

# Allam Land No. 4 Pty Ltd

M

**581 Raymond Terrace Rd, Chisholm**

**LGA: Maitland**

**Archaeological Due Diligence Assessment**

**18 May 2022**


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<b>Report No: J202252 DD</b>	
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Date:	18 May 2022

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## EXECUTIVE SUMMARY

McCardle Cultural Heritage Pty Ltd (MCH) was engaged by Allam Land No.4 Pty Ltd to undertake an Archaeological Due Diligence Assessment for the proposed subdivision of 581 Raymond Terrace Rd, Chisholm as part of the process to meet the Development Application (DA/2019/652) Condition 19 (obtaining an AHIP prior to works commencing).

The underlying geology of the project area is predominantly the Permian Tomogo Coal Measures consisting of shale, mudstone, sandstone, coal, tuff and clay. A small portion of the project area also consists of the Permian Mulbring Siltstone geological formation consisting of siltstone, claystone, thin sandstone and limestone. The presence of mudstone and tuff within the geology of the project area indicates that stone materials suitable for manufacturing stone artefacts may occur in various locations throughout the project area. Consisting of slopes and drainage lines, the project area includes the residual Beresfield soil landscape that includes shallow topsoils of up to 15cm in depth. The geomorphology of the Hunter Valley is complex consist of an upper soil Horizon A and underlying B (referred to as duplex soils. Unit A and Unit B are interpreted as being Holocene and Pleistocene in age respectively. Within the region, sites tend to occur on or within soil Horizon A or are often present at the interface of the A and B horizons. In terms of fresh water sources, the project area is located approximately one kilometre from the northern reaches of the Woodberry Swamp, which would have provided a permanent source of fresh water for the local area. Within the project area, two 1<sup>st</sup> order drainage depressions are present that flow to form a 2<sup>nd</sup> order near the eastern boundary and flows west. As water is necessary for survival, the project area may be considered under-resourced in terms of fresh water availability but may have been utilised for hunting and gathering opportunities following heavy rain and, or, travel to Woodbury Swamp.

The project area had been subject to a range of both moderate and high landuses disturbances and impacts. The project area has been cleared and primarily used for pastoral purposes (grazing), involving the wholesale clearance of native vegetation and the introduction of pasture grass (at least one ploughing event), dams along the drainage lines and previous surface work that was associated with undermining in the area. A dwelling and associated sheds and structures and associated infrastructure (water, electricity, telephone) are located in the north, and current land uses include farming, fencing, vehicle access via existing dirt tracks, a demolished dwelling and recreational use by motocross riders.

A search of the AHIMS register identified 116 known Aboriginal sites currently recorded within two kilometres of the project area and include 103 artefact sites, 3 PADs and 10 artefacts with PAD sites. One previously recorded site was in the project area (AHIMS#38-4-0892 - isolated artefact), that was exposed by erosion and general impacts and the initial recording of this site suggested it was in poor condition. This site was groundtruthed by RPS during a previous survey, but was not identified. Considering the AHIMS results, local and regional archaeological investigations as well as the environmental context, given that fresh water was necessary for survival and the project area is located approximately kilometre from a reliable water source, and the absence reliable of fresh water indicates the project area and immediate surrounds may have been used no more than hunting and gathering opportunities rather that large-scale long-term camping. Evidence of such past Aboriginal land uses manifest in the archaeological record as low-density shell middens and/or artefact scatters and isolated artefact.

The project area, consisting of slopes and drainage lines was surveyed as three survey units based on landforms. Survey Unit 1 (1<sup>st</sup> order) and up to 5 metres both sides. Previously cleared, vegetation consisted of open paddock towards the north and trees the remainder of the area. Visibility was low due to vegetation cover. Survey Unit 2 (2<sup>nd</sup> order) and up to 5 metres both sides, this unit has a large dam constructed through the western half. Also previously cleared with grass, trees were also

present all of which hindered visibility. Survey Unit 3 (slopes) area had been previously cleared and subject to at least one ploughing event for pasture grass and there remains some evidence of such (eroded ridged and furrows). A house and structures are located in the north west along with access and utilities. Visibility was moderate as were exposures (erosion, exposed areas).

The AHIMS site (38-4-0892) was not re-located and has been destroyed through natural factors such as flooding and erosion and AHIMS has been updated accordingly.

**The Development Application Condition 19 – ‘Prior to physical works commencing on the site (including the clearing of vegetation), a copy of the Aboriginal Heritage Impact Permit (AHIP) issued under section 90 of the *National Parks and Wildlife Act 1974* is to be submitted to Council’, is no longer relevant as the AHIMS site is no longer present and has been destroyed through natural processes, and the AHIMS register updated accordingly.**

As no sites were identified there are no impacts to the archaeological record and the following recommendations are provided:

- 1) The persons responsible for the management of onsite works will ensure that all staff, contractors and others involved in construction and maintenance related activities are made aware of the statutory legislation protecting sites and places of significance. Of particular importance is the National Parks and Wildlife Regulation 2019, under the National Parks and Wildlife Act 1974; and
- 2) Should any Aboriginal objects be uncovered during works, all work will cease in that location immediately and the Environmental Line contacted.
- 3) An AHIP is not required prior to commencement of works on site as the AHIMS site 38-4-0892 has been updated on AHIMS to ‘destroyed’.

## GLOSSARY

**Aboriginal Place:** are locations that have been recognised by the Minister (and gazetted under the *National Parks and Wildlife Act 1974*) as having special cultural significance to the Aboriginal community. An Aboriginal Place may or may not include archaeological materials.

**Aboriginal Site:** an Aboriginal site is the location of one or more Aboriginal archaeological objects, including flaked stone artefacts, midden shell, grinding grooves, archaeological deposits, scarred trees etc.

**Artefact:** any object that is physically modified by humans.

**Artefact scatter:** a collection of artefacts scattered across the surface of the ground (also referred to as open camp sites).

**Assemblage:** a collection of artefacts associated by a particular place or time, assumed generated by a single group of people, and can comprise different artefact types.

**Backed artefact:** a stone tool where the margin of a flake is retouched at a steep angle and that margin is opposite a sharp edge.

**Background scatter:** a term used to describe low density scatter of isolated finds that are distributed across the landscape without any obvious focal point.

**Core:** a chunk of stone from which flakes are removed and will have one or more negative flake scars but no positive flake scars. The core itself can be shaped into a tool or used as a source of flakes to be formed into tools.

**Debitage:** small pieces of stone debris that break off during the manufacturing of stone tools. These are usually considered waste and are the by-product of production (also referred to as flake piece).

**Flake:** any piece of stone struck off a core and has a number of characteristics including ring cracks showing where the hammer hit the core and a bulb of percussion. May be used as a tool with no further working, may be retouched or serve as a platform for further reduction.

**Flaked piece/waste flake:** an unmodified and unused flake, usually the by-product of tool manufacture or core preparation (also referred to asdebitage).

**Harm:** is defined as an act that may destroy, deface or damage an Aboriginal object or place. In relation to an object, this means the movement or removal of an object from the land in which it has been situated

**In situ:** archaeological items are said to be "in situ" when they are found in the location where they were last deposited.

**Retouched flake:** a flake that has been flaked again in a manner that modified the edge for the purpose of resharpening that edge.

**Typology:** the systematic organization of artefacts into types on the basis of shared attributes.

## ACRONYMS

<b>ACHA</b>	Aboriginal Cultural Heritage Assessment
<b>ACHMP</b>	Aboriginal Cultural Heritage Management Plan
<b>AHIMS</b>	Aboriginal Heritage Information Management System
<b>AHIP</b>	Aboriginal Heritage Impact Permit

## AHIMS SITE ACRONYMS

<b>ACD</b>	Aboriginal ceremonial and dreaming
<b>AFT</b>	Artefact (stone, bone, shell, glass, ceramic and metal)
<b>ARG</b>	Aboriginal resource and gathering
<b>ART</b>	Art (pigment or engraving)
<b>BOM</b>	Non-human bone and organic material
<b>BUR</b>	Burial
<b>CFT</b>	Conflict site
<b>CMR</b>	Ceremonial ring (stone or earth)
<b>ETM</b>	Earth mound
<b>FSH</b>	Fish trap
<b>GDG</b>	Grinding groove
<b>HAB</b>	Habitation structure
<b>HTH</b>	Hearth
<b>OCQ</b>	Ochre quarry
<b>PAD</b>	Potential archaeological deposit.
<b>SHL</b>	Shell
<b>STA</b>	Stone arrangement
<b>STQ</b>	Stone quarry
<b>TRE</b>	Modified tree (carved or scarred)
<b>WTR</b>	Water hole



# 1 INTRODUCTION

## 1.1 INTRODUCTION

McCardle Cultural Heritage Pty Ltd (MCH) has been engaged by Allam Land No.4 Pty Ltd to undertake an Archaeological Due Diligence Assessment for the proposed subdivision of 581 Raymond Terrace Rd, Chisholm. as part of the process to meet the Development Application (DA/2019/652) Condition 19 (obtaining an AHIP prior to works commencing).

The assessment has been undertaken to meet the Heritage NSW, Department of Premier & Cabinet Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW and the brief. The purpose of a due diligence assessment is to assist proponents to exercise due diligence when carrying out activities that may harm Aboriginal objects or Aboriginal places and to determine whether that should apply for a consent to harm Aboriginal objects or Places through an Aboriginal Heritage Impact Assessment (AHIP). The purpose of this due diligence report is to demonstrate that all reasonable and practicable measures have been undertaken to prevent harm to any Aboriginal objects and/or place within the project area. This report has met the Heritage NSW Due Diligence requirements and considered the relevant environmental and archaeological information, the project land condition, the nature of the proposed development activity and impacts, as well as preparing appropriate recommendations.

## 1.2 THE PROJECT AREA

The project area is located at 581 Raymond Terrace Rd, Chisholm. Including Lot 1 DP1032753 and Lot 1 DP198776, the location of the project area is shown in Figures 1.1 to 1.3.

Figure 1.1 Regional location of the project area

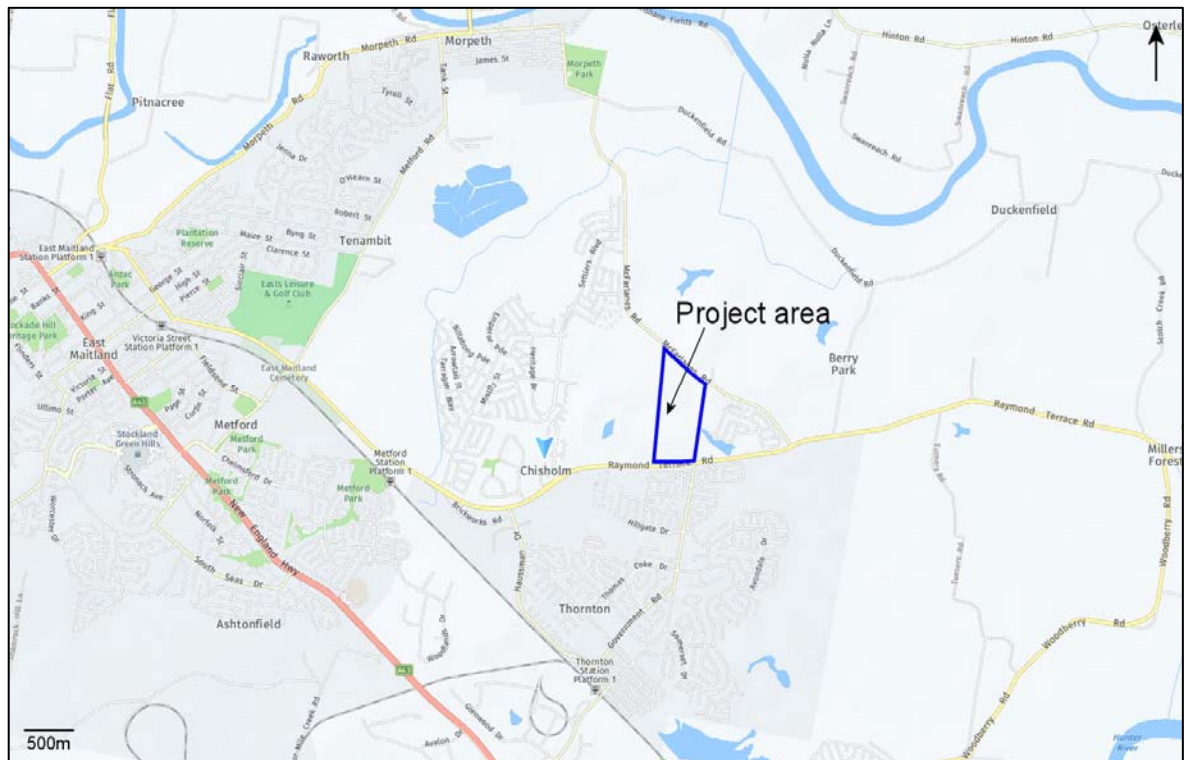


Figure 1.2 Local location of the project area

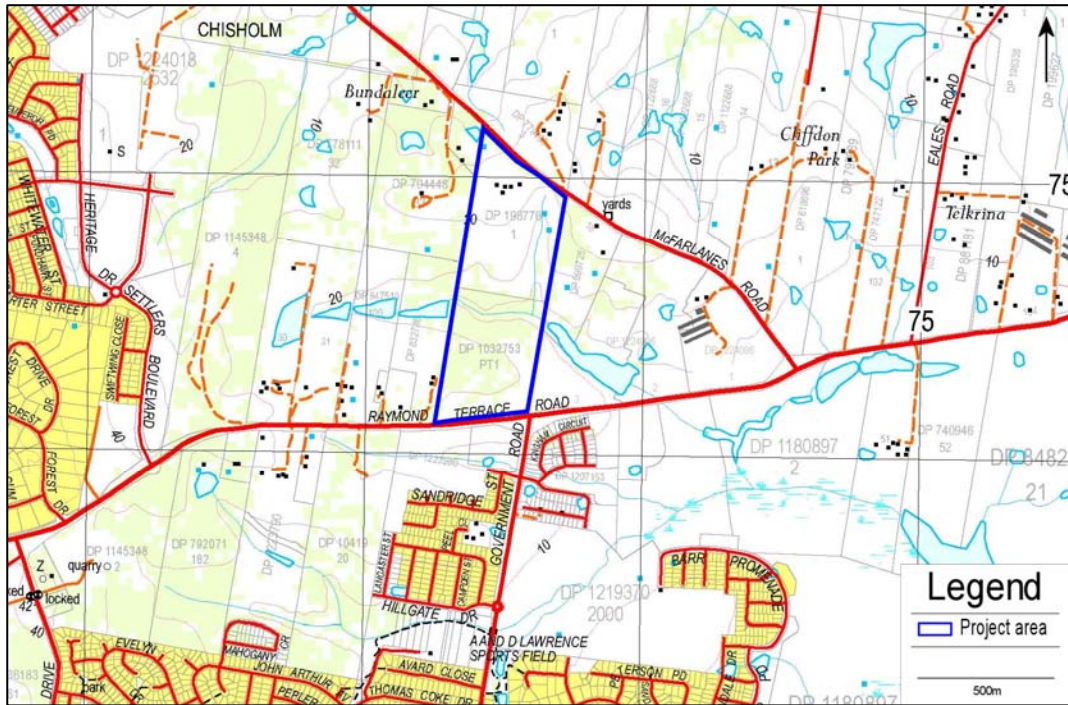


Figure 1.3 Aerial photograph of the project area (Nearmap April 2022)



### 1.3 DESCRIPTION OF THE PROPOSED DEVELOPMENT

The project will include the subdivision of the project area into residential lots. Works typically associated with residential developments include clearing and demolition of existing structures, site remediation, bulk earthworks including construction of dwellings and roads, services reticulation: WW, PW, NBN, electrical and gas and landscaping.

### 1.4 OBJECTIVES OF THE DUE DILIGENCE ASSESSMENT

The objectives and primary tasks of this due diligence assessment were to:

- undertake a search of the Aboriginal Heritage Management System (AHIMS) and other relative registers;
- undertake research into the environmental and archaeological contexts of the project area;
- develop a predictive model of site location for the project area;
- undertake a field survey of the project area;
- assess the potential impacts of the proposed development on any identified Aboriginal sites or potential archaeological deposits (PADs) identified within the project area;
- assess the significance of any identified Aboriginal objects or sites identified within the project area;
- complete and submit site cards to AHIMS for any Aboriginal sites identified; and
- provide appropriate recommendations.

### 1.5 LEGISLATIVE CONTEXT

The following overview of the legislative framework, is provided solely for information purposes for the client, and should not be interpreted as legal advice. MCH will not be liable for any actions taken by any person, body or group as a result of this general overview and MCH recommends that specific legal advice be obtained from a qualified legal practitioner prior to any action being taken as a result of the general summary below.

Land managers are required to consider the effects of their activities or proposed development on the environment under several pieces of legislation. Although there are a number of Acts and regulations protecting Aboriginal heritage, including places, sites and objects, within NSW, the three main ones include:

- National Parks and Wildlife Act (1974, as amended)
- National Parks and Wildlife Regulation (2019)
- Environmental Planning and Assessment Act (1979)

#### 1.5.1 NATIONAL PARKS AND WILDLIFE ACT (1974, AS AMENDED)

The National Parks and Wildlife Act (1974), Amended 2019, is the primary legislation for the protection of Aboriginal cultural heritage in New South Wales. The NPW Act protects Aboriginal heritage (places, sites and objects) within NSW and the protection of Aboriginal heritage is outlined in s86 of the Act, as follows:



- “A person must not harm or desecrate an object that the person knows is an Aboriginal object” s86(1)
- “A person must not harm an Aboriginal object” s86(2)
- “A person must not harm or desecrate an Aboriginal place” s86(4)

Penalties apply for harming an Aboriginal object, site or place. The penalty for knowingly harming an Aboriginal object (s86[1]) and/or an Aboriginal place (s86[4]) is up to \$550,000 for an individual and/or imprisonment for 2 years; and in the case of a corporation the penalty is up to \$1.1 million. The penalty for a strict liability offence (s86[2]) is up to \$110,000 for an individual and \$220,000 for a corporation.

Harm under the National Parks and Wildlife Act (1974, as amended) is defined as any act that destroys defaces or damages the object, moves the object from the land on which it has been situated, causes or permits the object to be harmed. However, it is a defence from prosecution if the proponent can demonstrate that;

- 1) harm was authorised under an Aboriginal Heritage Impact Permit (AHIP) (and the permit was properly followed), or
- 2) the proponent exercised due diligence in respect to Aboriginal heritage.

The ‘due diligence’ defence (s87[2]), states that if a person or company has applied due diligence to determine that no Aboriginal object, site or place was likely to be harmed as a result of the activities proposed for the Project Area, then liability from prosecution under the NPW Act 1974 will be removed or mitigated if it later transpires that an Aboriginal object, site or place was harmed. If any Aboriginal objects are identified during the activity, then works should cease in that area and Heritage NSW, Department of Premier & Cabinet notified (DECCW 2010:13). The due diligence defence does not allow for continuing harm or as defence to s.86(1) or (4).

The archaeological due diligence assessment and report has been carried out in compliance with the Heritage NSW (DECCW 2010) Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW.

### 1.5.2 NATIONAL PARKS AND WILDLIFE REGULATION (2019)

The National Parks and Wildlife Regulation 2019 provides a framework for undertaking activities and exercising due diligence in respect to Aboriginal heritage. The Regulation (201909) recognises various due diligence codes of practice, including the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW, but it also outlines procedures for Aboriginal Heritage Impact Permit (AHIP) applications and Aboriginal Cultural Heritage Consultation Requirements (ACHCRs); amongst other regulatory processes.

### 1.5.3 ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 (EP&A ACT)

EP&A Act establishes the statutory framework for planning and environmental assessment in NSW and the implementation of the EP&A Act is the responsibility of the Minister for Planning, statutory authorities and local councils. The EP&A Act contains three parts which impose requirements for planning approval:

- Part 3 of the EP&A Act relates to the preparation and making of Environmental Planning Instruments (EPIs), State Environmental Planning Policies (SEPPs) and Local Environmental Plans (LEPs).

- Part 4 of the EP&A Act establishes the framework for assessing development under an EPI. The consent authority for Part 4 development is generally the local council, however the consent authority may be the Minister, the Planning Assessment Commission or a joint regional planning panel depending upon the nature of the development.
- Part 4, Division 4.1 of the EP&A Act establishes the assessment pathway for State Significant Development (SSD) declared by the State Environmental Planning Policy (State and Regional Development) 2011 (NSW). Once a development is declared as SSD, the Secretary's Environmental Assessment Requirements (SEARs) will be issued outlining what issues must be considered in the EIS.
- Part 5 of the EP&A Act provides for the control of 'activities' that do not require development consent and are undertaken or approved by a determining authority. Development under Part 5 that are likely to significantly affect the environment is required to have an EIS prepared for the proposed activity.
- Part 5.1 of the EP&A Act establishes the assessment pathways for State Significant Infrastructure (SSI). Development applications made for SSI can only be approved by the Minister. Once a development is declared as SSI, the SEARs will be issued outlining what issues must be addressed in the EIS.

The applicable approval process is determined by reference to the relevant environmental planning instruments and other controls, LEPs and State Environmental Planning Policies (SEPPs). This project falls under Part 4.

## 1.6 ABORIGINAL COMMUNITY CONSULTATION

A due diligence assessment relates to the physical identification of Aboriginal objects, sites and places. Community consultation is only required once Aboriginal objects, sites or places have been identified and an Aboriginal Heritage Impact Permit (AHIP) is deemed necessary. Section 5.2 of the Heritage NSW (DECCW 2010) Due Diligence Code of Practice for the protection of Aboriginal Objects in NSW specifically states that;

*'consultation with the Aboriginal community is not a formal requirement of the due diligence process' (2010:8).*

## 1.7 QUALIFICATIONS OF THE INVESTIGATOR

Dr. Penny McCardle: Principal Archaeologist & Forensic Anthropologist has 22 years experience in Indigenous archaeological assessments, excavation, research, reporting, analysis and consultation and 19 years in skeletal identification, biological profiling and skeletal trauma identification for NPWS, NSW Police and the NSW Department of Forensic Medicine.

- BA (Archaeology and Palaeoanthropology): Indigenous archaeology, University of New England 1999
- Hons (Archaeology and Palaeoanthropology): Physical Anthropology, University of New England 2001
- Forensic Anthropology Course, University of New England 2003
- Armed Forces Institute of Pathology Forensic Anthropology Course, Ashburn, VA 2008
- Analysis of Bone trauma and Pseudo-Trauma in Suspected Violent Death Course, Erie College, Pennsylvania, 2009

- Documenting Scenes of War and Human Rights Violations. Institute for International Criminal Investigations, 2018
- PhD, University of Newcastle, 2019

## 1.8 REPORT STRUCTURE

The report includes Section 1 which outlines the project, Section 2 presents the environmental and archaeological context, Section 3 provides the results and discussion and Section 4 presents Impact Assessment, Section 5 discusses the mitigation measures and Section 6 provides the management recommendations.

## 2 ENVIRONMENTAL AND ARCHAEOLOGICAL CONTEXT

The archaeological due diligence process and assessment requires that the available knowledge and information in relation to the environmental and archaeological contexts are considered. The purpose of this is to assist in identifying whether Aboriginal objects, sites or places are likely to be present within the project area based on archaeological predictive modelling and in what condition they may be found in given the environmental impacts, both natural and anthropogenic.

### 2.1 LOCAL ENVIRONMENT

Past site location and land use are closely linked to the environment including the landform, geology, geomorphology, soils, waterways and associated resources. The environmental context is important to identify potential factors relating to past Aboriginal land use patterns.

Story et al (1963) divided the Hunter Valley into eight main sub-regions including the Southern Mountains, Central Goulburn Valley, Merriwa Plateau, Liverpool and Mt Royal Ranges, Barrington tops, North-Eastern Mountains, Central lowlands and the Coastal Zone. The project area is situated in the Central Lowlands (a broad lowland belt of lowlands approximately 15 kilometres wide) which lies at the centre of the region extending from Murrurundi to Newcastle. The underlying geology of the project area is predominantly the Permian Tomogo Coal Measures consisting of shale, mudstone, sandstone, coal, tuff and clay. A small portion of the project area also consists of the Permian Mulbring Siltstone geological formation consisting of siltstone, claystone, thin sandstone and limestone (Newcastle 1:250,000 Geological Series Sheet, 1966). The presence of mudstone and tuff within the geology of the project area indicates that stone materials suitable for manufacturing stone artefacts may occur in various locations throughout the project area.

Consisting of slopes and drainage lines, the project area includes the residual Beresfield soil landscape. The dominant soils of this soil landscape include a friable shallow brownish black loam (topsoil - A1 horizon). The A2 horizon underlies this and consists of hard setting dull yellowish brown sandy loam that is moderately to slightly acid. Topsoils are shallow being no deeper than 15cm. A reddish-brown plastic pedal clay (subsoil – B2 and B3 horizons) occurs that is strongly to slightly acid (pH 4.5 – 6.0). Also occurring is a greyed 'puggy' silty clay (subsoil – B2, B3, C horizons) that is moderately acid to neutral (pH 5.0 – 7.0). Erosion across the area ranges from low to high (Matthei 1995: 30 – 33).

The geomorphology of the Hunter Valley is complex and include texture contrast soils that mantle the undulating to hilly landscapes on Permian and Carboniferous rocks and the older alluvial terraces and valley fills. These soils consist of an upper soil Horizon A and underlying B (referred to as duplex soils (Galloway 1963; Hughes 1984). Unit A and Unit B are interpreted as being Holocene and Pleistocene in age respectively. Within the region, sites tend to occur on or within soil Horizon A or are often present at the interface of the A and B horizons. Within the A horizon the lowermost (in terms of vertical positioning) artefact assemblages tend to contain artefacts that are typically attributed to the mid-Holocene, as characterised by an increase in the number of backed artefacts.

The A horizon of the Beresfield Soil Landscape of the project area are generally 15cm or less in depth and soil deflation and erosion expose rather than bury former land surfaces on which stone artefacts may have been present, removing the upper part of the soil profile, usually to the exposed B horizon.

In terms of fresh water sources, the project area is located less than one kilometre from the northern reaches of the Woodberry Swamp, which would have provided a permanent source of fresh water for the local area. Within the project area, two 1<sup>st</sup> order drainage depressions are present the flow to form a 2<sup>nd</sup> order near the eastern boundary and flows west. As water is necessary for survival, the project area may be considered under-resourced in terms of fresh water availability but may have

been utilised for hunting and gathering opportunities following heavy rain and, or, travel to Woodbury Swamp.

The vegetation type at the time of Aboriginal occupation may have been represented by the Sydney Coastal Dry Sclerophyll Forests which includes a wide range of forest and woodland communities, such as Sydney Red Gum, Red Bloodwood, Sydney Peppermint, Brown Stringybark, Broad-leaved and Narrow-leaved Scribbly Gum, Silvertop Ash, Old Man Banksia and Christmas Bush. The sclerophyll shrub understorey may have consisted of several species of Wattle, Banksia, Heath, flowering shrubs and Teatree (Keith 2006:146-147). This vegetation would have provided habitat for a variety of animals (e.g., wallabies, sugar gliders, possums, echidnas, a variety of lizards and snakes, birds, as well as rats and mice) and may have been used for hunting and gathering, as well as a raw material source for Aboriginal people.

In relation to land uses and associated impacts, Heritage NSW (DECCW 2010) defines disturbed lands as land that has been the subject of human activity that has changed the lands' surface and, or subsurface, these changes being changes that remain clear and observable. This definition is based on the types of disturbances classified in The Australian Soil and Land Survey Field Handbook (CSIRO 2010) and Table 2.1 provides a scale formulated by the CSIRO of the levels of disturbances and their classification, which will assist in determining the level of disturbance across the project area and its impact on potential cultural material that may be present.

Table 2.1 Land use scale (CSIRO 2010)

Minor disturbance		Moderate disturbance		Major disturbance	
Cleared and/or grazed at some time, but apparently never ploughed		Cleared and/or grazed at some time, with ploughing also attested		Severe disturbance to natural soil profiles; complete-to-near complete topsoil loss/disturbance	
0	No effective disturbance; natural	3	Extensive clearing (e.g., poisoning and ringbarking)	6	Cultivation: grain fed
1	No effective disturbance other than grazed by hoofed animals	4	Complete clearing: pasture native or improved, but never cultivated	7	Cultivation: irrigated, past and present
2	Limited clearing (e.g., selected logging)	5	Complete clearing: pasture native or improved, cultivated at some stage	8	Highly disturbed: e.g., quarry, road works, mining, landfill, urban

Regionally, following European settlement of the area in the 1820s, the regional landscape has been subjected to a range of different modifactory activities including extensive logging and clearing, agricultural cultivation (ploughing), pastoral grazing, residential developments and other construction works. The associated high degree of landscape disturbance has resulted in the alteration of large tracts of land and the cultural materials contained within these areas.

Based on aerial photography (Nearmap 2010 – 2022), the current project area has been subject to a range of both moderate and high landuses disturbances and impacts. The project area has been cleared and primarily used for pastoral purposes (grazing), involving the wholesale clearance of native vegetation and the introduction of pasture grass (at least one ploughing event), dams along the drainage lines and previous surface work that was associated with undermining in the area. A



dwelling and associated sheds and structures and associated infrastructure (water, electricity, telephone) are located in the north, and current land uses include farming, fencing, vehicle access via existing dirt tracks, a demolished dwelling and recreational use by motocross riders. These landuses and how they impact on the landscape and deposits are discussed below.

Early vegetation clearing included the uprooting of trees by chaining which disturbed or destroyed that may be present near, or underneath trees and vegetation (Wood 1982). Farming and agricultural activities also disturbed the landscape. Pastoralism activities result in disturbances due to vegetation clearance and the trampling and compaction of grazed areas which accelerate the natural processes of sheet and gully erosion, which in turn can cause the horizontal and lateral displacement of artefacts. Furthermore, grazing by hooved animals can affect the archaeological record due to the displacement and breakage of artefacts resulting from trampling (Yorston et al 1990). Pastoral land uses are also closely linked to alterations in the landscape due to the construction of dams, fence lines and associated structures. As a sub-set of agricultural land use, ploughing typically disturbs the top 10-12 centimetres of topsoil (Koettig 1986) depending on the method and machinery used during the process. Ploughing increases the occurrence of erosion and can also result in the direct horizontal (up to 18 metres per plough run) and vertical movement of artefacts, thus causing artificial changes in artefact densities and distributions (e.g., Roper 1976; Odell and Cowan 1987; Lewarch and O'Brien 1981). Ploughing activities are typically evidenced through 'ridges and furrows' however a lengthy cessation in ploughing activities dictates that these features may no longer be apparent on the surface.

Excavation works required for developments, including but not limited to business, residential, industrial, works depots and associated infrastructure and utilities, require excavation, cut and fill methods. These direct impacts to the land and associated cultural materials that may be present are easy to see and understand. Any form of construction or resource exploitation that involves the removal of, relocation of or compaction of soils sediments or minerals, requires the modification of the topography, thus displacing and/or destroying any cultural materials that may have been present (Wood 1982). These significant disturbances have results in none of the original topsoils remaining in situ.

Additional disturbances would have derived from natural processes. The patterns of deposition and erosion within a locality can influence the formation and/or destruction of archaeological sites. Within an environment where the rate of erosion is generally high, artefacts deposited in such an environment will be eroded downslope after being abandoned (Waters 2000; Waters and Kuehn 1996). If erosion occurs after cultural material is deposited, it will disturb or destroy sections, or all of, archaeological sites even if they were initially in a good state of preservation. The more frequent and severe the episodes of erosional events the more likely it is that the archaeological record in that area will be disturbed or destroyed. Additionally, bioturbation processes such as the redistribution and mixing of cultural deposits occurs as a result of burrowing and mounding by earthworms, ants and other species of burrowing animals. Artefacts can move downwards through root holes as well as through sorting and settling due to gravity, and translocation can also occur as a result of tree falls (Balek 2002; Peacock and Fant 2002; Canti 2003; Stein 2003:).

The project area is located within an environment that provided limited resources. Without a reliable fresh water supply to enable camping, the project area may have been utilised for more transitory activities such as travel and hunting and gathering on the way to reliable water and associated subsistence resources such as Woodbury Swamp. Such past Aboriginal land uses are manifest in the archaeological record as a background scatter of discarded artefacts (such as isolated artefacts and/or very low-density artefact scatters). In relation to modern alterations to the landscape, the previous large-scale clearing, ploughing, grazing, dam construction, housing and associated infrastructure,

tracks, motocross riding, tracks and surface disturbances associated with undermining can be expected to have had moderate to high impacts upon the archaeological record at those locations.

## 2.2 ARCHAEOLOGICAL CONTEXT

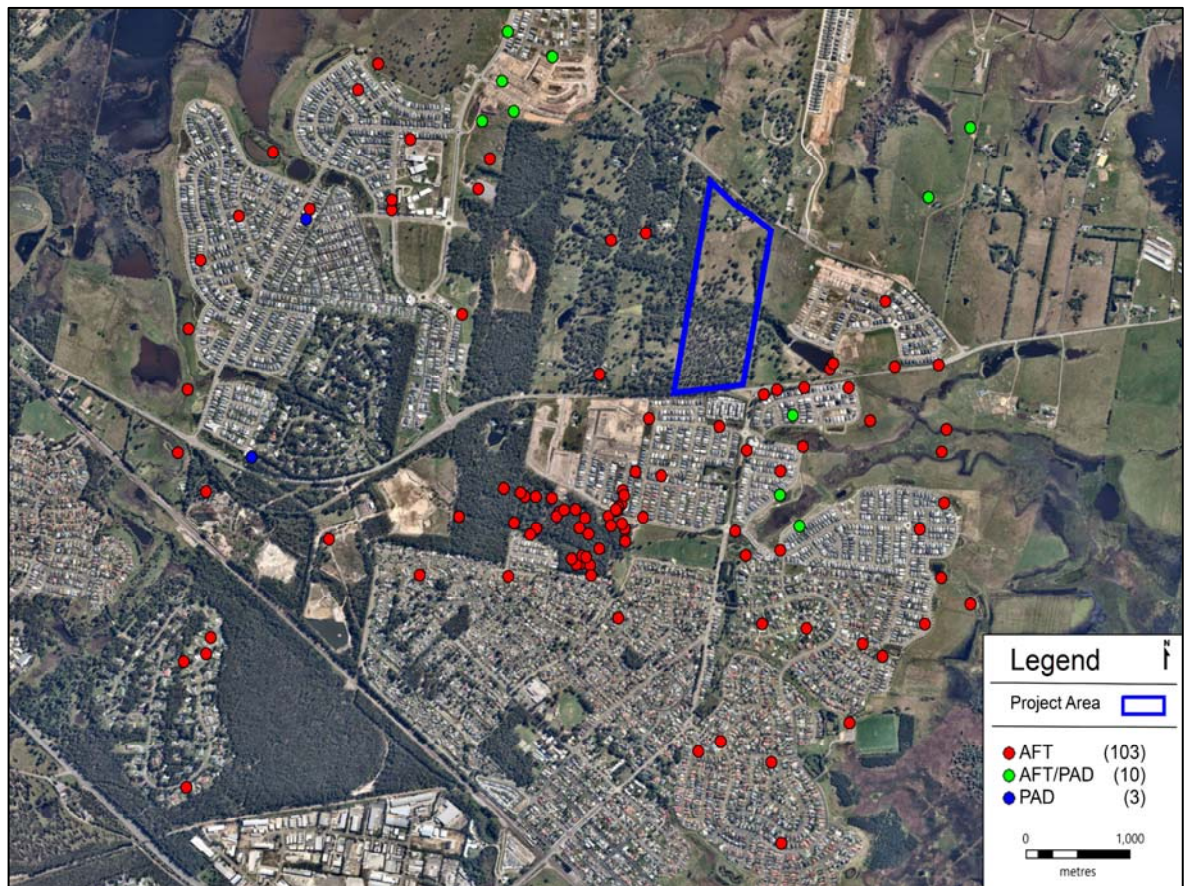
A review of the archaeological literature of the region, and more specifically the local area and the results of an AHIMS search provide essential contextual information for the current assessment.

### 2.2.1 ABORIGINAL HERITAGE INFORMATION MANAGEMENT SYSTEM (AHIMS)

It must be noted that there are many limitations with an AHIMS search including incorrect site coordinates due to errors and changing of computer systems at AHIMS over the years that failed to correctly translate old coordinate systems to new systems. Secondly, AHIMS will only provide up to 110 sites per search, thus limiting the search area surrounding the project area and limiting a more comprehensive analysis and finally, few sites have been updated on the AHIMS register to notify if they have been subject to a s87 or s90 and as such what sites remain in the local area and what sites have been destroyed, to assist in determining the cumulative impacts, is unknown.

A search of the AHIMS register (Appendix A) has identified 116 known Aboriginal sites currently recorded within two kilometres of the project area and include 103 artefact sites, 3 PADs and 10 artefacts with PAD sites (Figure 2.1).

Figure 2.1 Location of AHIMS sites



## 2.2.2 HERITAGE REGISTER LISTINGS

The National Heritage List, the Commonwealth Heritage List, the Australian Heritage Database, Australia's National Heritage List, The National Trust Heritage Register State Heritage Inventory the and the relevant Local Environmental Plan have no Aboriginal objects, sites or places listed.

## 2.2.3 SUMMARY OF THE REGIONAL ARCHAEOLOGICAL CONTEXT

The majority of archaeological surveys and excavations throughout the region have been undertaken in relation to environmental assessments for various developments, including but not limited to, residential and industrial, infrastructure, utilities, mining and quarrying. A review of the of the most relevant investigations (Davidson et al 1993; Dean-Jones and Mitchell 1993; Koettig and Hughes 1984; McDonald 1997; Haglund 1999; Kuskie 2000; HLA-Envirosciences 2002; AMBS 2002; MCH 2004a, b) provides a regional archaeological context in terms of site location and distribution.

Based on the available information it is possible to identify a number of trends in site location and patterning within the regional area. Open campsites are by far the most common site type with isolated finds also comparatively well represented. A variety of other site types have been identified in far lower concentrations and include grinding grooves, scarred trees, rock shelters, shelters with art and burials. The high representation of sites containing stone artefacts is to be expected due to the durability of stone in comparison to other raw materials. Raw materials used for tool manufacture include mudstone (also called tuff by some) which is the most common lithic artefactual material found in the region, followed by silcrete and in lesser quantities chert, quartz, quartzite, petrified wood, porcellanite, basalt, limestone, sandstone, rhyolite, basalt, European glass and other non-specific lithic types also occur in smaller quantities. The most common stone artefacts include flakes, flake fragments and flaked pieces. Cores, edge ground axes, millstones, grindstones, hammer stones and backed artefacts including backed blades, bondi points, geometric microliths and eloueras also occur though in lower frequencies. In general, the stone artefact assemblage in the area has been relatively dated to what was previously known as the Small Tool Tradition (10,000 years BP). On the basis of stone tool technology, the overwhelming majority of Aboriginal open sites within the region are attributed to the Holocene period. However, at Glennies Creek, north of Singleton, based on radiocarbon dated charcoal and geomorphological evidence it is suggested that artefacts found in the B-horizon may have been deposited between 10,000 and 13,000 BP (Koettig 1986a, 1986b).

## 2.2.4 SUMMARY OF THE LOCAL ARCHAEOLOGICAL CONTEXT

All archaeological surveys throughout the local area have been undertaken in relation to environmental assessments for developments. The most relevant investigations indicate differing results and observations based on surface visibility and exposure, alterations to the landscape, proximity to water sources and geomorphology.

Previous assessments of the local area (Resource Planning Pty Ltd. 1994, Dagg 1996, Kuskie and Clark 2006, KUSKIE 2007, 2015, HLA 2007, MCH 2012, 2019, 2020a, b, 2021) have identified that artefact scatters and isolated finds are the most prominent site type. These assessments have also identified that both landform and distance to water were important factors in past Aboriginal land use with elevated landforms within 50 metres of reliable water to have been the most favoured. The higher the stream order (and more reliable water source) the higher the numbers of sites and site densities, and both decrease with distance from the water source, and a decrease in stream order. A number of sites were also found on slopes; however, it is likely they were eroded down slope and not found in their original location. All sites were noted to have been disturbed through past



landuses including but not limited to clearing, agricultural and pastoral activities, residential developments, utilities, infrastructure and erosion.

The following is a summary of the previous investigations and it is noted that there are various factors which will have skewed the results. Therefore, the summary provides an indication of what may be expected in terms of site location and distribution.

- a wide variety of site types are represented in the project area with open campsites and isolated artefacts by far the most common;
- lithic artefacts are primarily manufactured from mudstone and silcrete with a variety of other raw materials also utilised but in smaller proportions;
- sites in proximity to ephemeral water sources or located in the vicinity of headwaters of upper tributaries (1<sup>st</sup> order streams) have a sparse distribution and density and contain little more than a background scatter;
- sites located in the vicinity of the upper reaches of minor tributaries (2<sup>nd</sup> order streams) also have a relatively sparse distribution and density and may represent evidence of localised one-off behaviour;
- sites located in the vicinity of the lower reaches of tributaries (3<sup>rd</sup> order creeks) have an increased distribution and density and contain evidence that may represent repeated occupation or concentration of activity;
- sites located in the vicinity of major tributaries (4<sup>th</sup> and 5<sup>th</sup> order streams/rivers) have the highest distribution and densities. These sites tend to be extensive and complex in landscapes with permanent and reliable water and contain evidence representative of concentrated activity; and
- sites located within close vicinity at the confluence of any order stream may be a focus of activity and may contain a relatively higher artefact distribution and density.

These findings are consistent with models developed for the area.

#### 2.2.5 PREVIOUS ASSESSMENT OF THE PROJECT AREA

RPS (2015) undertook an archaeological due diligence assessment of the project area and identified That the project area had been subject to a number of disturbances associated with the existing and previously cleared residential dwellings, recreational use by motocross riders and previous surface work associated with undermining in the area. Additionally, land modifications included the construction of dams and dammed portions of the existing drainage line.

Two previously recorded sites were in the project area. Including AHIMS#38-4-0890 (artefact scatter) and AHIMS#38-4-0892 (isolated artefact), these sites were exposed by erosion and general impacts and the initial recording of these sites suggested they were in poor condition. These sites were groundtruthed by RPS during the survey, but they were not identified. Examination of the site cards have located these sites, with one being in the project area and the approximate location of this site is illustrated in Figure 2.2.

Figure 2.2 Location of AHIMS sites in the project area



### 2.3 SYNTHESIS OF ENVIRONMENTAL AND ARCHAEOLOGICAL CONTEXTS

When assessing sites in terms of distance to water, in the Hunter Valley there is a clear pattern of past land uses whereby the majority of high-density sites are situated within 50 metres of reliable fresh water (high order) and reduce in both numbers and densities with a decrease in stream order. Thus, it is apparent that open campsites/isolated finds are most concentrated in number and size within 50 metres of reliable fresh water.

As is to be expected, the majority of sites within 50 metres of water are present on elevated landforms in association with creek lines whilst slopes and crest/ridge formations are also common site locations, although with an absence of reliable fresh water, were used for more transitory activities. The frequent presence of sites on crest/ridges and slopes is also noticeable for sites located over 50 metres from water. Due to the importance of water in the grinding process, it is not surprising that sites of this type are situated close to water. Based on information gained from previous studies, both regionally and locally, and the environmental context, within a two-kilometre radius of our project area, it can be expected that:

- the likelihood of locating sites increases with proximity to available water;
- the likelihood of finding large sites of high densities increases markedly with proximity to reliable water and decreases with a reduction in stream order;

- grinding grooves may be located along or near water sources within sandstone formations;
- a variety of stone artefact types will be located though the majority will be flakes, flaked pieces and debitage;
- a variety of raw materials utilised in stone tool manufacture will be represented, though the majority of sites will be predominated by mudstone and silcrete;
- the likelihood of finding scarred trees is dependent on the level of clearing in an area; and
- the majority of sites will be subject to disturbances including human and natural.

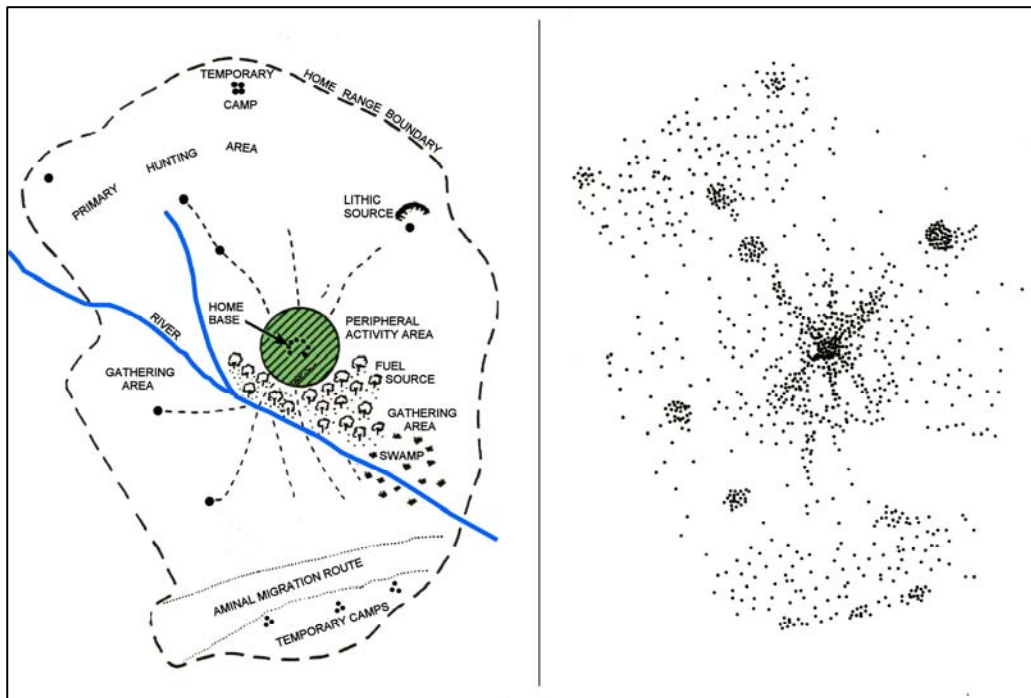
## 2.4 MODELS OF PAST ABORIGINAL LAND USE

The main aim of this project is to attempt to define both the nature and extent of occupation across the area. As a result, the nature of the analysis will focus on both the landform units and sites. The purpose of this strategy is to highlight any variations between sites and associated assemblages, landforms and resources across the area treating assemblages as a continuous scatter of cultural material across the landscape. In doing this, it is possible to identify variation across the landscape, landforms and assemblages that correspond with variation in the general patterns of landscape use and occupation. Thus, the nature of activities and occupation can be identified through the analysis of stone artefact distributions across a landscape. A general model of forager settlement patterning in the archaeological record has been established by Foley (1981). This model distinguishes the residential 'home base' site with peripheral "activity locations".

Basically, the home base is the focus of attention and many activities and the activity locations are situated away from the home base and are the focus of specific activities (such as tool manufacturing). This pattern is illustrated in Figure 2.3. Home base sites generally occur in areas with good access to a wide range of resources (reliable water, raw materials etc). The degree of environmental reliability, such as reliable water and subsistence resources, may influence the rate of return to sites and hence the complexity of evidence. Home base sites generally show a greater diversity of artefacts and raw material types (which represent a greater array of activities performed at the site and immediate area). Activity locations occur within the foraging radius of a home base camp (approximately 10 km); (Renfrew and Bahn 1991).

Based on the premise that these sites served as a focus of a specific activity, they will show a low diversity in artefacts and are not likely to contain features reflecting a base camp (such as hearths). However, it is also possible that the location of certain activities cannot be predicted or identified, adding to the increased dispersal of cultural material across the landscape. If people were opting to carry stone tools during hunting and gathering journeys throughout the area rather than manufacturing tools at task locations, an increased number of used tools should be recovered from low density and dispersed assemblages.

Figure 2.3 Foley's model (L) and its manifestation in the archaeological record (R), (Foley 1981).



## 2.5 MODEL OF OCCUPATION FOR THE LOCAL AREA

Work throughout NSW has aimed to understand the nature of Aboriginal occupation and to identify the nature of past Aboriginal land uses. This theme often aims to identify and explain archaeological patterning in site type, content and distribution. General theories have been developed outlining the relationship between land use patterns and the resulting archaeological evidence. A number of models developed for the region have been reviewed (McBryde 1976; Koettig 1994; Dean-Jones and Mitchell 1993; Rich 1995; Kuskie and Kamminga 2000). All models state that the primary requirements for repeated, concentrated or permanent occupation is access to reliable fresh water. Brief and possible repeated occupation may be represented in areas that have unreliable access to ephemeral water sources, however, these areas will not contain high archaeological evidence or potential (Goodwin 1999).

Kuskie and Kamminga (2000) established a general model of occupation strategies based primarily upon ethnographic research. Used as a starting point, it makes a general set of factors that are consistent with other studies (e.g., McDonald and White 2010, Nelson 1991). The model distinguishes between short-term or extended long-term occupation and makes some predictions about the likely location of different foraging and settlement activities. Combining this information with a review of assemblage contents from a sample of excavated sites within the region, a baseline of settlement activities may be determined (Barton 2001).

The model provides a number of archaeological expectations that may be tested. For example, the presence of features requiring a considerable labour investment (e.g., stone-lined ovens or heat-treatment pits) are likely to occur at places where occupation occurred for extended periods of time. The presence of grindstones is also a reliable indicator of low mobility and extended occupation as seed grinding requires a large investment of time and effort (Cane 1989). In most ethnographic examples, seed grinding is an activity that takes place over an entire day to provide adequate energetic returns (Cane 1989; Edwards and O'Connell 1995).



Where group mobility was high and campsites frequently shifted throughout the landscape, artefact assemblages are not expected to contain elements such as grindstones, heat-treatment pits, ovens and the diversity of implements frequently discarded at places of extended residential occupation. It may also have been the case that the location of particular activities could not be predicted by tool users, adding to the increased low-density scattering of artefacts over the landscape. Also, if individuals were opting to carry a number of stone tools during hunting and gathering activities and maintaining these tools rather than manufacturing new tools at each task location, the ratio of used tools to unworn flakes in these assemblages should be high. Table 2.2 has been adapted from Kuskie and Kamminga (2000).

Table 2.2 Site descriptions (Kuskie & Kamminga 2000).

Occupation Pattern	Activity Location	Proximity to water	Proximity to food	Archaeological expectations
Transitory movement	all landscape zones	not important	not important	<ul style="list-style-type: none"> <li>assemblages of low density &amp; diversity</li> <li>evidence of tool maintenance &amp; repair</li> <li>evidence for stone knapping</li> </ul>
Hunting &/or gathering without camping	all landscape zones	not important	near food resources	<ul style="list-style-type: none"> <li>assemblages of low density &amp; diversity</li> <li>evidence of tool maintenance &amp; repair</li> <li>evidence for stone knapping</li> <li>high frequency of used tools</li> </ul>
Camping by small groups	associated with permanent & temporary water	near (within 100m)	near food resources	<ul style="list-style-type: none"> <li>assemblages of moderate density &amp; diversity</li> <li>evidence of tool maintenance &amp; repair</li> <li>evidence for stone knapping &amp; hearths</li> </ul>
Nuclear family base camp	level or gently undulating ground	near reliable source (within 50m)	near food resources	<ul style="list-style-type: none"> <li>assemblages of high density &amp; diversity</li> <li>evidence of tool maintenance, repair, casual knapping</li> <li>evidence for stone knapping</li> <li>heat treatment pits, stone lined ovens</li> <li>grindstones</li> </ul>
Community base camp	level or gently undulating ground	near reliable source (within 50m)	near food resources	<ul style="list-style-type: none"> <li>assemblages of high density &amp; diversity</li> <li>evidence of tool maintenance, repair, casual knapping</li> <li>evidence for stone knapping</li> <li>heat treatment pits, stone lined ovens</li> <li>grindstones &amp; ochre</li> <li>large area &gt;100sqm with isolated camp sites</li> </ul>

## 2.6 PREDICTIVE MODEL FOR THE PROJECT AREA

An archaeological predictive model is established to identify areas of archaeological sensitivity so it can be used as a basis for the planning and management of Aboriginal heritage. It involves reviewing existing literature to identify basic site distribution patterns. These patterns are then modified according to the specific environment of the project area to form a predictive model for site location within the current project area. A sampling strategy is then used to test the model and the results of the survey used to confirm, refute or modify the model.

Land-systems and environmental factors are commonly used factors in predictive modelling based on the assumption that they provide distinctive sets of constraints and opportunities that influenced past Aboriginal land use patterns. As land use patterns may differ between zones (due to different environmental conditions), this may result in the physical manifestation of different spatial distributions and forms of archaeological evidence. The predictive model presented here is based on landform units, previous archaeological assessments conducted within the region, distribution of



known sites and site densities and traditional Aboriginal land use patterns. Also taken into consideration are land use impacts (both natural and anthropomorphic) that may have resulted in a disturbed landscape and associated archaeological record.

Considering the AHIMS results, local and regional archaeological investigations as well as the environmental context, given that fresh water was necessary for survival and the project area is located approximately kilometre from a reliable water source, and the absence reliable of fresh water indicates the project area and immediate surrounds may have been used no more than hunting and gathering opportunities rather than large-scale long-term camping. Evidence of such past Aboriginal land uses manifest in the archaeological record as low-density shell middens and/or artefact scatters and isolated artefact.

Non-indigenous settlement and land uses have impacted the investigation area, most noticeably from excavation works associated with the residential dwellings and associated structures, dam construction, clearing, ploughing and motocross riding. These land uses would have impacted on the archaeological record by disturbing or removing any cultural materials that may have been present in the project area.

The site types that may be present within the project area, include very low-density artefact scatters and, or isolated artefacts, both of which are described below.

- **Artefact scatters**

Also described as open campsites, artefact scatters and open sites, these deposits have been defined at two or more stone artefacts within 50 metres of each other and will include archaeological remains such as stone artefacts and may be found in association with camping where other evidence may be present such as shell, hearths, stone lined fire places and/or heat treatment pits. These sites are usually identified as surface scatters of artefacts in areas where ground surface visibility is increased due to lack of vegetation. Erosion, agricultural activities (such as ploughing, grazing) and access ways can also expose surface campsites. Artefact scatters may represent evidence of;

- Large camp sites, where everyday activities such as habitation, maintenance of stone or wooden tools, manufacturing of such tools, management of raw materials, preparation and consumption of food and storage of tools has occurred;
- Medium/small camp sites, where activities such as minimal tool manufacturing occurred;
- Hunting and/or gathering events;
- Other events spatially separated from a camp site, or
- Transitory movement through the landscape.

Artefact scatters are a common site type in the locality and the broader region. There is potential for low-density artefact scatters to occur within the project area. However, there is also the potential for such sites to be impacted on through past land uses.

- **Isolated finds**

Isolated artefacts are usually identified in areas where ground surface visibility is increased due to lack of vegetation. Erosion, agricultural activities (such as ploughing) and access ways can also expose surface artefacts. Isolated finds may represent evidence of;

- Hunting and/or gathering events; or
- Transitory movement through the landscape.

Isolated finds are a common site type in the locality and the broader region. There is potential for isolated artefacts to occur across the project area and across all landforms. There is also the potential for such sites to be impacted on through past land uses.

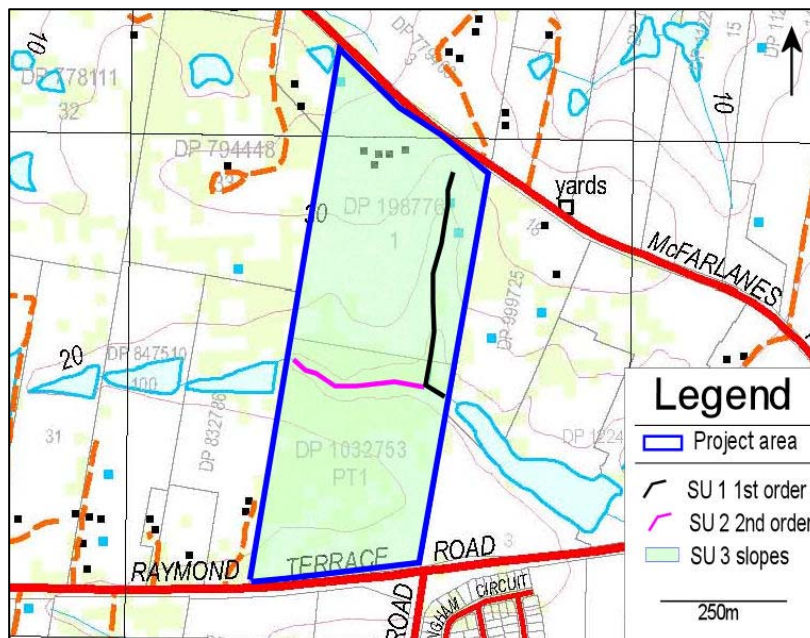
### 3 RESULTS AND DISCUSSION

To comply with the due diligence requirement that a visual inspection of the project area be undertaken, an archaeological survey across the project area was undertaken by MCH archaeologist Dr. Penny McCardle on 12<sup>th</sup> May 2022. The survey focused on areas of high ground surface visibility and exposures (erosional features, tracks, dams, cleared areas).

#### 3.1 SURVEY UNITS

The project area, consisting of slopes and drainage lines was surveyed as three survey units based on landform elements (following McDonald *et al* 1984). The location of the survey units is illustrated in Figure 3.1 and discussed in detail below.

Figure 3.1 Location of Survey Units



##### Survey Unit 1

Consisting of the 1<sup>st</sup> order drainage line and up to 5 metres both sides, a dam was located at its northern end. Previously cleared, vegetation consisted of open paddock towards the north and trees the remainder of the area. Visibility was low due to vegetation cover.

##### Survey Unit 2

Consisting of the 2<sup>nd</sup> order drainage line and up to 5 metres both sides. Also previously cleared with grass, trees were also present all of which hindered visibility.

##### Survey Unit 3

Consisting of the slopes, this area had been previously cleared and subject to at least one ploughing event for pasture grass and there remains some evidence of such (eroded ridged and furrows). A house and structures are located in the north west along with access and utilities. Visibility was moderate as were exposures (erosion, exposed areas).

As shown in Table 3.1 the total effective coverage for the project area was 99,119m<sup>2</sup>, or 31.12% reflecting the moderate surface visibility.

Table 3.1 Effective coverage for the investigation area

SU	Landform	Area (m2)	Vis. %	Exp. %	Exposure type	Previous disturbances	Present disturbances	Limiting visibility factors	Effective coverage (m2)
1	1st order	4,300	20%	80%	erosion, dam	clearing, grazing, dam	erosion	grass, leaf litter	688
2	2nd order	3,500	20%	80%	erosion	clearing, grazing	erosion	grass, leaf litter	560
3	slope	310,700	35%	90%	erosion, access	clearing, ploughing, grazing, house	residential, erosion	grass, leaf litter	97,871
<b>Totals</b>		<b>318,500</b>							<b>99,119</b>
<b>Effective coverage %</b>									<b>31.12%</b>

The level and nature of the effective survey coverage is considered satisfactory to provide an effective assessment of the project area. The coverage was comprehensive for obtrusive site types (e.g., grinding grooves and scarred trees) but somewhat limited for the less obtrusive surface stone artefact sites by surface visibility constraints that included vegetation cover and minimal exposures.

In relation to land uses and the associated impacts on the landscape and any cultural materials that may have been present, the project area has been subject to large-scale clearing, grazing, at least one ploughing event, and construction works associated with the house, structures, associated utilities, dam construction, and motocross activities and as indicated in Table 3.2, these disturbances are assessed as moderate to high.

Table 3.2 Land use scale (CSIRO 2010) and land uses in the project area

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

### 3.2 ARCHAEOLOGICAL SITES AND ARCHAEOLOGICAL SENSITIVITY

The previously identified AHIMS site (AHIMS#38-4-0892) was not identified during the assessment. This is not surprising given the amount of time since being first recorded and the significant natural events (major rain/flooding events and erosion) that has resulted in this site being destroyed through natural processes and the AHIMS register has been updated accordingly.

No additional sites or areas of potential archaeological sensitivity were identified in the project areas during the survey and this is due to the high impacts from previous land uses across the project area (clearing, ploughing, grazing, vineyard). Additionally, being located at a distance from reliable fresh water and resources, indicates the project area may have been utilised for more transitory activities rather than camping. Evidence of such past Aboriginal land uses manifests in the archaeological record as a background scatter of discarded artefacts, which would have been disturbed/destroyed through past land uses.

In view of the predictive modelling and the results obtained from the effective coverage and disturbance rating, it is concluded that the survey provides a valid basis for determining the probable impacts of the proposal and formulating recommendations for the project. The survey results demonstrate the absence of Aboriginal objects within the project area. The results are consistent with those obtained from other studies in the local area. The results indicate a number of possible past Aboriginal land use within the project area;

- No Aboriginal occupation
- Ground disturbances having disturbed or removed evidence

Considering general models of occupation for the locality, the results of this and local investigations, the locality may have been utilised by Aboriginal people. As the project area itself is located about 1 kilometre from reliable water and associated resources, the project area is unlikely to have been utilised more than a low intensity usage such as transitory movement or hunting/gathering activities.

### 3.3 CONCLUSION

It is well established that proximity to water was an important factor in past occupation of the area, with sites reducing in number significantly away from water with most sites located within 50 metres of the tributaries. The project area is located approximately 1 kilometre from Woodberry Swamp and associated resources and only two 1<sup>st</sup> and one 2<sup>nd</sup> order unreliable creeks are located in the project area. Due to the lack of necessary fresh water, the project area was unsuitable for sustained camping but may have been utilised for transitory movement or hunting/gathering activities only.

In relation to modern alterations to the landscape, previous large-scale clearing, grazing, at least one ploughing event, and construction works associated with the house, structures, associated utilities, dam construction, and motocross activities have had moderate to high impacts upon the archaeological record. Natural factors such as the significant rain/flooding and erosion events have also impacted on the archaeological record, all of which would have displaced cultural materials and the likelihood of in situ cultural materials is very low.

## 4 ASSESSMENT OF IMPACTS

The archaeological record is a non-renewable resource that is affected by many processes and activities. As outlined in Section 2 and Section 3, the various natural processes and human activities have impacted on archaeological deposits through both site formation and taphonomic processes.

### 4.1 IMPACTS

The Heritage NSW Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (2010:21) describes impacts to be rated as follows:

- 1) Type of harm: is either direct, indirect or none
- 2) Degree of harm is defined as either total, partial or none
- 3) Consequence of harm is defined as either total loss, partial loss, or no loss of value

The previously identified AHIMS site 38-4-0892 was not identified during the assessment due to significant natural events (major rain/flooding events and erosion) that has resulted in this site being destroyed through natural processes.

As no additional sites or PADs were identified, there are no impacts on the archaeological record.

## 5 MITIGATION AND MANAGEMENT STRATEGIES

Specific strategies, as outlined through the Heritage NSW Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010b), the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011), and the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (DECCW 2010c), are considered below for the management of the identified site(s) within the project area.

### 5.1 CONSERVATION/PROTECTION

Conservation is the first avenue and is suitable for all sites, especially those considered high archaeological significance and/or cultural significance. Conservation includes the processes of looking after an indigenous site or place so as to retain its significance and managed in a way that is consistent with the nature of peoples' attachment to them.

As no sites or PADs were identified conservation/protection is not required.

### 5.2 FURTHER INVESTIGATION

An Aboriginal Heritage Impact Permit (AHIP) is no longer required to undertake test excavations (providing the excavations are in accordance with the Code of Practice for Archaeological Investigations in NSW). Subsurface testing is appropriate when a PAD has been identified, and it can be demonstrated that sub-surface Aboriginal objects with potential conservation value have a high probability of being present, and that the area cannot be substantially avoided by the proposed activity.

As no sites or PADs were identified further investigations are not justified.

### 5.3 AHIP

If harm will occur to an Aboriginal object or Place, then an AHIP should be sought from Heritage NSW, Department of Premier & Cabinet as a defence to that harm. If a systematic excavation of the known site could provide benefits and information for the Aboriginal community and/or archaeological study of past Aboriginal occupation, a salvage program, and, or community collection, may be an appropriate strategy to enable the salvage of cultural objects.

**The Development Application Condition 19 – 'Prior to physical works commencing on the site (including the clearing of vegetation), a copy of the Aboriginal Heritage Impact Permit (AHIP) issued under section 90 of the *National Parks and Wildlife Act 1974* is to be submitted to Council', is no longer relevant as the AHIMS site has been destroyed through natural processes, and the AHIMS register updated accordingly.**

As the previous AHIMS#38-4-0892 site was not identified during the previous assessment nor this assessment and natural impacts have occurred, AHIMS has been updated to this site being destroyed through natural processes and as such an AHIP is not required.

## 6 RECOMMENDATIONS

### 6.1 GENERAL

- 1) The persons responsible for the management of onsite works will ensure that all staff, contractors and others involved in construction and maintenance related activities are made aware of the statutory legislation protecting sites and places of significance. Of particular importance is the National Parks and Wildlife Regulation 2019, under the National Parks and Wildlife Act 1974;
- 2) Should any Aboriginal objects be uncovered during works, all work will cease in that location immediately and the Environmental Line contacted; and
- 3) An AHIP is not required prior to commencement of works on site as AHIMS#38-4-0892 has been updated to 'destroyed'.



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## APPENDIX A

### AHIMS Search Results

Penny Mccardle

Date: 19 May 2022

Po Box 166

Adamstown New South Wales 2289

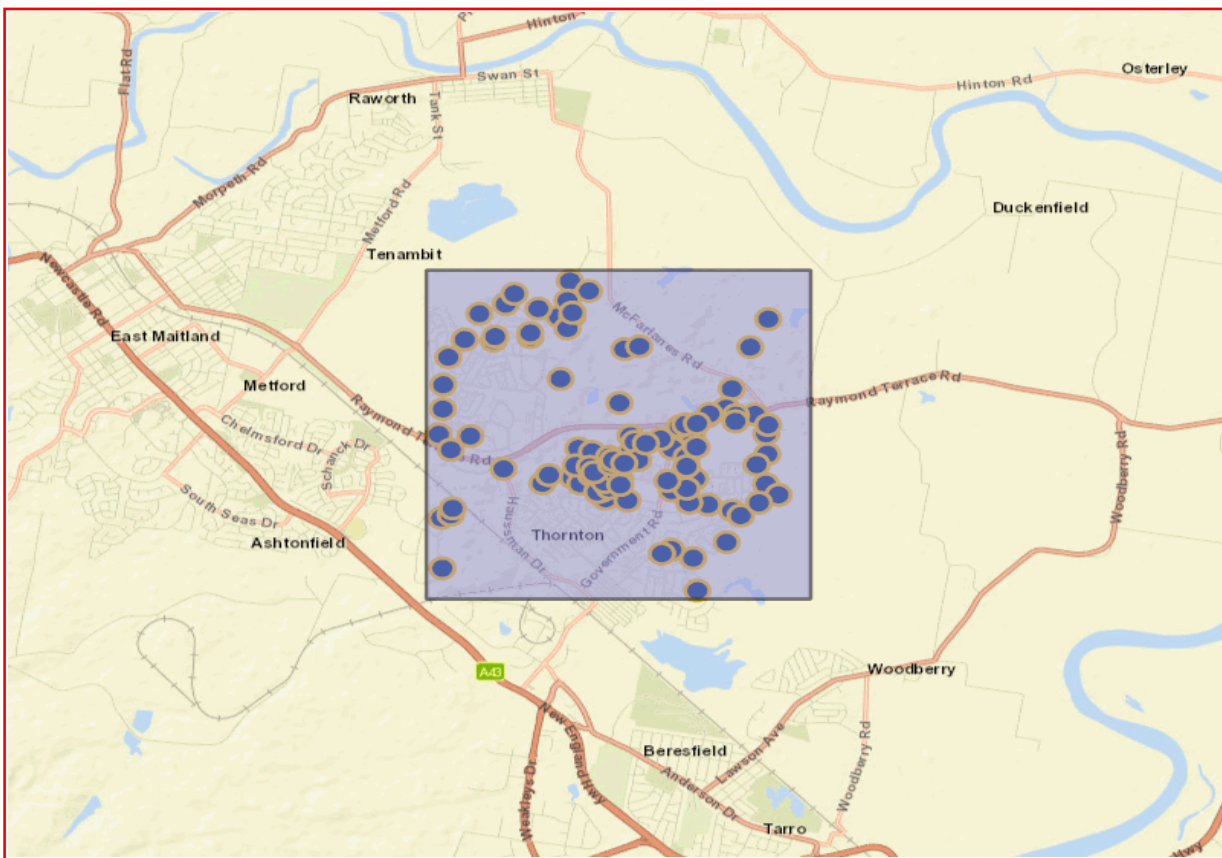
Attention: Penny Mccardle

Email: penny@mcheritage.com.au

Dear Sir or Madam:

**AHIMS Web Service search for the following area at Datum :GDA, Zone : 56, Eastings : 371000.0 - 375000.0, Northings : 6372000.0 - 6376000.0 with a Buffer of 0 meters, conducted by Penny Mccardle on 19 May 2022.**

**The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.**



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

<b>116</b>	<b>Aboriginal sites are recorded in or near the above location.</b>
<b>0</b>	<b>Aboriginal places have been declared in or near the above location. *</b>



### **If your search shows Aboriginal sites or places what should you do?**

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette \(https://www.legislation.nsw.gov.au/gazette\)](https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

### **Important information about your AHIMS search**

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.



SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
38-4-1982	RTRD12 <b>Contact</b>	GDA	56	372827	6373268	Open site	Valid	Artefact : -		104167
38-4-1978	RTRD01 <b>Contact</b>	GDA	56	372949	6373504	Open site	Destroyed	Artefact : -		104167
38-4-0929	Thornton North Site 3 - Lot 20 <b>Contact</b> T Russell	AGD	56	373007	6373565	Open site	Destroyed	Artefact : 2		104167
38-4-0890	Thornton North 1 <b>Contact</b> T Russell	GDA	56	373125	6373986	Open site	Destroyed	Artefact : -		104167
38-4-1956	RPS JN 4 IF <b>Contact</b>	GDA	56	374186	6374579	Open site	Destroyed	Artefact : -		104167
38-4-1758	VALAIRE LAND 5/A <b>Contact</b>	GDA	56	373571	6373318	Open site	Valid	Artefact : -		104167
38-4-0361	Thornton 11; <b>Contact</b>	AGD	56	373700	6372300	Open site	Valid	Artefact : -	Open Camp Site	102568
38-4-0352	Thornton 8; <b>Contact</b>	AGD	56	373850	6372960	Open site	Valid	Artefact : -	Isolated Find	100924
38-4-0884	Thornton North 2 (TN2) <b>Contact</b> T Russell	AGD	56	371950	6375000	Open site	Valid	Artefact : 1		100914
38-4-0943	Thornton North 3 (TN3) <b>Contact</b> T Russell	AGD	56	371950	6375050	Open site	Valid	Artefact : 3		100914
38-4-1734	TB14 <b>Contact</b>	GDA	56	372353	6375445	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : -		100914
38-4-1730	TB22 <b>Contact</b>	GDA	56	372463	6375885	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : -		100914
38-4-0928	Thornton North Site 2 - Lot 20 <b>Contact</b> T Russell	AGD	56	373068	6373723	Open site	Destroyed	Artefact : 1		100914
38-4-0435	FMC 7; <b>Contact</b>	AGD	56	371040	6372760	Open site	Valid	Artefact : -	Isolated Find	100512
38-4-0434	FMC 6; <b>Contact</b>	AGD	56	371140	6372800	Open site	Valid	Artefact : -	Open Camp Site	100512
38-4-1052	TV5 (Thornton Vets 5) <b>Contact</b>	GDA	56	371790	6375590	Open site	Valid	Artefact : 1		100914
38-4-0803	Thornton North 8 - TN 8 <b>Contact</b>	AGD	56	372030	6375350	Open site	Valid	Artefact : -		100914

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
	<a href="#">Contact</a> T Russell	<a href="#">Recorders</a>						<a href="#">Permits</a>		
38-4-2009	Lot 131 Site 9 Thornton	GDA	56	372692	6373590	Open site	Valid	Artefact : -	2113,2509,2880,2881,3341	
	<a href="#">Contact</a>	<a href="#">Recorders</a>						<a href="#">Permits</a>		
45-7-0375	RPS CHISHOLM PAD01	GDA	56	372666	6375765	Open site	Destroyed	Artefact : 1, Potential Archaeological Deposit (PAD) : 1		
	<a href="#">Contact</a>	<a href="#">Recorders</a>						<a href="#">Permits</a>		
38-4-0933	Thornton North Site 3 Lot 1	AGD	56	372620	6373595	Open site	Valid	Artefact : 2		
	<a href="#">Contact</a> T Russell	<a href="#">Recorders</a>						<a href="#">Permits</a>		
38-4-1977	RTRD14	GDA	56	372807	6373263	Open site	Valid	Artefact : -		
	<a href="#">Contact</a>	<a href="#">Recorders</a>						<a href="#">Permits</a>		
38-4-1981	RTRD13	GDA	56	372869	6373260	Open site	Valid	Artefact : -		
	<a href="#">Contact</a>	<a href="#">Recorders</a>						<a href="#">Permits</a>		
38-4-1983	RTRD11	GDA	56	372874	6373209	Open site	Valid	Artefact : -		104167
	<a href="#">Contact</a>	<a href="#">Recorders</a>						<a href="#">Permits</a>		
38-4-1987	RTRD07	GDA	56	373011	6373630	Open site	Destroyed	Artefact : -		104167
	<a href="#">Contact</a>	<a href="#">Recorders</a>						<a href="#">Permits</a>		
38-4-1984	RTRD10	GDA	56	373023	6373444	Open site	Destroyed	Artefact : -		
	<a href="#">Contact</a>	<a href="#">Recorders</a>						<a href="#">Permits</a>		
38-4-0927	Thornton North Site 1 - Lot 20	AGD	56	372943	6374863	Open site	Valid	Artefact : 6		
	<a href="#">Contact</a> T Russell	<a href="#">Recorders</a>						<a href="#">Permits</a>		
38-4-1759	RPS Thornton AS1	GDA	56	373569	6373835	Open site	Destroyed	Artefact : 1		
	<a href="#">Contact</a>	<a href="#">Recorders</a>						<a href="#">Permits</a>		
38-4-1643	Lot 2 Govt Road Thornton	GDA	56	373775	6374010	Open site	Partially Destroyed	Artefact : -, Potential Archaeological Deposit (PAD) : -		
	<a href="#">Contact</a>	<a href="#">Recorders</a>						<a href="#">Permits</a>		
38-4-0365	Thornton 11;	AGD	56	373700	6372300	Open site	Valid	Artefact : -	Open Camp Site	102568
	<a href="#">Contact</a>	<a href="#">Recorders</a>						<a href="#">Permits</a>		
38-4-0749	Thornton A 3 (TA3)	AGD	56	374025	6374149	Open site	Partially Destroyed	Artefact : 3		100546
	<a href="#">Contact</a>	<a href="#">Recorders</a>						<a href="#">Permits</a>		
38-4-2003	Lot 131 Site 8 Thornton	GDA	56	372523	6373465	Open site	Valid	Artefact : -		
	<a href="#">Contact</a>	<a href="#">Recorders</a>						<a href="#">Permits</a>		
38-4-0752	Thornton A 13 (TA13)	AGD	56	374455	6373219	Open site	Partially Destroyed	Artefact : 1		100546
	<a href="#">Contact</a>	<a href="#">Recorders</a>						<a href="#">Permits</a>		
38-4-0881	Thornton North 26 (TN26)	AGD	56	371000	6373790	Open site	Valid	Artefact : 5		

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
	<b>Contact</b> T Russell	<b>Recorders</b> Mr.Peter Kuskie						<b>Permits</b>	2468,2592,3642	
38-4-0944	Thornton North 13 (TN13)	AGD	56	371090	6374740	Open site	Valid	Artefact : 18		100914
	<b>Contact</b> T Russell	<b>Recorders</b> Mr.Peter Kuskie						<b>Permits</b>	2468,2592,2880,2881,3341,3642	
38-4-0433	FMC 5;	AGD	56	371160	6372880	Open site	Valid	Artefact : -	Open Camp Site	100512
	<b>Contact</b>	<b>Recorders</b> Liam Dagg						<b>Permits</b>	889	
38-4-1053	TV3 (Thornton Vets 3)	GDA	56	371880	6375720	Open site	Valid	Artefact : 2		
	<b>Contact</b>	<b>Recorders</b> Mr.Peter Kuskie						<b>Permits</b>		
38-4-0399	T1,;	AGD	56	372100	6373200	Open site	Destroyed	Artefact : -	Isolated Find	2880,103954
	<b>Contact</b>	<b>Recorders</b> Mary Dallas Consulting Archaeologists (MDCA),Noleen Curran,Ms.Lucinda O'Conn						<b>Permits</b>		
38-4-0930	Thornton North Site 4- Lot 1	AGD	56	372623	6373439	Open site	Valid	Artefact : 1		
	<b>Contact</b> T Russell	<b>Recorders</b> Mr.Giles (dup ID#12832) Hamm						<b>Permits</b>	4531	
38-4-2070	RTRD16	GDA	56	372833	6373307	Open site	Valid	Artefact : -		
	<b>Contact</b>	<b>Recorders</b> Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats						<b>Permits</b>		
38-4-1980	RTRD05	GDA	56	372993	6373548	Open site	Destroyed	Artefact : -		104167
	<b>Contact</b>	<b>Recorders</b> Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats						<b>Permits</b>	4359	
38-4-0121	None Specified	AGD	56	373000	6373000	Open site	Valid	Artefact : -	Open Camp Site	
	<b>Contact</b>	<b>Recorders</b> P Jones						<b>Permits</b>		
38-4-0353	Thornton 9;	AGD	56	373650	6372980	Open site	Valid	Artefact : -	Open Camp Site	100924
	<b>Contact</b>	<b>Recorders</b> Mr.Peter Kuskie						<b>Permits</b>	718	
38-4-1966	Valaire Land 6/A	GDA	56	373812	6373466	Open site	Destroyed	Artefact : 1, Potential Archaeological Deposit (PAD) : 1		
	<b>Contact</b>	<b>Recorders</b> Mr.Peter Kuskie,South East Archaeology						<b>Permits</b>		
38-4-0932	Thornton North Site 2 Lot 1	AGD	56	372474	6373634	Open site	Valid	Artefact : 2		
	<b>Contact</b> T Russell	<b>Recorders</b> Mr.Giles (dup ID#12832) Hamm						<b>Permits</b>	4531	
38-4-0882	Thornton North 21 (TN21)	AGD	56	371040	6374100	Open site	Valid	Artefact : 6		
	<b>Contact</b> T Russell	<b>Recorders</b> Mr.Peter Kuskie						<b>Permits</b>	2468,2592,3642	
38-4-0883	Thornton North 20 (TN20)	AGD	56	371040	6374400	Open site	Valid	Artefact : 1		100914
	<b>Contact</b> T Russell	<b>Recorders</b> Mr.Peter Kuskie						<b>Permits</b>	2880,2881,3341,3642	
38-4-0978	Thornton North PAD 1	AGD	56	371564	6374950	Open site	Valid	Potential Archaeological Deposit (PAD) :-		
	<b>Contact</b> Searle	<b>Recorders</b> Ms.Penny Mccardle						<b>Permits</b>	2509	
38-4-0355	T 1; (Duplicate of 38-4-0399)	AGD	56	372100	6373200	Open site	Destroyed	Artefact : -	Isolated Find	103954
	<b>Contact</b>	<b>Recorders</b> Mary Dallas Consulting Archaeologists (MDCA),Noleen Curran,Ms.Lucinda O'Conn						<b>Permits</b>		
38-4-0124	Parkwood,;	AGD	56	372850	6373300	Open site	Valid	Artefact : -	Open Camp Site	
	<b>Contact</b>	<b>Recorders</b> P Jones						<b>Permits</b>		

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
38-4-2069	RTRD15	GDA	56	373010	6373468	Open site	Valid	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats				<b>Permits</b>			
<b>38-4-0892</b>	<b>Thornton North Site 2</b>	<b>GDA</b>	<b>56</b>	<b>373444</b>	<b>6373951</b>	<b>Open site</b>	<b>Destroyed</b>	<b>Artefact : 1</b>		
	<b>Contact</b>	T Russell	<b>Recorders</b>	Mr.Giles (dup ID#12832) Hamm,MCH - McCardle Cultural Heritage Pty Ltd,Ms.Peni				<b>Permits</b>	2592,2819	
38-4-0354	Thornton 10;	AGD	56	373470	6372400	Open site	Valid	Artefact : -	Open Camp Site	100924,102568
	<b>Contact</b>	<b>Recorders</b>	Mr.Peter Kuskie				<b>Permits</b>	718,887		
38-4-1757	VALAIRE LAND 4/A	GDA	56	373727	6373345	Open site	Valid	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	Mr.Peter Kuskie				<b>Permits</b>	3899		
38-4-1789	RPS JN 2	GDA	56	373940	6374242	Open site	Destroyed	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	RPS Australia East Pty Ltd - Hamilton,RPS Australia East Pty Ltd - Hamilton,Ms.Jo N				<b>Permits</b>	4157		
38-4-1788	RPS JN 1	GDA	56	373954	6374267	Open site	Destroyed	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	RPS Australia East Pty Ltd - Hamilton,RPS Australia East Pty Ltd - Hamilton,Ms.Jo N				<b>Permits</b>	4157		
38-4-0888	Thornton Beechwood 6	AGD	56	372275	6374489	Open site	Valid	Artefact : 2		103380
	<b>Contact</b>	T Russell	<b>Recorders</b>	Mr.Peter Kuskie,Mr.Peter Kuskie				<b>Permits</b>	2816,2817,3875	
38-4-0356	T 2 Beresfield	AGD	56	372500	6373200	Open site	Destroyed	Artefact : -	Open Camp Site	
	<b>Contact</b>	<b>Recorders</b>	Noleen Curran,Ms.Penny Mccardle				<b>Permits</b>			
38-4-1790	RPS JN 3	GDA	56	374431	6374267	Open site	Destroyed	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	RPS Australia East Pty Ltd - Hamilton,RPS Australia East Pty Ltd - Hamilton,Ms.Jo N				<b>Permits</b>	4157		
38-4-0626	Thornton Substation PAD1	AGD	56	371688	6373373	Open site	Valid	Potential Archaeological Deposit (PAD) : 0		
	<b>Contact</b>	<b>Recorders</b>	MCH - McCardle Cultural Heritage Pty Ltd				<b>Permits</b>	1389		
38-4-1999	Lot 131 Site 4 Thornton	GDA	56	372724	6373519	Open site	Valid	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	Mr.Giles Hamm				<b>Permits</b>	4531		
38-4-1979	RTRD04	GDA	56	372988	6373530	Open site	Destroyed	Artefact : -		104167
	<b>Contact</b>	<b>Recorders</b>	Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats				<b>Permits</b>	4359		
38-4-0349	Thornton 5;	AGD	56	373370	6372350	Open site	Valid	Artefact : -	Open Camp Site	102568
	<b>Contact</b>	<b>Recorders</b>	Mr.Peter Kuskie				<b>Permits</b>	718,887		
38-4-1755	VALAIRE LAND 2/A	GDA	56	373522	6373438	Open site	Valid	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	Mr.Peter Kuskie				<b>Permits</b>	3899		
38-4-1754	VALAIRE LAND 1/A	GDA	56	373723	6373735	Open site	Valid	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	Mr.Peter Kuskie				<b>Permits</b>	3899		
38-4-0886	Thornton Beechwood 15	AGD	56	372390	6375260	Open site	Valid	Artefact : 1		103380
	<b>Contact</b>	T Russell	<b>Recorders</b>	Mr.Peter Kuskie				<b>Permits</b>	3875	
38-4-1996	Lot 131 Site 3 Thornton	GDA	56	372570	6373596	Open site	Valid	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	Mr.Giles Hamm				<b>Permits</b>	4531		

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
38-4-0395	T2; Beresfield	AGD	56	372500	6373200	Open site	Destroyed	Artefact : -	Open Camp Site	2880
	<b>Contact</b>	<b>Recorders</b>	Noleen Curran,Ms.Penny Mccardle					<b>Permits</b>		
38-4-0751	Thornton A 9 (TA9)	AGD	56	374450	6373840	Open site	Valid	Artefact : 5		
	<b>Contact</b>	<b>Recorders</b>	Mr.Peter Kuskie					<b>Permits</b>		
38-4-0756	Thornton A 12 (TA12)	AGD	56	374465	6373589	Open site	Partially Destroyed	Artefact : 1		100059,100546
	<b>Contact</b>	<b>Recorders</b>	Mr.Peter Kuskie					<b>Permits</b>	2112,3044,3103	
38-4-0754	Thornton A 15 (TA15)	AGD	56	374590	6373090	Open site	Valid	Artefact : 1		
	<b>Contact</b>	<b>Recorders</b>	Mr.Peter Kuskie					<b>Permits</b>	3044,3103	
38-4-0893	Thornton North 4	AGD	56	373105	6373500	Open site	Destroyed	Artefact : -		
	<b>Contact</b> T Russell	<b>Recorders</b>	Mr.Giles (dup ID#12832) Hamm					<b>Permits</b>	2592,2819,3189	
38-4-0436	FMC 8;	AGD	56	371060	6372140	Open site	Valid	Artefact : -	Open Camp Site	100512
	<b>Contact</b>	<b>Recorders</b>	Liam Dagg					<b>Permits</b>	889	
38-4-0833	Four Mile Creek PAD	AGD	56	371333	6373772	Open site	Valid	Potential Archaeological Deposit (PAD) :-		
	<b>Contact</b> T Russell	<b>Recorders</b>	AECOM Australia Pty Ltd - Sydney					<b>Permits</b>	2140	
38-4-2001	Lot 131 Site 6 Thornton	GDA	56	372274	6373493	Open site	Valid	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	Mr.Giles Hamm					<b>Permits</b>	4531	
38-4-2002	Lot 131 Site 7 Thornton	GDA	56	372714	6373500	Open site	Valid	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	Mr.Giles Hamm					<b>Permits</b>	4531	
38-4-2071	RTRD17	GDA	56	372785	6373290	Open site	Valid	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats					<b>Permits</b>		
38-4-1989	RTRD02	GDA	56	372909	6373342	Open site	Valid	Artefact : -		104167
	<b>Contact</b>	<b>Recorders</b>	Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats					<b>Permits</b>	4359	
38-4-0125	None Specified	AGD	56	372900	6374200	Open site	Valid	Artefact : -	Open Camp Site	
	<b>Contact</b>	<b>Recorders</b>	P Jones					<b>Permits</b>		
38-4-1988	RTRD06	GDA	56	373018	6373607	Open site	Destroyed	Artefact : -		104167
	<b>Contact</b>	<b>Recorders</b>	Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats					<b>Permits</b>	4359	
38-4-0350	Thornton 6;	AGD	56	374050	6372500	Open site	Valid	Artefact : -	Open Camp Site	100924,102568
	<b>Contact</b>	<b>Recorders</b>	Mr.Peter Kuskie					<b>Permits</b>	718	
38-4-0351	Thornton 7;	AGD	56	374105	6372889	Open site	Partially Destroyed	Artefact : -	Open Camp Site	102568
	<b>Contact</b>	<b>Recorders</b>	Mr.Peter Kuskie					<b>Permits</b>	718,887,3044,3103	
38-4-1955	RPS JN 6 AS	GDA	56	374233	6374254	Open site	Destroyed	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	RPS Australia East Pty Ltd - Hamilton,RPS Australia East Pty Ltd - Hamilton,Ms.Jo N					<b>Permits</b>		

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
38-4-1756	VALAIRE LAND 2/B	GDA	56	373722	6373618	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) :-		
	<b>Contact</b>	<b>Recorders</b>	South East Archaeology					<b>Permits</b>	3899	
38-4-1732	TB17	GDA	56	372440	6375642	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) :-		
	<b>Contact</b>	<b>Recorders</b>	Mr.Peter Kuskie,South East Archaeology					<b>Permits</b>	3875	
38-4-0750	Thornton A 8 (TA8)	AGD	56	374470	6373950	Open site	Valid	Artefact : 9		
	<b>Contact</b>	<b>Recorders</b>	Mr.Peter Kuskie					<b>Permits</b>		
38-4-0123	None Specified	AGD	56	373100	6374900	Open site	Valid	Artefact : -	Open Camp Site	
	<b>Contact</b>	<b>Recorders</b>	P Jones					<b>Permits</b>		
38-4-0942	Thornton North 7 (TN7)	AGD	56	371410	6375280	Open site	Valid	Artefact : 20		100914
	<b>Contact</b>	<b>Recorders</b>	Mr.Peter Kuskie					<b>Permits</b>	2509,2880,2881,3341	
38-4-0934	Thornton North Site 4 - Lot 20	AGD	56	372620	6373595	Open site	Valid	Artefact : 3		104167
	<b>Contact</b>	<b>Recorders</b>	Mr.Giles (dup ID#12832) Hamm					<b>Permits</b>	4359	
38-4-1976	RTRD03	GDA	56	372860	6373415	Open site	Valid	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats					<b>Permits</b>		
38-4-1986	RTRD08	GDA	56	372982	6373537	Open site	Destroyed	Artefact : -		104167
	<b>Contact</b>	<b>Recorders</b>	Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats					<b>Permits</b>	4359	
38-4-1985	RTRD09	GDA	56	373026	6373381	Open site	Valid	Artefact : -		104167
	<b>Contact</b>	<b>Recorders</b>	Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats					<b>Permits</b>		
38-4-0748	Thornton A 1(TA1)	AGD	56	374125	6373989	Open site	Partially Destroyed	Artefact : 2		100059,100546
	<b>Contact</b>	<b>Recorders</b>	Mr.Peter Kuskie					<b>Permits</b>	2112,3044,3103	
38-4-0753	Thornton A 20 (TA20)	AGD	56	374195	6372829	Open site	Partially Destroyed	Artefact : 1		100546,102568
	<b>Contact</b>	<b>Recorders</b>	Mr.Peter Kuskie					<b>Permits</b>	3044,3103	
38-4-2033	Raymond Terrace Road IF	GDA	56	373643	6374110	Open site	Valid	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	RPS Australia East Pty Ltd - York Street Sydney ,Mrs.Amanda Crick					<b>Permits</b>		
38-4-2032	Raymond Terrace Road IF1	GDA	56	373702	6374134	Open site	Destroyed	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	RPS Australia East Pty Ltd - York Street Sydney ,RPS Australia East Pty Ltd - Newca					<b>Permits</b>		
38-4-2031	Raymond Terrace Road IF2	GDA	56	373825	6374148	Open site	Valid	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	RPS Australia East Pty Ltd - York Street Sydney ,Mrs.Amanda Crick					<b>Permits</b>		
38-4-0887	Thornton Beechwood 11	AGD	56	372340	6375110	Open site	Valid	Artefact : 1		103380
	<b>Contact</b>	<b>Recorders</b>	Mr.Peter Kuskie					<b>Permits</b>	3875	
38-4-1733	TB16	GDA	56	372495	6375495	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) :-		

Report generated by AHIMS Web Service on 19/05/2022 for Penny Mccardle for the following area at Datum :GDA, Zone : 56, Eastings : 371000.0 - 375000.0, Northings : 6372000.0 - 6376000.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 116

This information is not guaranteed to be free from error omission. Heritage NSW and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.



SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
	<b>Contact</b>	<b>Recorders</b>	Mr.Jason Barr					<b>Permits</b>	3875	
38-4-1995	Lot 131 Site 1 Thornton	GDA	56	372551	6373614	Open site	Valid	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	Mr.Giles Hamm					<b>Permits</b>	4531	
38-4-0755	Thornton A 18 (TA18)	AGD	56	374385	6372989	Open site	Partially Destroyed	Artefact : 1		100546,102568
	<b>Contact</b>	<b>Recorders</b>	Mr.Peter Kuskie					<b>Permits</b>	3044,3103	
38-4-2041	HN-MF-A01	GDA	56	374559	6375442	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) :-		
	<b>Contact</b>	<b>Recorders</b>	Heritage Now - Belmont,Heritage Now - Belmont,Ms.Crystal Phillips,Ms.Crystal Phi					<b>Permits</b>		
38-4-0889	Thornton North 27 (TN27)	AGD	56	371130	6373600	Open site	Valid	Artefact : 1		100988
	<b>Contact</b> T Russell	<b>Recorders</b>	Mr.Peter Kuskie					<b>Permits</b>	2809,3011,3642	
38-4-0945	Thornton North 12 (TN12)	AGD	56	371260	6374960	Open site	Valid	Artefact : -		100914
	<b>Contact</b> T Russell	<b>Recorders</b>	Mr.Peter Kuskie					<b>Permits</b>	2880,2881,3341	
38-4-0804	Thornton North 9 - TN9	AGD	56	371580	6375000	Open site	Valid	Artefact : -		100914
	<b>Contact</b> T Russell	<b>Recorders</b>	Mr.Peter Kuskie					<b>Permits</b>	2113,2509,2880,2881,3341	
38-4-0625	Thornton 3 (T3)	AGD	56	371688	6373373	Open site	Valid	Artefact : 1		
	<b>Contact</b>	<b>Recorders</b>	MCH - McCardle Cultural Heritage Pty Ltd					<b>Permits</b>	2141	
38-4-0931	Thornton North Site 1 Lot 1	AGD	56	372597	6373409	Open site	Valid	Artefact : 3		
	<b>Contact</b> T Russell	<b>Recorders</b>	Mr.Giles (dup ID#12832) Hamm					<b>Permits</b>	4531	
38-4-2000	Lot 131 Site 5	GDA	56	372748	6373532	Open site	Valid	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	Mr.Giles Hamm					<b>Permits</b>	4531	
38-4-0939	Thornton North Site 9 - Lot 20	AGD	56	372800	6373535	Open site	Valid	Artefact : 1		104167
	<b>Contact</b> T Russell	<b>Recorders</b>	Mr.Giles (dup ID#12832) Hamm					<b>Permits</b>		
38-4-0937	Thornton North Site 7 - Lot 20	AGD	56	372818	6373445	Open site	Valid	Artefact : 1		104167
	<b>Contact</b> T Russell	<b>Recorders</b>	Mr.Giles (dup ID#12832) Hamm					<b>Permits</b>		
38-4-0938	Thornton North Site 8 - Lot 20	AGD	56	372843	6373494	Open site	Valid	Artefact : 2		104167
	<b>Contact</b> T Russell	<b>Recorders</b>	Mr.Giles (dup ID#12832) Hamm					<b>Permits</b>		
38-4-0935	Thornton North Site 5 - Lot 20	AGD	56	372960	6373457	Open site	Destroyed	Artefact : 2		104167
	<b>Contact</b> T Russell	<b>Recorders</b>	Mr.Giles (dup ID#12832) Hamm					<b>Permits</b>	4359	
38-4-0891	Thornton North 3	AGD	56	373185	6373705	Open site	Destroyed	Artefact : -		
	<b>Contact</b> T Russell	<b>Recorders</b>	Navin Officer Heritage Consultants Pty Ltd					<b>Permits</b>	2592,2819,3189,3745	
38-4-1760	RPS Thornton AS2	GDA	56	373823	6373858	Open site	Destroyed	Artefact : 1		
	<b>Contact</b>	<b>Recorders</b>	RPS Australia East Pty Ltd - Hamilton					<b>Permits</b>		
38-4-0346	Thornton 2;	AGD	56	373750	6371900	Open site	Valid	Artefact : -	Open Camp Site	102568
	<b>Contact</b>	<b>Recorders</b>	Mr.Peter Kuskie					<b>Permits</b>	718,887	



# AHIMS Web Services (AWS)

## Extensive search - Site list report

Your Ref/PO Number : Beresfield updated search

Client Service ID : 683737

<u>SiteID</u>	<u>SiteName</u>	<u>Datum</u>	<u>Zone</u>	<u>Easting</u>	<u>Northing</u>	<u>Context</u>	<u>Site Status **</u>	<u>SiteFeatures</u>	<u>SiteTypes</u>	<u>Reports</u>
38-4-2040	HN-MF-A02	GDA	56	374374	6375095	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) :-		
	<u>Contact</u>									
38-4-0941	Thornton A 14 (TA14)	AGD	56	374355	6373459	Open site	Partially Destroyed	Artefact : 73		100546
	<u>Contact</u>									
	T Russell	<u>Recorders</u>		Mr.Peter Kuskie				<u>Permits</u>	3103	

**\*\* Site Status**

**Valid** - The site has been recorded and accepted onto the system as valid

**Destroyed** - The site has been completely impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There is nothing left of the site on the ground but proponents should proceed with caution.

**Partially Destroyed** - The site has been only partially impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There might be parts or sections of the original site still present on the ground

**Not a site** - The site has been originally entered and accepted onto AHIMS as a valid site but after further investigations it was decided it is NOT an aboriginal site. Impact of this type of site does not require permit but Heritage NSW should be notified

Report generated by AHIMS Web Service on 19/05/2022 for Penny Mccardle for the following area at Datum :GDA, Zone : 56, Eastings : 371000.0 - 375000.0, Northings : 6372000.0 - 6376000.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 116

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