanticipated Aboriginal cultural material.

All Aboriginal places and objects are protected under the *NPW Act 1977*. This protection extends to Aboriginal material that has not been previously identified, but might be unearthed during construction activities. In the event that Aboriginal material is discovered during construction the following steps should be undertaken:

- Cease Work: Works must cease in the vicinity of the find and a fenced buffer zone of 10m around the find be erected.
- Notification: OEH must be notified of the find.
- Management: A qualified heritage consultant should be engaged to assess and record the find in accordance with the legislative requirements and OEH guidelines. If the find is Aboriginal in nature, consult with OEH in regards to appropriate steps and management. This would usually involve consultation with the Aboriginal community and may require application for an Aboriginal Heritage Impact Permit.

Adherence to these recommendations will result in the low potential for the proposal to negatively impact on Aboriginal heritage values.

Recommendation 5: Discovery of Human Remains

In the unlikely event that human remains are discovered during the construction, all work must cease. OEH, the local police and the appropriate LALC should be notified. Further assessment would be required to determine if the remains are Aboriginal or non-Aboriginal.

Recommendation 6: Alteration of impact footprint

Further archaeological assessment would be required if the proposal activity extends beyond the area of the current investigation.

1 INTRODUCTION

This report provides Aboriginal heritage due diligence advice for the rezoning application for subdivision of Lot 47 DP1204727 Goulburn NSW. The land parcel is currently used as rural grazing paddocks. The lot is located on the southern outskirts of the town of Goulburn, north of the Mulwaree River on approximately 13 hectares at 12 Tait Street Goulburn. The property has been only moderately impacted by the construction of the current structure, associated infrastructure and ongoing use of the property. The study area is shown on Figure 1 in a regional context, and detail in Figure 2. The current proposed subdivision layout is provided in Figure 3.

This Due Diligence Aboriginal heritage assessment has been undertaken in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (DECCW 2010a).

The proposal would involve the following impacts:

- Construction of building foundations involving removal of top and subsoils
- Connection to infrastructure, such as water, communications and electricity
- Installation of boundary fencing and potential impacts from landscaping

These works are high impact and would have a negative impact on any Aboriginal heritage located within the project boundary. Aboriginal heritage sites may be located on the surface or subsurface in areas of high potential for the preservation of archaeological remains of past usage by Aboriginal groups.

This Due Diligence Assessment has been undertaken to assess the potential impacts of the proposed works on Aboriginal heritage within the project boundaries and provide management strategies to minimise or remove any potential impacts.

1.1 PROJECT OBJECTIVES

The following is a summary of the major objectives of the due diligence assessment:

- Identify Aboriginal objects and places known to exist within the Project Area through a search of the Aboriginal Heritage Information Management System (AHIMS) maintained by the Office of Environment and Heritage (OEH).
- Assessment of Landscape for landforms that may contain potential for unrecorded sites and to determine level of disturbance of landscape features.
- Undertake site visit to visually inspect areas identified for impact, or areas holding potential and to verify levels of disturbance. If registered sites (AHIMS) occur within the project area, record and assess condition.
- Complete due diligence report containing recommendations to minimise potential impacts to heritage values within the project area.

1.2 ABORIGINAL CONSULTATION

Consultation with the Aboriginal community is not a requirement of the Due Diligence Code and this Due Diligence assessment has been undertaken without further consultation with the LALC. If impacts to Aboriginal heritage are found to occur as a result of the development then progression to a detailed Aboriginal Heritage Assessment Report with full consultation will be required. Consultation will be undertaken with the LALC and the wider Aboriginal community as required by NSW Office of Environment and Heritage (2010) if impacts are found to be unavoidable.

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Figure 1: Regional Context

Legend

Study Area

N

1:35,000

0 0.2 0.4 0.8 1.2 1.6

Kilometers
Coordinate System:
GDA 1994 MGA Zone 55

Imagery: © Nearmap

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Figure 2: Study Area

Legend

Study Area

N

1:2,500

0 15 30 60 90 120

Meters
Coordinate System:
GDA 1994 MGA Zone 55

Imagery: © Nearmap

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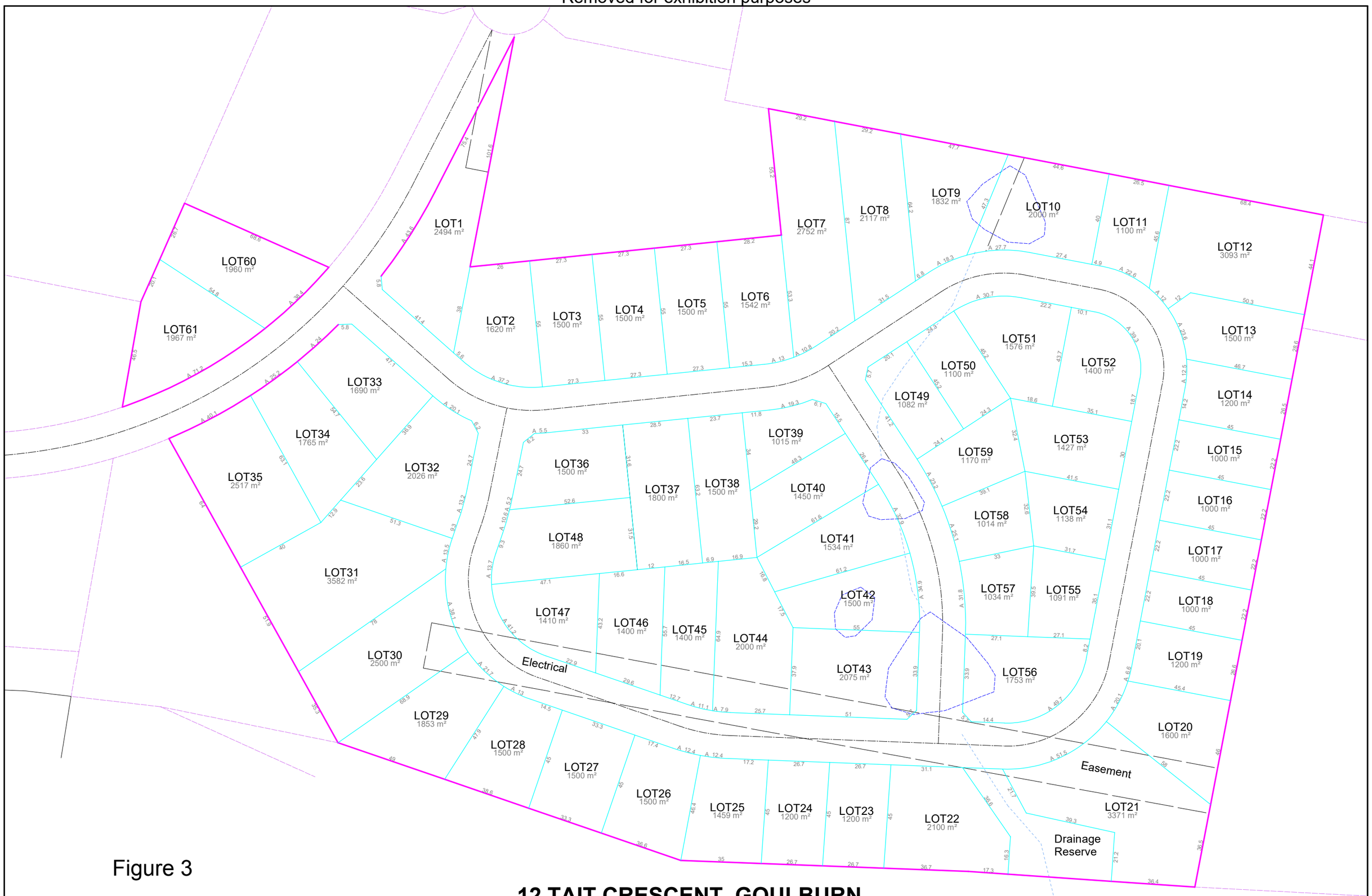

Figure 3

12 TAIT CRESCENT, GOULBURN
SRLE T01802-SK01 CONCEPT LOT LAYOUT/A 18 JUNE 2018

2 DESKTOP ASSESSMENT RESULTS

2.1 AHIMS SEARCH

A search of the OEH AHIMS database was undertaken on the 27th November 2018 covering the 1km surrounding area centred on the project area. The extensive search revealed one previously recorded heritage site within the project area (51-6-0019 – G15) with an additional 17 sites within the wider search area.

The sites located in the wider search area (PADS) conform to the wider site predictive model for the Goulburn Region (Fuller 1989) consisting of small artefact scatters and isolated finds of stone artefacts. This model of Aboriginal site occupation predicts small sites located on level ground or terrace features in proximity to creek lines, with larger sites with subsurface deposits being present in proximity to water features such as creek confluence or major water sources. This predictive model is discussed in more detail in Section 2.2. The surrounding sites were all located as part of the Goulburn By-Pass options assessments carried out in 1983. Since then the sites within the Hume Hwy location have been destroyed under an Aboriginal Heritage Impact Permit (AHIP). The location of previously recorded sites and areas of PAD are shown on Figure4 and detailed in Table 1.

Table 1. AHIMS Site Details.

Site ID	Site name	Datum	Zone	Easting	Northing	Recorders
51-6-0008	G03	AGD	55			Koettig 1983
51-6-0015	G11	AGD	55			Koettig 1983
51-6-0010	G05	AGD	55			Koettig 1983
51-6-0011	G06	AGD	55			Koettig 1983
51-6-0012	G08	AGD	55			Koettig 1983
51-6-0013	G09	AGD	55			Koettig 1983
51-6-0014	G10	AGD	55			Koettig 1983
51-6-0016	G12	AGD	55			Koettig 1983
51-6-0017	G13	AGD	55			Koettig 1983
51-6-0040	GC04	AGD	55			Fuller 1989
51-6-0019	G15	AGD	55			Koettig 1983
51-6-0020	G16	AGD	55			Koettig 1983
51-6-0027	G07	AGD	55			Koettig 1983
51-6-0007	G02	AGD	55			Koettig 1983
51-6-0032	G23	AGD	55			Koettig 1983
51-6-0033	G24	AGD	55			Koettig 1983
51-6-0009	G04	AGD	55			Koettig 1983
51-6-0395	Ducks Lane 5 (DL5)	AGD	55			NOHC 2005

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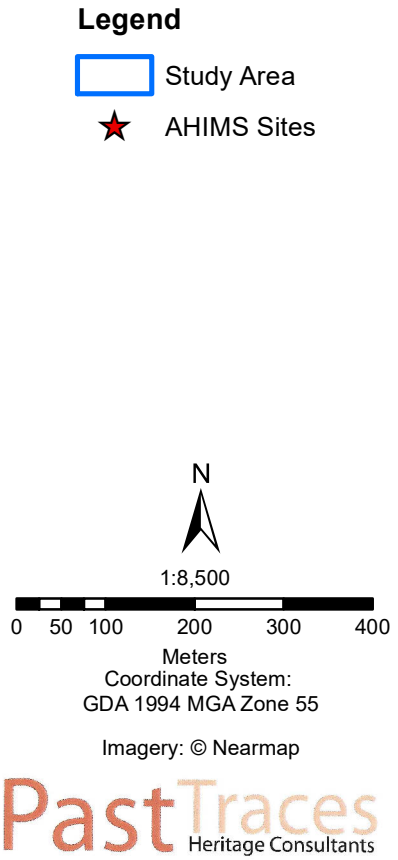
Figure 4: AHIMS



2.1.1 Aboriginal Groups within the Project Areas

The two major language group identified in the Goulburn region by Norman Tindale in his seminal work on Aboriginal tribal boundaries are the Gundungurra (Gandangara) to the north of Goulburn and the Ngunnawal people, also known as the Yass tribe, Lake George Blacks or Molonglo tribe to the south. The boundaries of the Ngunawal ran to the south east where they met the Ngarigo at the Molonglo and the Wiradjuri in the Yass region (Tindale 1974). This distribution with minor amendments is still accepted and the review of tribal boundaries undertaken in the 1990s (Horton 1996) confirmed these earlier linguistic divisions.

One of the best sources for observations of the Indigenous inhabitants of the Goulburn region is Charles MacAlister who lived in the district from the 1830s and noted many features and traditions of Aboriginal life (1907). His observations must be viewed as from a white perspective and filtered through his cultural traditions as with all cross cultural ethnography but despite these limitations his work is a valuable reference for the region. His reflections on the Aboriginal life of the region provide a glimpse of a functioning hunter and gatherer lifestyle with a cycle of repeated visits to areas at times of seasonable resource availability and a ceremonial life that imposed duties and responsibilities on members of the group.

The flat, rolling topography of the region and the lack of natural physical barriers (such as impassable gorges or rivers) would have facilitated contact and movement through the region. Broad ridgelines were often used for travelling distances through country, avoiding steep valleys and river gorges to reach resource areas. An early recorder of Aboriginal life, Govett, recorded that the Wollondilly River frontage was a focus of activity with eels, swans, ducks and other water birds being staples along with kangaroos, wallabies, possums, bandicoots, and emus (Govett 1977:29). Govett also described the practice of fire stick farming to herd the kangaroos for hunting – this also has the benefit of encouraging new growth and attracting kangaroos to specific areas. (Govett 1977:23). These observations on Aboriginal life and the role of the Wollondilly are consistent with the later remembering's of MacAlister (1907:88).

Disease followed the settlement of the area and may have preceded it with the smallpox epidemic originating in Sydney in 1789 possibly spreading throughout the region (Flood 1980:32). This disease would have decimated the Aboriginal population and was followed by Influenza in 1846. The notable decline of the number of the Aboriginal people was noted in 1845 at Bungonia and in 1848 at Goulburn by the Bench of Magistrates (Tazewell 1991:244).

2.2 PREVIOUS HERITAGE STUDIES

A large number of cultural heritage surface surveys and sub-surface excavations have been conducted throughout wider Goulburn region of New South Wales in the past 30 years. There has been an increasing focus on cultural heritage assessments in NSW due to ever increasing development, along with the legislative requirements for this work and greater cultural awareness of Aboriginal cultural heritage. This body of work allows for the development of regional settlement models; landscape usage; the use of resources; group movements; and site locations for the region. The most relevant reports for the current project are summarised below.

2.2.1 Regional Overview

The region of the project area has been extensively studied due to the high prevalence of developments within this area. Of these reports the most relevant are summarised below to provide an understanding of site location model and site formation processes in this area.

Koettig in 1983 undertook an assessment including field survey of the proposed Goulburn By-Pass covering a length of approximately 11km. This study was the first in the direct area and located 22 artefact scatters and 17 isolated finds. The sites were located within the undulating slopes all within 200 m of a water course. 54% of sites were located on slopes, 23% on ridges and 23% along creek or river flats. Only one site (G17) was large, consisting of stratified deposits of artefacts. This site was located on the eastern bank of the Mulwaree River near the junction with Gundary Creek. A model of larger sites in association with major water courses, with smaller sites near smaller creeks was formulated.

Koettig and Lance in 1986 undertook the Aboriginal Resources Planning Study for the City of Goulburn. Based on all available data they developed an Aboriginal site location model for Goulburn. Four landscape zones based on topography (major watercourse, undulating hills and plains, hills and residential areas) were assigned archaeological sensitivity ratings. A review of previously identified sites within the Goulburn region found artefact scatters were the predominant site class within the undulating hills and plains zones. The majority of these sites are located on basal slopes close to major waterways and they classified this landform as holding high sensitivity.

Koettig (1987) completed field survey and test excavation south of the current project area at the junction of Garoorigang Road and the Hume Highway. The field survey located one artefact scatter and 15 isolated finds. Test excavations then revealed two sites with a total of 80 artefacts mainly constructed on silcrete.

Fuller in 1989 was engaged by Goulburn City Council to test Lance and Koettig's 1986 model by undertaking sub surface testing at areas designated high sensitivity by the model. The results of this large excavation program, although supporting the overall model, concluded that all areas apart from level terraces or flats near major watercourses were of low potential and that further subdivisions were necessary in the undulating hills category if it was to be useful for predicting site locations.

Paton in 1990 excavated and completed salvage on the 15% of site G17 in the path of the Goulburn By Pass (Hume Highway) project. Paton's excavations recovered over 15,000 artefacts with the majority of the assemblage consisting of quartz with silcrete as a secondary material. Paton suggested that the site dated from the last 5000 years and represented a regularly visited base camp.

South East Archaeology (1996) undertook an assessment of a 47 ha rural residential development on Lots 2-4 DP835933 located 2km to the northwest of the current project area in similar landforms. One small artefact scatter and one isolated find were located 150m east of a minor drainage line.

Navin Officer Heritage Consultants undertook an assessment of the Ducks lane residential subdivision, located just north of the Hume Hwy, 1.4km from the current project area in 2006. They identified 3 sites and one area of PAD. These sites were salvaged in 2006.

Biosis in 2016 completed field survey and test excavations for the Ducks Lane proposed previously assessed by Navin Officer. One small artefact scatter was identified but both of the areas of PAD along the creek line did not contain deposits and did not confirm the predictive model of site location developed by Navin Officer and Biosis for the project.

Based on these previous studies in the immediate area the landforms with the most potential for subsurface deposits would be located overlooking the ephemeral creek lines to the Wollondilly River.

These sites would most likely consist of isolated finds or small artefact scatters and may be associated with subsurface deposits in undisturbed areas.

2.2.2 Predictive Model

Based on the previous assessments completed through the region site locations and types can be summarised as follows:

- the majority of open artefact scatters are located near creek lines, particularly on reasonably level, elevated ground and low gradient basal slopes
- Areas of small crests or ridgelines in midslopes hold potential for sites
- relatively large artefact scatters occur most frequently within 100-150m of major drainage lines, with a possible preference for creek confluences,
- artefact scatters occurring away from major creek lines tend to be small and sparse,
- scarred trees may occur wherever old growth trees of sufficient age have survived (locally at least 140-150 years); and
- stone procurement sites may occur where rock suitable for stone tool manufacture is present on the surface.

The following predictive model has been developed for the project area (Table 2). The project area is limited in size and confined to undulating slopes within moderately impacted grazing paddocks.

This site prediction model is based on:

- Site distribution in relation to landscape features within the project area
- Consideration of site type and densities likely to be present within the project area
- Potential Aboriginal use of natural resources present or once present within the project area
- Opportunities for movement through the landscape
- Soil properties.

Table 2 Site Prediction Model

Site Type	Definition	Potential to occur
Isolated finds and surface scatters of stone artefacts	Artefact sites can range from high density concentrations to sparse, low density 'background' scatters and singe finds	moderate – small scatters and isolated finds have been previously recorded near creek lines and spur crests. One previously recorded site in vicinity.
Rock Engravings	Motifs scratched or painted onto rock surfaces, usually within a rock shelter or overhang.	Nil: No such rock features are present within the project area.
Stone arrangements	Stone arrangements can include circles, lines and other patterns and usually mark ceremonial areas.	Nil: this is a rare site type and no previous studies have identified this site type as present.

Site Type	Definition	Potential to occur
Stone quarries/Ochre sources	Raw materials for lithic artefacts and ochre are gathered from these sites. They are highly valued by the community.	Nil: There are no known ochre or stone quarries identified by previous studies.
Potential Archaeological Deposits (PADS)	Sub surface deposit of cultural material	moderate– aerial photos show small areas of potential may be present along creek line
Scarred Trees	Trees with cultural modifications over 150 year old.	Low: the majority of trees appear too young to contain scars and to consist of landscaped plantings or exotic species.
Axe grinding grooves	Grooves in stone platforms created through grinding of stone implements such as axe heads	Nil: no stone platforms occur within the project area
Burials	Burials of Aboriginal persons	Nil: no deep sand deposits or soil types are present within the project area to indicate the potential for burials to occur.
Aboriginal places	Aboriginal places may not have any archaeological remains present, but are important to Aboriginal people due to their cultural, spiritual or historical associations.	Nil: There are no recorded associations for the project area.

2.3 LANDFORM AND DISTURBANCE LEVEL ASSESSMENT

The study area covers the area of impact from construction of a large machinery shed, access road, underground and overhead services, fencing and landscaping. The study area is located amidst steep to gentle gradient slopes in the western section with gentler gradient to level areas located on the eastern slopes which descend to the south.

The study area has been cleared of trees and opened for grazing. Native vegetation has been removed and low levels of erosion are present along the ephemeral creekline which bisects the project area and flows south to join a tributary creekline to the Mulwaree River. Two constructed dams are present along this section of creek line. The project area covers steep slopes descending to this creekline. The Mulwaree River is located 750m directly south of the project area. Remnant trees are present in the northern section adjacent to the boundary.

Creek flat areas and lower slopes in close proximity to water sources are considered to hold moderate potential for Aboriginal heritage sites based on their aspect (level to gently sloping). Most common site placements are located on level terraces above the water body set back from the immediate bank.

From review of aerial photos of the project area it would appear that the slopes of the majority of the project area holds low potential for unrecorded sites. Areas of moderate potential may be present in the

eastern section of the project area overlooking the creek line and in the vicinity of the previously recorded site. Determination of the area of potential and degree of disturbance in this area will be one of the major aims of the site visit and field survey.

2.4 HISTORICAL LAND USE

A search of historic parish maps and aerial photos show no historic structures located within the project area. The project area in the past was part of the Garroorigang estate, granted to John Archer Broughton in 1822. In 1857 50 acres of the estate were sold to Charles Thomas who built the Black Swan (Mulwaree) Inn. The Inn became a private boys school from 1868-1883 when it became the home of the Hume family and known as Garroorigang Homestead. The property is listed on the National Trust and NSW Heritage Register.

It would appear that the paddocks were used for grazing with no infrastructure or improvements made to the property. The 3rd Edition 1875 Goulburn parish map shows the land as belonging to WH Broughton as does the 4th Edition dated 1902.

3 FIELD SURVEY RESULTS

A site visit and field survey of the project area was undertaken on the 10th December 2018 to verify the findings of the desktop review of landforms and disturbance. The aim of the investigation was to identify heritage objects or places of potential archaeological Deposit (PAD) not previously recorded. Based upon the background research, known Aboriginal site patterning, and current aerial photography, the entire project area was inspected on foot by Lyn O'Brien.

Special attention was given to areas of higher potential along the frontage of the creek line and in the level southern slopes where the previously recorded site is located. All surveyed areas and items of interest were recorded on a topographic map of the study area (using a GPS and GDA 94 coordinates), along with levels of visibility, erosion, soil conditions, and evidence of land disturbance.

Ground surface visibility (GSV) is the percentage of ground surface that is visible during the field inspection. GSV increases in areas of exposures such as stock impact trails, roads, gates and along areas of erosion such as creek banks and dam walls. As a result surveys undertaken in areas with high exposure rates result in a more effective survey coverage.

The site visit resulted in the following findings.

3.1 GROUND SURFACE VISIBILITY

Ground surface visibility (GSV) is the percentage of ground surface that is visible during the field inspection. GSV increases in areas of exposures such as stock impact trails, roads, gates and along areas of erosion such as creek banks and dam walls. As a result surveys undertaken in areas with high exposure rates result in a more effective survey coverage.

Ground surface visibility is estimated to be moderate to high across the project area, due to the impacts of grazing with low grass levels, allowing areas of bare ground to be seen across the landforms. The bare earth is visible in all photos of landscape regardless of landform. This is shown in Plates 1 to 6. Exposures were estimated to occur at a rate of approximately 10% and consists of small areas of erosion at gates, fence lines, creekline, dam walls and in patches across the grazed paddocks.

The area of the lower slopes adjacent to the creek line and constructed dams held large areas of exposed displaced soils due to past disturbance. Soils in this area around the exposed rocks across the lower slopes appear very thin and hold high levels of surface gravels. GSV was high in this region and along the gentler gradients in the northern section where stock had congregated under remnant trees resulting in large areas of high GSV.

Slopes are steep in the western section of the project area with moderate levels of GSV due to grass coverage, which while long was sparse with bare earth easily visible for inspection. The combination of ground surface visibility and the rate of exposures throughout the study area combined to make the field survey result in a high level of effective coverage. The conditions across the project area at the time of field survey is shown in plates 1 to 6.

Plate 1: western section looking north

Plate 2. Looking north east across descending slopes

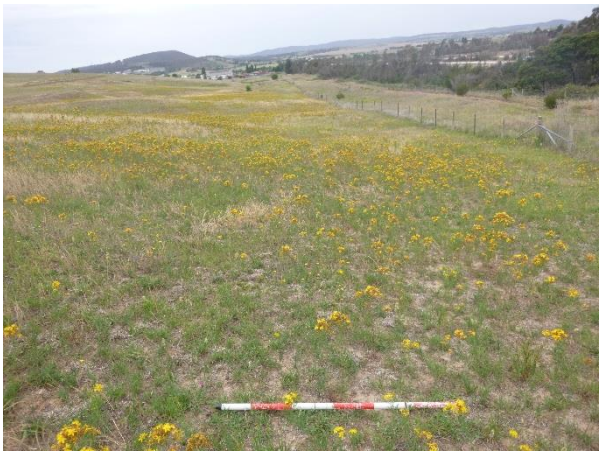


Plate 3: Looking east along southern boundary

Plate 4: North eastern section – remnant trees

Plate 5: Typical stock impacts under trees and fence lines

Plate 6: typical levels of GSV within Paddocks with large section of bare earth exposed

3.2 DISTURBANCE

The area of the proposed works has been subject to moderate levels of prior disturbance. High levels of disturbance have occurred along the central portion of the creekline where two dams have been constructed. These construction impacts extend into the south eastern section, below the dams where drainage channels have been constructed and displaced soils are present.

High levels of impact are also present along the route of the main access road to the large machinery shed. The construction of this shed on the steep upper slopes have removed soils and imported materials are present around the shed area boundary.

Over the main slope areas of the project area disturbance has been minimal consisting of original tree and vegetation removal. The effects of grazing have resulted in dispersed grass coverage and limited areas of confined erosion where stock have congregated.

3.3 RESULTS - ABORIGINAL HERITAGE SITES/AREAS OF POTENTIAL ARCHAEOLOGICAL DEPOSIT (PAD)

Two Aboriginal heritage sites were identified during the field survey with associated areas of PAD. Both of these sites consist of moderately sized artefact scatters located on the eastern side of the creek line. The sites were identified within areas of exposure caused by stock damage and earthworks (drainage swales) to the south of the constructed dam. Site locations are shown on Figure 5.

Areas of PAD are defined as landforms that hold higher potential than their surrounds to contain subsurface deposits of past Aboriginal occupation. Based on a review of previous studies completed for the region, areas of PAD would be located in association with waterways (1st or 2nd order streams) on level ground or lower slopes. Both of the sites are located in landforms that appear to meet this criteria and hold potential. As a result the site locations have also been classified as areas of PAD.

3.3.1 Tait 1 – AHIMS 51-6-0844 Grid Reference 747371.6148653

Tait 1 is located on the lower slopes to the east of the lower dam. The site is located amongst the area of constructed drainage swales with surface artefacts recorded to the north and south of the drainage line. This area has been disturbed in the upper levels and it is unclear if the artefacts have been displaced by the past earthworks or just uncovered by them and the resulting areas of sheet erosion. The site location does conform to modelling and is close to the previously recorded site of G19, so would appear to be in the original but now disturbed location. The site consists of a recorded exposure of seven artefacts over an area of 40m x 40m. All of the recorded artefacts are constructed on quartz.

The visible site is likely to extend further than recorded and has moderate potential to be associated with subsurface deposits This area of PAD then extends further than the recorded surface artefacts and covers an area of approximately 75 x 45m centred on grid reference MGA Zone 55 747372.6148647.

A sample of the artefacts visible at site Tait 1 is provided in Table 3. The location of site Tait 1 and associated PAD is shown on Figure 5. A site card for the newly recorded site has been submitted to the Aboriginal heritage Information Management System (AHIMS) administered by NSW Office of Environment and Heritage (OEH). The location of the site and a selection of artefacts is shown in Plates 7 to 12.

Table 3. Artefact Details 51-6-0844

Grid location	Material	Artefact Type	Dimensions (l x w x b)mm	Comments
Removed for exhibition purposes	Quartz	Flake	24x28x14	Flaked platform, feather termination, two negative flake scars and usewear on lateral and distal margin
	Red Chert	Flake	26 x 16 x 7	Flaked platform, feather termination, cortex 25%, 3 perpendicular negative scars and usewear on both laterals and distal margin
	Quartz	Flake	35 x 20 x 10	Flat platform and feather termination
	Quartz	Flake	21 x 16 x 10	
	Quartz	Medial Flake	6 x 6x 3	
	Quartz	Flake	4 x 5 x 1	
	Quartz	Flake	10 x 6 x 6	

Plate 7. Tait 1 looking east

Plate 8. Tait 1 looking east

Plate 9. Tait 1 looking north

Plate 10. Example Artefacts

Plate 11. Example artefact

Plate 12. Example artefact

3.3.2 Tait 2 – AHIMS 51-6-0845 Grid Reference

Tait 2 consists of nineteen artefacts located at the base of and within the drip zone of a single remnant tree on the mid slopes to the east of the creek line. The artefacts were visible due to the stock damage to soils under the tree which had resulted in the formation of a large clear exposures with fine sandy soils. The artefacts extend for an area of 20m with the tree at the centre. GSV was exceptionally high within the exposure at >95% only decreased by the presence of the fine sediments which may have buried and obscured additional unrecorded artefacts.

Unlike Tait 1 were the artefacts were constructed on quartz, at Tait 2 the majority of the material is a fine grey silcrete. Artefacts also consisted of cores and flakes often multidirectional and worked to exhaustion point. An unusual artefact is present within the assemblage. This artefact is a flake manufactured on glass, showing adaptation and use of new materials by the Aboriginal people.

The tree may have been a single remnant or stand following early clearance by European settlement, thus representing a resting/camping location making use of the remaining shade. Alternatively, the trees have been removed past occupation, with the remnant being part of a larger occupation site. However, the following site information can be theorised based on the available evidence:

- Due to the presence of the glass artefact, the site is contemporaneous with European settlement
- The distribution of artefacts on all sides of the tree base, indicates that the shade from the tree was of importance for site location
- The site location on the eastern slope above the creek/drainage line would provide morning sun, access to water and a sheltered position from westerly winds.
- The removal of most tree coverage during the European period would have focused use of the slopes to the remaining shade coverage.

The artefacts appear to be limited to the current tree extent, however, this also reflects the area of high GSV and exposure. Away from the exposure, GSV is still moderate but much lower amongst the grass coverage. The site has the potential to extend further than recorded and to contain subsurface deposits.

A selection of artefacts from Tait 2 are provided in Table 4 and the site location and artefacts are shown in Plates 13 – 16.

Table 4. Artefact details 51-6-0845

Grid location	Material	Artefact Type	Dimensions (l x w x b)mm	Comments
Removed for exhibition purposes	Quartz	core	29x22x24	6 faces, multidirectional core with cortex
	Grey silcrete	Flake piece	21x17x9	Flaked platform, flake removals all directions
	Red Chert	Proximal flake	7 x 5 x 4	Flat platform, snapped, blade form
	Grey silcrete	core	47x52x26	Multidirectional core, 9 faces
	Grey silcrete	core	15x16x3	Multidirectional, multifacial (9) core
	Grey Silcrete	Flaked piece	27x15x10	
	Glass	Flake	22x15x5	Retouched all margins with steep backing retouch.
	Pink Silcrete	Core	17x16x15	Pyramid shape with 4 face removals
	5 x quartz	Flakes		
	Grey silcrete	flake	27x21x7	Facetted platform, feather termination, 4 negative flake scars

Plate 13. Location of site

Plate 14.Glass artefact

Plate 15. Selection of artefacts

Plate 16. Selection of artefacts

3.3.3 Previously recorded site G15 (AHIMS No 51-6-0019)

Site G15 was recorded in 1983 as part of the Goulburn by pass survey. The identified location was searched for the site, with no indication of its presence. This site may have been displaced or obscured due to the passage of time. The recorded location of this site is on the southern boundary in a section of lower slopes near the creek junction. The site location and condition at the time of the field survey is shown in Plate 17. The location of this site is shown in Figure 4.

Plate 17. G15 site location

3.3.4 Summary

As a result of the site visit, field survey of alignments and background research, one previously recorded Aboriginal site (G15) and two additional Aboriginal heritage sites (Tait1 and Tait2) are located within the project area.

The project area has undergone moderate levels of impact due to tree and vegetation removal, construction of fences, and impacts of stock grazing over a lengthy period of time since the settlement of the Goulburn region.

The project area also holds areas of potential archaeological deposit. The known heritage sites and the areas of PAD will be impacted by the current layout of the proposed development.

4 IMPACT ASSESSMENT

The impacts from the subdivision of Lot 47 DP1204727 into lots would result in impacts across the entire project area, due to the layout of lots, access roads and associated infrastructure such as electricity, water and communications. The project area have been assessed with three Aboriginal heritage sites (51-6-0844, 51-6-0845 and 51-6-0019) with two areas of PAD identified. The remaining areas of the lots are considered to hold low potential for unrecorded heritage sites or subsurface deposits.

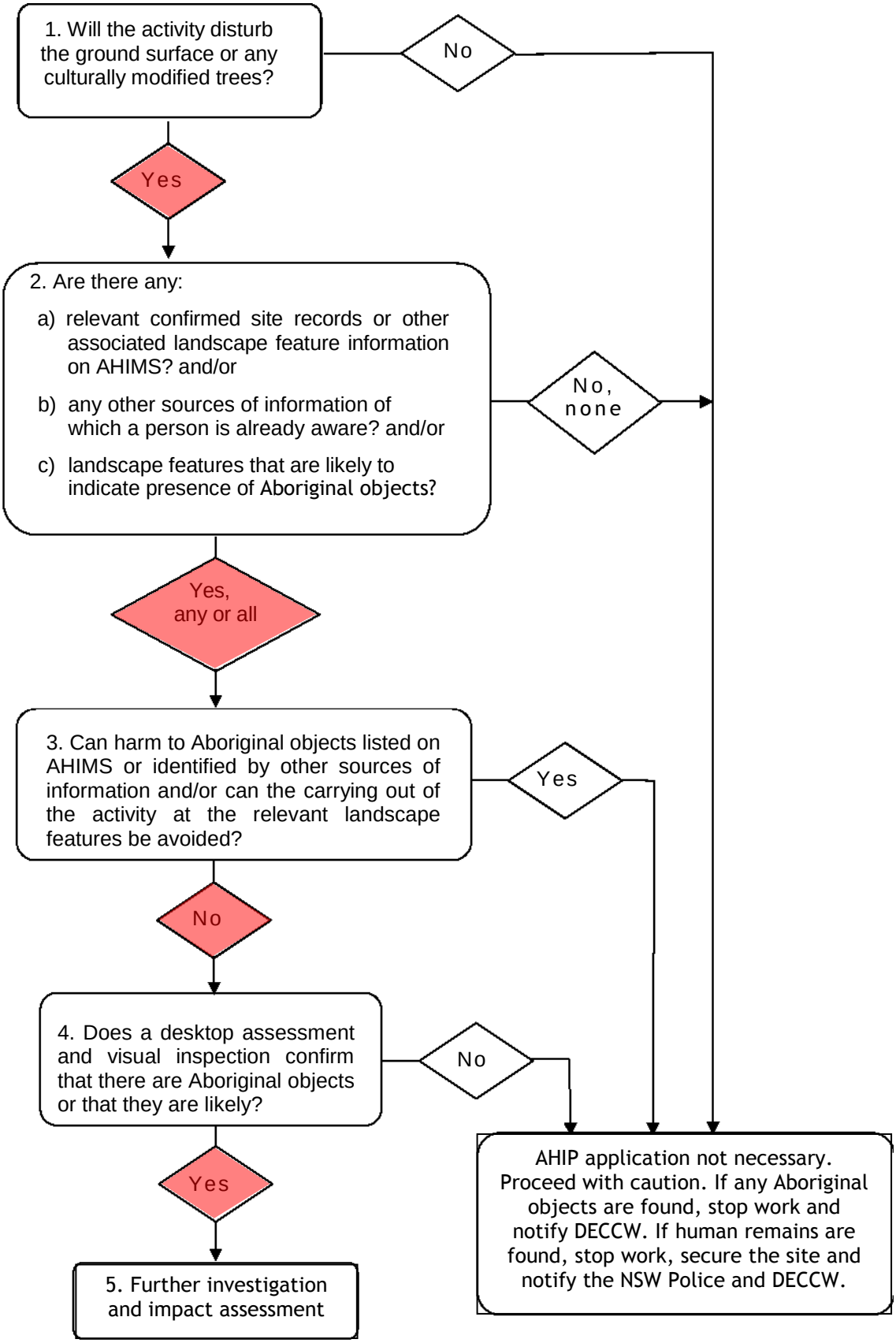
The project area has a moderate degree of disturbance and soils appear to be thin and overlaying base clays and shale. Due to the general lack of topsoils, the majority of the project area is considered to hold low potential for unrecorded sites or subsurface deposits except in recorded locations overlooking the ephemeral creek line.

Based on the Due Diligence Assessment the impacts from the project are as follows:

- Three known Aboriginal object or place (heritage site) will be impacted by the proposed works.
- Two areas of moderate potential to contain unrecorded Aboriginal objects of places is present in the project area and will be impacted by the proposed works.

The Code provides a flowchart of six questions to identify the presence of and potential harm to Aboriginal heritage. These questions and their applicability to the project are shown in Figure 6. The responses to these questions determine if further heritage investigations are required.

Figure 6. Flowchart of Due Diligence process



4.1 RECOMMENDATIONS

Based on this due diligence assessment the following actions are recommended for the project.

Recommendation 1: Avoid impacts to area of heritage sites 51-6-0019, 51-6-0844 and 51-6-0845.

Impacts should be avoided to Aboriginal heritage sites identified within the project area. If works are to proceed in the vicinity of sites or areas of PAD then barrier fencing with a boundary of 10m must be installed and no impacts can occur to the site and associated area of PAD. The location of boundary fencing should be installed by a qualified heritage consultant with the participation of the Local Aboriginal Land Council. Barrier fencing must remain until any works are completed in the site vicinity.

Recommendation 2: If impacts cannot be avoided then further investigation is required at Aboriginal heritage sites and areas of PAD to support an application for an AHIP.

If impacts cannot be avoided to Aboriginal heritage sites (51-6-0019, 51-6-0844 and 51-6-0845) then subsurface testing of the area of the associated PADs is required to determine the extent of heritage impacts. For subsurface testing to proceed a detailed Aboriginal Cultural Heritage Assessment including consultation with the Aboriginal community will need to be undertaken. Following investigation, an Aboriginal Heritage Impact Permit (AHIP) approved by NSW OEH will be required prior to any works commencing in the vicinity of the heritage sites.

Recommendation 3: Works to proceed without further heritage assessment with caution in areas classed as holding low potential for heritage sites.

The development proposal should be able to proceed with no additional archaeological investigations in all other areas of the project area. No further areas of potential archaeological deposits or heritage sites have been identified within the development area and the potential for Aboriginal heritage objects within the development area has been assessed as low.

Recommendation 4: Discovery of Unanticipated Aboriginal cultural material.

All Aboriginal places and objects are protected under the *NPW Act 1977*. This protection extends to Aboriginal material that has not been previously identified, but might be unearthed during construction activities. In the event that Aboriginal material is discovered during construction the following steps should be undertaken:

- Cease Work: Works must cease in the vicinity of the find and a fenced buffer zone of 10m around the find be erected.
- Notification: OEH must be notified of the find.
- Management: A qualified heritage consultant should be engaged to assess and record the find in accordance with the legislative requirements and OEH guidelines. If the find is Aboriginal in nature, consult with OEH in regards to appropriate steps and management. This would usually involve consultation with the Aboriginal community and may require application for an Aboriginal Heritage Impact Permit.

Adherence to these recommendations will result in the low potential for the proposal to negatively impact on Aboriginal heritage values.

Recommendation 5: Discovery of Human Remains

In the unlikely event that human remains are discovered during the construction, all work must cease. OEH, the local police and the appropriate LALC should be notified. Further assessment would be required to determine if the remains are Aboriginal or non-Aboriginal.

Recommendation 6: Alteration of impact footprint

Further archaeological assessment would be required if the proposal activity extends beyond the area of the current investigation.

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