

Patyegarang Project, Belrose, NSW



Report to
Metropolitan Local Aboriginal Land Council

DSCA • 21 MACGREGOR STREET • CROYDON NSW 21322 • (02) 9715 1169 • 0411 88 4232 • dscsa@bigpond.net.au

Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023

Document control

Project Name	Aboriginal Archaeological Assessment. Patyegarang Project, Belrose, NSW
Client Name	Metropolitan Local Aboriginal Land Council
Status	Final
Issue Date	11 July 2023
Prepared by	Dominic Steele

Report contents

1.0	INTRODUCTION	7
1.1	BACKGROUND	7
1.2	<i>Planning Proposal</i>	<i>7</i>
1.3.1	<i>National Parks and Wildlife Act 1974.....</i>	<i>9</i>
1.3.2	<i>Environmental Planning and Assessment Act 1979.....</i>	<i>11</i>
1.4	REPORT METHOD AND OBJECTIVES	11
1.5	ABORIGINAL CONSULTATION	12
1.6	REPORT OUTLINE	12
1.7	AUTHORSHIP AND ACKNOWLEDGEMENT	12
2.0	LANDSCAPE AND ENVIRONMENTAL SETTING	13
2.1	LOCATION AND CONTEXT	13
2.2	GEOLOGY, SOILS, AND TOPOGRAPHY	13
3.0	ABORIGINAL ARCHAEOLOGICAL CONTEXT	15
3.1	REGIONAL ARCHAEOLOGICAL OVERVIEW	15
3.2	ABORIGINAL ARCHAEOLOGICAL SITE TYPES, FREQUENCY, AND SURVIVAL IN THE LANDSCAPE	20
3.3	SYDNEY ROCK ENGRAVINGS.....	21
3.4	LOCAL ARCHAEOLOGICAL CONTEXT	23
3.4.1	<i>Database searches and known information sources.....</i>	<i>23</i>
3.4.2	<i>Aboriginal archaeological site prediction.....</i>	<i>24</i>
4.0	FIELD SURVEY AND RECORDING.....	26
4.1	DEFINITION OF FIELD SURVEY UNITS	26
4.2	SURVEY AND RECORDING PROCEDURES.....	26
4.3	ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL.....	27
5.0	SURVEY FINDINGS AND ARCHAEOLOGICAL SITE RECORDINGS	28
5.1	SURVEY UNIT I	28
5.2	SURVEY UNIT II	28
5.3	SUMMARY OF EFFECTIVE SURVEY COVERAGE	33
5.4	RESULTS OF THE FIELDWORK	34
5.4.1	<i>Aboriginal heritage sites identified and recorded within the study area.....</i>	<i>34</i>

5.4.2	<i>Description of the identified engravings</i>	34
5.4.3	<i>Engraving techniques</i>	35
5.5	EVALUATION OF SURVEY FINDINGS	42
6.0	SIGNIFICANCE ASSESSMENT	44
6.1	ASSESSING HERITAGE SIGNIFICANCE	44
6.2	ASSESSING ABORIGINAL HERITAGE SIGNIFICANCE	45
6.3	PRELIMINARY SIGNIFICANCE	46
6.3.1	<i>Cultural significance</i>	46
6.3.2	<i>Educational significance</i>	46
6.3.3	<i>Scientific significance</i>	47
6.3.4	<i>Evaluation</i>	47
7.0	EFFECTS OF PROPOSAL ON ABORIGINAL CULTURAL HERITAGE	48
7.1	POTENTIAL IMPACT ON DOCUMENTED ABORIGINAL CULTURAL HERITAGE SITES	48
7.2	POTENTIAL IMPACT ON POTENTIAL ARCHAEOLOGICAL RESOURCES.....	48
7.3	OPPORTUNITIES.....	48
7.4	CONSERVATION AND MANAGEMENT OPTIONS FOR THE MORGAN ROAD ENGRAVINGS	49
7.5	EVALUATION	50
8.0	MANAGEMENT RECOMMENDATIONS	51
8.1	BASIS FOR RECOMMENDATION OF MANAGEMENT ADVICE	51
8.2	MANAGEMENT RECOMMENDATIONS.....	51
9.0	REFERENCES	52

Report summary

This Aboriginal Archaeological Assessment has been prepared for *Metropolitan Local Aboriginal Land Council (MLALC)* to inform a Planning Proposal for submission to the Department of Planning, Industry and Environment that seeks approval to rezone an approximately 71 ha land parcel that is located off Morgan Road in Belrose, NSW. This assessment identifies potential archaeological heritage constraints that may exist for the proposal, including legislative requirements under the *National Parks and Wildlife Act 1974*, and presents a management framework to guide how future rezoning and use of the land can be achieved in a way that will not adversely impact upon the Aboriginal archaeological and cultural heritage values of the place.

Patyegarang Project Planning Proposal

One of the objectives of the Patyegarang Project Planning Proposal is to embody strong conservation principles to support the enhancement of the site's unique environmental and Aboriginal cultural heritage characteristics. Future development will include a new cultural community centre and protection of Aboriginal cultural heritage sites. An indicative draft structure plan developed for the proposal is reflective of the site's opportunities and constraints in the areas of flora and fauna biodiversity, bushfire management, transport planning, Aboriginal heritage and stormwater management and the Planning Proposal intends to ensure development outcomes align with traditional First Nations 'Caring for Country' practices and relevant 'Connecting with Country' and 'Designing with Country' principles and strategies.

Aboriginal cultural heritage sites on the land

There are three (3) known Aboriginal archaeological heritage sites on the land which comprise rock engravings. No further evidence for past Aboriginal visitation or use of the site has been identified.

Effects of the Patyegarang Project Planning Proposal on Aboriginal cultural heritage

The Structure Plan and Illustrative Master Plan have been developed in consultation with the MLALC and been designed to protect and conserve the Aboriginal cultural heritage sites known to occur on the land. Their long-term conservation within a large open-space context and future management under the decision-making of the MLALC will enable their continued and ongoing protection.

Further Aboriginal archaeological sites may remain undetected on the land, but outside of the principal rock platforms that contains the rock engravings but no other specific areas of potential Aboriginal archaeological sensitivity have been identified.

On the basis of these considerations, it is concluded the Patyegarang Project Planning Proposal is unlikely to have an adverse impact upon the Aboriginal cultural heritage values of the land and should proceed, but contingent upon the implementation of the recommendations below.

Aboriginal cultural heritage management recommendations

- The Patyegarang Project Planning Proposal will not have an unacceptable adverse impact upon the Aboriginal cultural heritage values of the land and should proceed, and the Aboriginal archaeological heritage sites recorded on the land should be protected and conserved within the nominated open space identified by the Structure Plan.
- There is the possibility that other engravings occur within the vicinity of the known engraving sites that are obscured by vegetation cover. Any vegetation clearance on the sandstone exposures containing the rock engravings or which may be considered in the future for the specific purposes of locating engravings in other parts of the site should be undertaken with care and completed according to the terms of an Aboriginal Heritage Impact Permit issued for the activity under the *National Parks and Wildlife Act 1974*.

1.0 Introduction

1.1 Background

This Aboriginal Archaeological Assessment has been prepared for *Metropolitan Local Aboriginal Land Council* (MLALC) to inform a Planning Proposal referred to as the Patyegarang Project Planning Proposal for submission to the Department of Planning, Industry and Environment that seeks approval to rezone an approximately 71 ha land parcel located off Morgan Road in Belrose as shown below.

Figure 1.1: The Patyegarang Project Planning Proposal study area situated between Forest Way (c.400m to the west), Wakehurst Parkway (c.1.5km to the east), Perentie Road (to the south west) and Morgan Road (to the north)



This report forms one of a series of technical assessments that have been prepared to investigate and understand the Patyegarang Project land and its values, and its future capabilities. These studies have assessed the feasibility and impact rezoning will have on the land and its values and explored development options. The objectives of this assessment have been to identify Aboriginal archaeological heritage constraints that may exist for the land rezoning, including legislative requirements under the *National Parks and Wildlife Act 1974*, and to guide how future rezoning and use of the land can be achieved in a way that will not adversely impact upon the Aboriginal archaeological heritage values of the place.

1.2 Planning Proposal

The purpose of the Patyegarang Project Planning Proposal Planning Proposal is to implement the Development Delivery Plan for the subject site created under State Environmental Planning Policy (Planning Systems) 2021.

The objective of the Planning Proposal is to create a residential community embodying strong conservation principles to support the enhancement of the unique environmental and Aboriginal cultural heritage characteristics of the site.

The intended outcome of the Planning Proposal is to amend applicable local planning controls to accommodate a 450 dwelling cap with a variety of scale and character reflective of the dominant dwelling type in the Belrose locality, as well as a new cultural community centre and protection of aboriginal heritage sites.

An indicative draft structure plan has been developed by COX Architecture that is reflective of the site's opportunities and constraints in the areas of flora and fauna biodiversity, bushfire management, transport planning, Aboriginal heritage and stormwater management. The Planning Proposal intends to ensure development outcomes align with traditional indigenous 'Caring for Country' practices and relevant 'Connecting with Country' and 'Designing with Country' principles and strategies.

Figure 1.2: Structure Plan (Cox Architecture 2022)

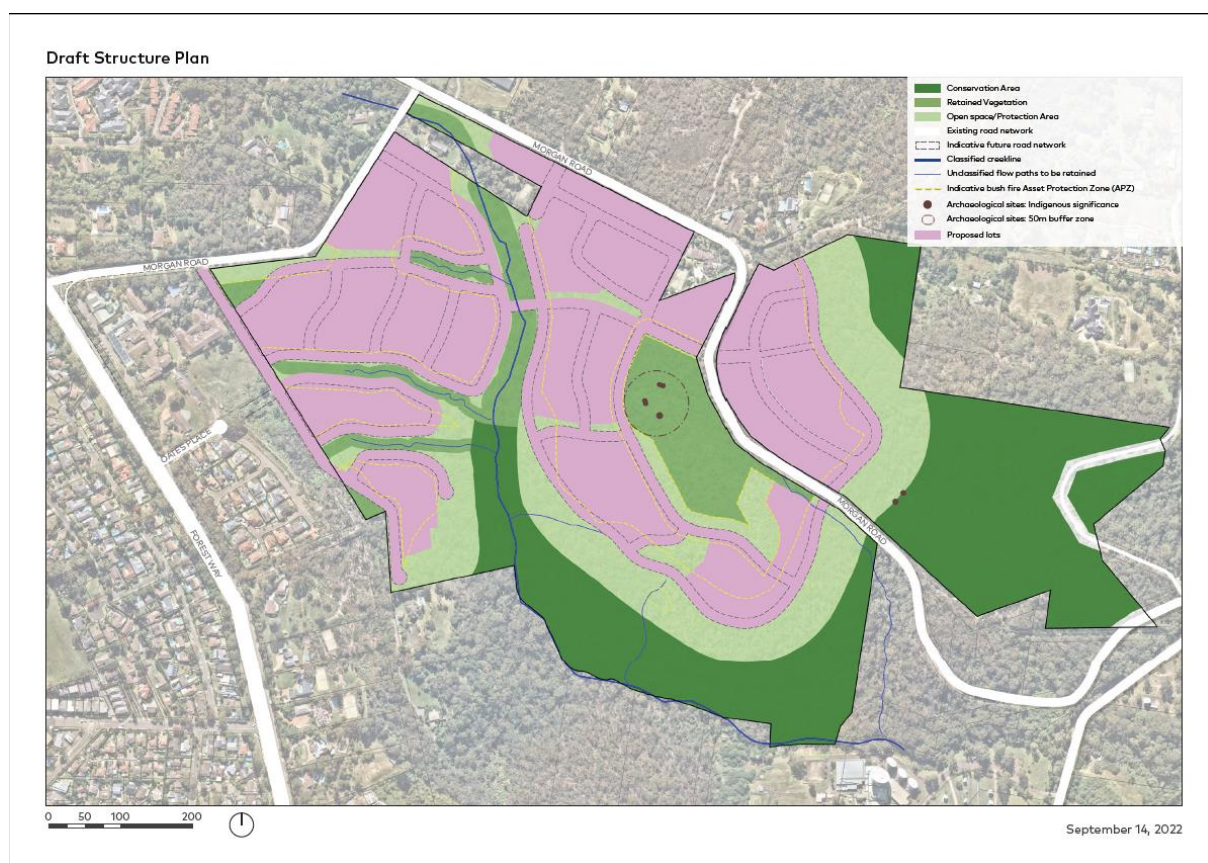


Figure 1.3: Illustrative Master Plan (Cox Architecture 2022)



1.3 Statutory protection for Aboriginal cultural heritage

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

- The *National Parks and Wildlife Act 1974* (NPW Act as amended); and
- The *Environmental Planning and Assessment Act 1979* (as amended).

1.3.1 National Parks and Wildlife Act 1974

Heritage NSW is the principal government agency with responsibility for the protection and management of Aboriginal archaeological sites and Aboriginal cultural heritage values. The majority of the Aboriginal heritage management objectives and protection provisions of the NPW Act remain largely the same as they were originally established in 1974. However, several the amendments and administration functions of the NPW Act that have implications for the current proposal at Morgan Road are summarised below:

The NPW Act was amended through the *National Parks and Wildlife Amendment Act 2010*. The Director-General is responsible for the protection and conservation of Aboriginal objects and declared Aboriginal places in NSW.

- Part 6 of the NPW Act provides specific protection for Aboriginal objects and declared Aboriginal places by establishing offences of harm.

- Harm is defined under the Act to mean destroying, defacing, damaging, or moving an Aboriginal object from the land.
- Under Section 86 of the NPW Act, it is an offence to knowingly, or cause or permit harm to an Aboriginal object (or Aboriginal place) without prior written consent from the DG of the OEH.
- There are a few defences and exemptions to the offence of harm under the NPW Act. One is that harm is carried out under the terms and conditions of an approved Aboriginal Heritage Impact Permit (AHIP).
- Section 87 of the NPW Act also provides defences to harm done to an Aboriginal object if *due diligence* has determined that no Aboriginal object would be harmed, compliance with *regulations* or an approved *code of practice* was followed, and if it is shown as a *low impact act* and/or an (unintended) omission.
- The NPW Act establishes the DG of the OEH as the decision-maker for AHIP applications.
- The OEH requires effective consultation with Aboriginal people as a fundamental component of the AHIP assessment process.
- AHIPs are issued under Section 87 and Section 90 of the NPW Act. Recent amendments to the administration of the NPW Act allow for the issuance of approvals that combine Sections 87 and 90 submissions in certain circumstances to streamline and make more effective the implementation of the NPW Act.
- Section 5 of the NPW Act defines an Aboriginal object as: '*any deposit, object, or material evidence (not being a handicraft for sale) relating to Indigenous and non-European habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction and includes Aboriginal remains*'.
- A declared Aboriginal place is a statutory concept, meaning that it is any place (land, landscape element, or building etc) that is declared to be an Aboriginal place (under Section 84 of the Act) by the Minister administering the NPW Act because the Minister is of the opinion that the place is or was of special significance with respect to Aboriginal culture.
- A declared Aboriginal Place may or may not contain Aboriginal objects.
- The protection provided to Aboriginal objects and places applies irrespective of the level of their significance or issues of land tenure.
- Section 89A of the NPW Act requires that the DG be notified of the location of any newly identified Aboriginal site or object which is then registered with the OEH *Aboriginal Heritage Information Management Service* (AHIMS) database.

In summary, the NPW Act:

- Is the primary legislation for the protection of Aboriginal cultural heritage in NSW and gives the DG the responsibility for the appropriate care, preservation and protection of Aboriginal objects and places.

- Part 6 of the NPW Act provides specific protection for Aboriginal objects and places by making it an offence to harm them. An AHIP is required if impacts to Aboriginal objects and/or places cannot be avoided. An AHIP is a defence to a prosecution for harming Aboriginal objects and places if the harm was authorised by the AHIP and the conditions of that AHIP were not contravened.
- The Act includes a 'strict liability' offence for harm to Aboriginal objects and places. Defences from prosecution include a low impact activity or demonstration of due diligence conducted in accordance with the OEH Due Diligence Code of Practice.
- However, if an Aboriginal object is encountered during an activity (where an AHIP has not been approved) work must cease and an application must be made to the DG for an AHIP. An AHIP application must be accompanied by an assessment that is completed in accordance with the OEH Code of Practice.
- Consultation with Aboriginal communities is required under Part 8A of the NPW Regulation 2009 and is to be conducted in accordance with the OEH Aboriginal Heritage Consultation Requirements for Proponents 2010 where AHIPs are sought.

1.3.2 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EPA Act) establishes the statutory planning framework for environmental and land use planning in NSW through *State Environmental Planning Policies* (SEPPs), *Regional Environmental Plans* (REPs) and *Local Environmental Plans* (LEPs). The EPA Act also establishes the framework for Aboriginal heritage values to be formally assessed in land use planning and development consent processes and has three main parts of relevance:

- Part 3 that governs the preparation of planning instruments (SEPPs, REPs and LEPs)
- Part 4 which relates to the development assessment process for local government (consent) authorities; and
- Part 5 which relates to activity approvals by governing (determining) authorities.

Heritage NSW is an approval body under Part 5 of the EPA Act and may require formal consideration of cultural and community factors including potential impacts to significant Aboriginal anthropological, archaeological, and cultural and historical values to have been adequately addressed as part of their assessment process.

1.4 Report method and objectives

This report has also been prepared in accordance with the following heritage guidelines and standards:

- Australia ICOMOS. 2002 (Revised). The Burra Charter. The Australia ICOMOS Charter for Places of Cultural Significance. Australia ICOMOS Inc.
- NPWS. 1997. September. Aboriginal Cultural Heritage Standards & Guidelines Kit.

- NSW Department of Environment, Climate Change & Water. (DECCW) 2010b (September). Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales. DECCW. Sydney.

1.5 Aboriginal consultation

This report has been prepared because of ongoing consultation and fieldwork undertaken with the MLALC.

1.6 Report outline

This report presents the following:

- An introduction to the project (**Section 1.0**).
- An overview of the site's geology, topography, vegetation, soils, and current condition (**Section 2.0**).
- A review of the Aboriginal archaeological context of the study area (**Section 3.0**).
- Details of the fieldwork undertaken for the project (**Section 4.0**).
- The results of the fieldwork (**Section 5.0**).
- An assessment of the scientific-archaeological significance of the Morgan Road cultural heritage sites and areas of potential heritage sensitivity identified by this study (**Section 6.0**).
- A discussion of the opportunities and constraints Aboriginal cultural heritage presents to the proposed land rezoning and Structure Plan (**Section 7.0**).
- Management recommendations that detail the nature and scope of future Aboriginal archaeological and cultural heritage requirements that will need to be addressed within the context of the proposed rezoning and future development of the Morgan Road land (**Section 8.0**).
- References cited in this report (**Section 9.0**).
- Supporting documentation (**Appendices**).

1.7 Authorship and acknowledgement

This report had been written by Dominic Steele. I would like to thank Metro for allowing me to be involved in recording and planning care and management of their important cultural heritage sites.

2.0 Landscape and environmental setting

2.1 Location and context

The Morgan Road study area is located to the east, north, and west of the existing residential and commercial suburbs of Belrose, Frenchs Forest, and Oxford Falls. It encompasses approximately 71 ha and is broadly situated between Forest Way that occurs 400m to the west, the Wakehurst Parkway that is 1.5km to the east, Perentie Road 500m to the south, and Morgan Road that occurs 50m-100m to the north of the northern site boundary. Access to the southwestern section of the study area is provided by a vehicular trail which leaves Morgan Road close to the southern end of the site frontage to this road.

The land has no development and is bound on all sides by natural bush. Snake Creek rises close to the northern corner of the study area and flows south through the site before forming a part of the site southern boundary.

2.2 Geology, soils, and topography

The site contains two principal soil landscapes that comprise the erosional Lambert Soil Landscape and the colluvial Hawkesbury Soil Landscape. The soils observed during field survey for this report were characterised by their parent materials (Hawkesbury Sandstones of the Triassic Period) and the soils of the study area are frequently shallow with numerous sandstone outcrops occurring in parts of the site.

The topography across the site is variable. To the west and south of the section of Snake Creek that crosses the site, the land falls towards the creek with an average gradient of approximately 20% albeit in a stepping form. In other parts of the site slopes are within the order of between 7-12 degrees.

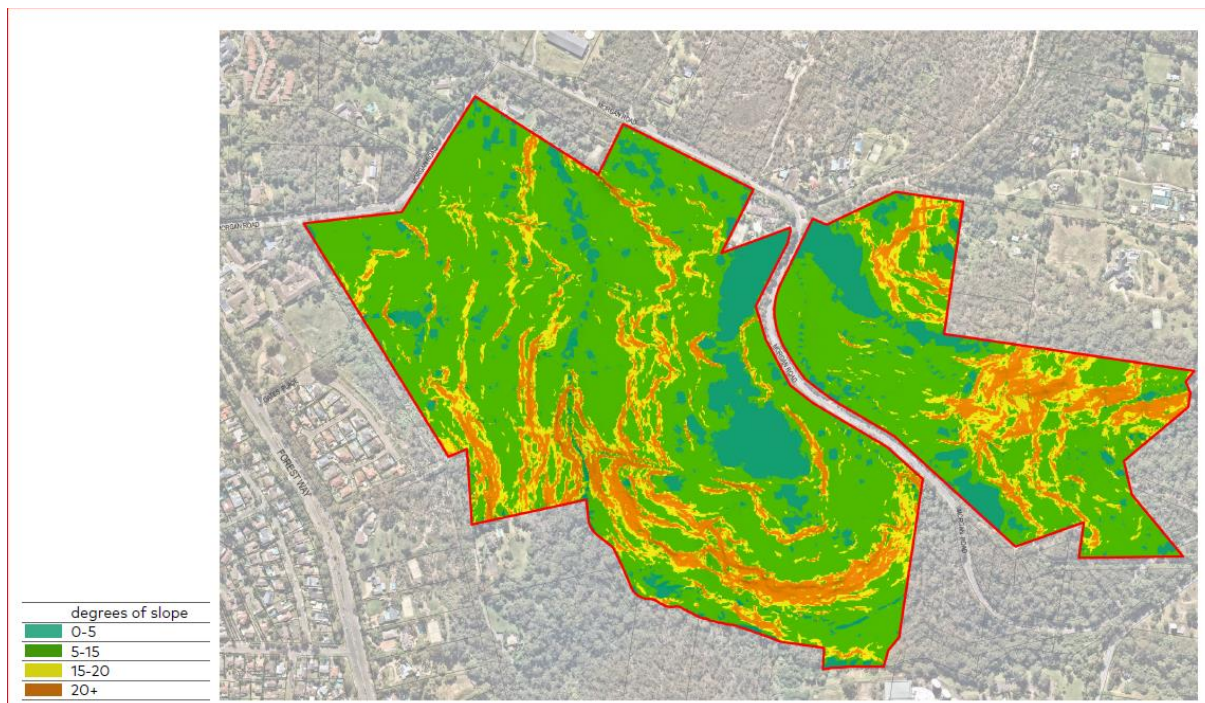
The watershed between Oxford Creek and Deep Creek passes through the north western edge of the site with two spurs running off it: the first to the south west of Morgan Road and the second to the north east of the latter road. Drainage from the site is into Snake Creek or directly into Oxford Creek, excluding a small area along a section of the north western boundary which drains into an unnamed tributary of Deep Creek.

Snake Creek contains permanent and ephemeral water areas with gravel beds, sandy bottoms, and flat rock bottoms. The banks of the watercourse are predominantly sandy and heavily vegetated.

The elevated ridges contained within the study area have relatively broad crests and irregular gradients on their slopes. In general, all slopes throughout the site contain moderate to low cliff lines, low broken sandstone scarps or benches. A number of substantially flat and largely exposed sandstone platforms also occur to the north west and south east respectively of that section of Morgan Road that bisects the site.

A slope analysis that has been prepared for the study area that shows the nature of the sandstone topography and terrain across the site is provided below.

Figure 2.1: Slope analysis (Cox Architecture 2022)



Although the land is currently undeveloped and retains a strong bushland setting, the study area has been variously affected by a range of informal walking trails, horse and bike riding tracks that have been created over time. This is particularly evident to the north east of Morgan Road where a number of relatively wide and scoured four-wheel drive paths occur and additional trails (and associated berms and jumps) are to the west of Morgan Road. An electricity transmission line also crosses the site in this locality.

3.0 Aboriginal archaeological context

3.1 Regional archaeological overview

Archaeological excavations on the Parramatta River at Parramatta and on Hawkesbury River at Windsor and Pitt Town have recorded Aboriginal occupation evidence dating back to over c.35,000 BP and Pleistocene-age rock shelter sites are recorded in the Blue Mountains and foothills (Stockton & Holland 1974, Kohen et al 1984). Evidence from these sites suggest people used a diverse range of animal and aquatic food resources as possibly highly mobile groups (Attenbrow 2010:152-54, McDonald 2008:39). The older Pleistocene and early Holocene stone artefacts suggest people preferred silicified tuff to make tools that was probably sourced from gravels on the Nepean-Hawkesbury River (McDonald 2008).

These early occupation sites have been largely found in stratified (layered) rock shelter deposits or within alluvial deposits, particularly on the margins of large river systems such as the Hawkesbury-Nepean and Parramatta Rivers. Some researchers (see McDonald 2007) have argued that early occupation of the Sydney Basin was focused on these primary river systems and was characterised by a high degree of ‘residential mobility’ (frequent movement between campsites). Over time the territory of occupation expanded and these mobile groups who carried silicified tuff from the Hawkesbury-Nepean River gravels and used the resource sparingly to produce relatively large cores and flake tools. When sea levels rose around 6,500 years BP, coastal groups that previously occupied the now drowned coastal strip are most likely to have moved inland and the population possibly steadily increased to a point when around 4,000 years BP when many new sites were occupied. It is argued that this evidence suggests that for the first-time people took up permanent and semi-permanent occupation in different areas of the region. Some groups probably lived full time on the Cumberland Plain, while others occupied the surrounding sandstone country (see Kelleher Nightingale Consulting Pty Ltd April 2008).

There also appears to have been an increase in rock shelter occupation at this time, along with major changes in stone tool technology, most notable of which is the use of locally available stone. The raw material that was most commonly used in the local landscape was silcrete and was used for a wide range of tasks. The majority of artefacts at most sites are often small (<5cm) and its probable people prepared stone at or close to stone source and transported selected materials back to residential camp sites. During the last 1,000 years the use of ground stone increased although these artefacts are infrequently found in surface or excavated archaeological assemblages (fragmentary evidence often occurs at most sites). An increase in bipolar flaking probably indicates intensive use of local resources, although backed artefact manufacture declines.

Sydney Aboriginal groups were living in defined territories in 1788 and interaction between groups is evident in art sites with changing frequencies of different raw materials indicating more restricted social movement/contact via exchange networks.

Archaeological investigations show changes in the types of stone tools used by Aboriginal people in the Sydney region through time. One sequence of changes in tool types identified by McCarthy 1948 is called the 'Eastern Regional Sequence' (McCarthy 1976: 96-98) after initial excavation and analysis of material from Lapstone Creek rock shelter (Emu Cave) in 1936. This was one of the first scientific excavations in the region but was not published until 1948. The shelter is located on a small tributary of the Nepean River (now blocked by the rail embankment) flowing out of the Blue Mountains escarpment, and the excavation was 5.8m long, up to 3m wide and between 0.85m and 1.4m deep (McCarthy 1948:3). Six layers of floor deposit were excavated, and the lower deposit had significant numbers of Bondi points (see below) which gave way to 'chunky' adze flakes called eloueras (that could be gummed to a wood handle and were used for wood working) and edge ground axe heads. McCarthy called them Bondaian and Eloueran respectively as cultural markers.

The sequence was modified by Stockton & Holland (1974: 53-56) who proposed four phases of the ERS with after Capertian, the Early Bondaian and Middle Bondaian phases where Bondi points and other small tools become apparent in assemblages in Eastern NSW. Late Bondaian referred to McCarthy's original Eloueran phase. Capertian assemblages contain tools which are generally larger in size than later items but also contain smaller tools such as thumbnail scrapers and dentate saws. Stockton and Holland's terms are used in the Sydney region today (Attenbrow 2002: 156) and are modified by a prehistoric cultural framework developed to explain the broad phases of Aboriginal occupation of the Sydney region.

The broad time periods commonly used to establish the Aboriginal archaeological story of the Sydney region, and to divide it into 'cultural phases,' is adapted from McDonald (2008:349-50). Some of the dates (especially those relating to sea-level changes) have been revised since 2008, and the specific components and key attributes of the flaked and ground stone artefacts and tool reduction technologies that predominated and/or characterised each archaeological phase is debatable.

Pre Bondaian: c.30,000 years ago to about 8,000-9,000 BP

During the Pleistocene, people appear to have been highly mobile, travelling distances between sites. At this time, the focus of stone acquisition was on the Hawkesbury-Nepean River gravels. The cores and tools which people carried were quite large, but they used the stone sparingly, leaving few artefacts behind, and rarely discarding their cores (which acted as portable quarries). Rock art production focused on iconic designs found broadly across the continent and art reinforced broad-scale social networks. The earliest Aboriginal populations will have been small, but little is known of their social organisations, or territorial ranges.

The archaeological record for the earliest periods suggests a preference for the use of silicified tuff for stone tool artefact manufacture unless the investigated site was too great a distance from known sources and was often augmented with quartz and unheated silcrete materials. Cores and tools vary in size and weight (some

are quite large), but there are no backed artefacts, elouera, or ground stone implements. Unifacial flaking is a predominant technique for stone tool production during this period.

Early Bondaian 8,000 years to c.4,000 years BP

Rising sea levels forced Aboriginal groups previously occupying the drowning coastal plain inland, but it is likely that population densities across the region were still relatively low. The use of rock shelters was increasing or at the very least artefact discard increased so as to be archaeologically visible during this period. Backed artefacts were also introduced into the stone tool kit during this period and produced intensively at some sites. The focus of stone sourcing shifted from gravel beds on the Hawkesbury-Nepean River to more localised resources. Iconic engravings continued to be produced, along with transitional forms, and the increased population pressures in the later part of this phase saw the early development of Sydney style figurative pigment art and open engraved art.

The archaeology for this time frame is complex with considerable variation, but the evidence does suggest a preference for the use of silicified tuff to decline during this period where a greater use is made of local stone materials. Backed artefacts appear sporadically and bipolar flaking was widely in use. It is unknown whether the increase in rock shelter use reflected the onset of colder climate regimes.

Middle Bondaian c.4,000 years to c.1,000 years BP

A dramatic rise in population densities appears to have occurred during this period where there is a conspicuous increase in the use of rock shelters for habitation and for artefact manufacture and discard. It is argued that an increased population necessitated social mechanisms to mediate uncontrolled and possible conflict-marked interactions, and evidence for increasing cultural control is the death by ritual spearing of the 'Narrabeen man' around 3,700 cal BP.⁶

Other evidence for increasing social prescription included a proliferation of symbolic behaviour, particularly which demonstrated local group social affiliation which probably took many forms including body decoration and scarification, and the use of decorated portable material culture. The pigment and engraved art of the region developed and flourished in this escalating sociality.

The use of different raw material types varied between sites and within sites over time. This is the main phase of backed artefact production and the introduction of asymmetric alternating flaking techniques of stone reduction. Substantially smaller cores and tools are prevalent, and ground stone artefacts appear, though infrequently and are present at fewer than half the dated sites in the region. Elouera (a type of backed artefact) are present but rare.

Late Bondaian c.1,000 years to European contact

There is no strong evidence for a population decline during this period, but there are indications of changing social organisation and stone use strategies. Rock shelters continued to be used but artefact deposition rates dropped. It is argued as a result of changes to social systems (Walters 1988) the focus shifted to open camp site locations and may be supported by dates for open middens along the south-east coast and number of open sites on the Cumberland Plain, and ethnohistoric evidence supports this recent habitation focus in open ‘villages ... on the seacoast.’ The archaeological and ethnohistoric evidence suggest over the last millennium, occupation patterns involved a move away from shelters as a primary focus for habitation.

A wide area survey of the western Cumberland Plain by Kohen in 1986 led to the development one of the first models to explain prehistoric Aboriginal occupation of the region. It focused on archaeological site occurrence, chronology, and function. At the time, few archaeological sites had been excavated or dated. Allowing for this, Kohen suggested Aboriginal occupation of the region primarily occurred during the mid to late Holocene (c.5,000 BP) and was related to an increase in Aboriginal population and the introduction of a new stone tool technology (the ‘small tool tradition’). Prior to this time, Kohen argues Aboriginal occupation of the area was concentrated on and around the Nepean River and the coast. Kohen (ibid:229ff) summarised his findings:

- 1) Large campsites are clustered along the larger waterways.
- 2). Ridge tops were frequently used, either for short-term visits during which task-specific activities were carried out (including butchering game, repair of wooden artefacts or obtaining raw materials in the case of silcrete quarries), or for more permanent use where water was locally available.
- 3). There are no environmental zones which show a total absence of Aboriginal activity. Isolated finds therefore may be throughout the area.
- 4). Raw material was obtained in the form of silcrete (probably from Plumpton Ridge, although other outcrops also exist) and from the gravel beds of the Nepean River (chert, basalt, quartz, and quartzite).

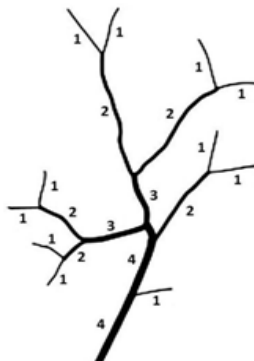
A subsequent site location predictive model by Smith (1989) for the southern Cumberland Plain refined Kohen’s work and suggested archaeological sites would be most found along permanent creeks and around swamp margins, and that creek flats and banks were focal topographical features for site location (Smith 1989:2).

White & McDonald (2010:32-34) provide the following (abridged) summary of more recent research over the last twenty years or so across the western Cumberland Plain. Most predictive models to explain Aboriginal site locations discuss the influence of stream order, distance from water, landforms, site aspect, geology, and past vegetation regimes as likely to have effect on archaeological site location, complexity, and composition;

- ‘Stream Order: Water supply is thought to be a significant factor influencing peoples’ land-use. Large and/or permanent water supplies may have supported large numbers of people and/or long periods of occupation while small and/or ephemeral water supplies may have been able to support only small numbers of people and/or transient occupation.

The stream order method identifies the smallest tributary stream as 1st order, two 1st order streams join to form a 2nd order stream, two 2nd order streams join to form a 3rd order stream, two 3rd order streams join to form a 4th order stream and so on (see Table 2 for Stream order and tributary hierarchy).

Figure 4.1: Stream order and tributary hierarchy according to Strahler (1957)

 Stream order and tributary hierarchy according to Strahler (1957)	Landscape unit	Evidence/activity
	1st order stream	Archaeological evidence will be sparse and reflect little more than a background scatter
	Middle reaches of 2nd Order Stream	Archaeological evidence will be sparse but include one-off camp locations, single episodes and knapping floor
	Upper reaches of 2nd order stream	Archaeological evidence will have a relatively sparse distribution and density. These sites contain evidence of localised one-off behaviour
	Lower reaches of 3rd order stream	Archaeological evidence for frequent occupation. This will include repeated occupation by small groups, knapping floors and evidence of concentrated activities
	Major creek lines 4th order streams	Archaeological evidence for more permanent or repeated occupation. Sites will be complex and may be stratified with a high distribution and density
	Creek junctions	This landscape may provide foci for site activity, the size of the confluence in terms of stream rankings could be expected to influence the size of the site, with the expectation of there being higher artefact distribution and density
	Ridge top locations between drainage	Ridge Tops will usually contain limited archaeological evidence, although isolated knapping floors or other forms of one off occupation may be in evidence

- Distance from Water: Distance from water is considered here in relation to stream order.
- Landform: ‘Creek Flats’ are flood plains with flat to gently inclined surfaces, adjacent to streams. ‘Terraces’ are former flood plains but no longer [are] frequently flooded and occur at higher elevations than flats. ‘Ridges’ occur at the top of slopes, forming watersheds. ‘Hillslopes’ are roughly subdivided into lower, middle, and upper to describe their relative position in valleys. Lower slopes comprise the lower third of slopes above valley floors, mid-slopes comprise the middle third of valley slopes between valley floors and ridge tops, and upper slopes comprise the upper third of slopes below ridge tops.
- Site Aspect: The orientation of open land surfaces may have influenced people’s choices of artefact discard locations: north-facing slopes tend to be drier and provide shelter from colder southeast or southwest winds. Slopes facing northeast receive morning sun in winter and are sheltered from hot afternoon sun in summer.
- Geology: Geology defines landforms and drainage, influences habitat formation, and provides different resources such as sandstone suitable for grinding, and diversity of plant resources.

- Distance to Silcrete Sources: Numerous studies have shown the effects of increasing distance from stone sources on attributes of lithic assemblages, as people used various strategies to conserve available lithic supplies when distant from quarries – ‘distance-decay theory’. One conservation strategy could have been to discard fewer artefacts, therefore resulting in lower artefact densities with increasing distance from known lithic sources’. Smith’s (1989) general prediction is that artefacts will occur in all landform units but would tend to have higher artefact densities in areas associated with larger streams than smaller watercourses.

3.2 Aboriginal archaeological site types, frequency, and survival in the landscape

The Aboriginal Heritage Information Management System (AHIMS) is a database regulated under section 90Q of the NPW Act and contains information about registered Aboriginal archaeological sites (as defined under the NPW Act) and declared Aboriginal places (as defined under the NPW Act) in NSW. There are many thousands of Aboriginal archaeological heritage sites registered with AHIMS in the greater Sydney region despite the extensive impacts from historical and ongoing land development. These heritage sites are commonly classified into ‘types’ by archaeologists and heritage managers (and by the AHIMS database) and different types of sites are in all types of landforms and include:

- ‘Midden’ deposits contained within both sandstone rock shelters of suitable size that provided protection to people in the past and in open contexts in predominantly coastal foreshore and river environments.
- Painted and drawn art images in (primarily) sandstone overhangs/shelters.
- Engraved images and axe grinding grooves created on the surfaces of usually flat rock platforms that are more predominant in Hawkesbury Sandstone landforms.
- Open campsites that are commonly represented by the presence of durable materials such as flaked (and occasionally ground) stone artefact scatters reflective of repeated site use.
- Occasional scarred and (rarer) carved trees. Most trees of a sufficient age to possess evidence for Aboriginal scarification have since died naturally and/or have been long-since felled during the post-Contact historical period.
- Some stone arrangements, waterholes, burials, and mythological sites reported to have been present in the landscape over time. Details for many of these types of sites are however often scant in the OEH AHIMS Sites Register.
- A few post-Contact historical Aboriginal campsites that are documented to occur in and around the Sydney region.

As outlined below, the most common types of Aboriginal heritage sites that occur within the local landscape consist of rock shelters/overhangs containing painted art and occupation deposits, rock engravings, and axe grinding grooves.

3.3 Sydney rock engravings

Systematic attempts to locate and record Aboriginal art sites in the Sydney Basin began during the 1890s, with information on rock engravings in particular being gathered and published from that time by people such as R.H. Mathews and W.D. Campbell. Earlier work had been carried out in Port Jackson by George Angus in the mid to late 1840s. A century later from the mid-1930s to the 1960s, F.D. McCarthy (then Curator of Anthropology at the *Australian Museum*) carried out extensive field trips in the Sydney region to assess the archaeological resources of the area (including rock engravings) which were recognised even at that time to be increasingly threatened by development.

No historical descriptions exist for Aboriginal people in Sydney making rock engravings, and no records recount Aboriginal people telling Europeans who had made them or what they may have signified. However, rock engraving continued to be made in Sydney after 1788. Numerous images (engraved and painted) of European sailing ships, soldiers, guns, cattle, along with other European subjects and objects survive in the landscape. Much of the interpretation of the engravings (and painted art sites) in the Sydney region is based on comparisons that have been made over time with areas for which more information has survived and/or where the art tradition (painting and/or engraving) had or has continued.

In 1990, it was estimated that around 2,000 rock engravings (consisting either of individual motifs and/or multiple figures) were known to occur around the sandstone landscapes of the Sydney region (Clegg and Stanbury 1990:2). Probably less than half of these were reported to have been recorded in any detail, and of these only a very few were well known. Additional engravings have been discovered since that time, but few have been documented in detail. The numbers of figures (images or motifs) present at rock engraving sites in the Sydney region ranges from single items to over 150, and most of these have been created in a style commonly known as ‘*Simple Figurative*’ where motifs are simple outlines, and sometimes in-filled.

Maynard’s (1976) model predicts that this art (and its style) is a relatively recent (Holocene) phenomenon. And this position is generally supported by this region’s broader archaeological context. As McDonald (2007) demonstrates, Maynard’s original definition still provides a good general description of the Sydney region’s art:

‘.....the style is dominated by figurative motifs ... the majority of [these] ... conform[ing] to a pattern of crude naturalism. Whether the motif is engraved or painted, in outline or solid form, it usually consists of a very simple silhouette of a human or animal model. Most portrayals are strongly standardised. Human beings are depicted frontally, animals and birds in

profile, snakes, and lizards from above. Normally only the minimum visual requirements for recognition of the motif are fulfilled by the shape of the figure' (Maynard 1976:200-1)

Most Sydney engravings were created by a technique that is commonly referred to as 'conjoined puncturing'. This is where a series of pits or punctures were first made, possibly along an outline drawn on the surface of the sandstone platform perhaps with ochre and/or scratched with a stick or stone. The 'pits' are generally between 2mm and 5mm deep and at some sites overlap in places to form a continuous groove, whilst in others they may be spaced between 2cm and 5cm apart and have been subsequently abraded to create a distinctive U-shaped groove that is approximately 0.3cm to 1cm deep and 0.5cm to 1.0cm wide.

The types of implements used to create engravings is not precisely known, although it is likely that a range of materials were used as engraving tools including sharp pieces of bone, wood, and stone before the introduction of steel implements from Contact. McCarthy (1976) reports on a piece of basalt with three abraded and rounded edges with striations that were located on a rock platform with engravings at Lake Conjola.

The range of engraved motifs at sites in the Sydney region is diverse and includes:

- Human figures and footprints (mundoes).
- Anthropomorphs (human-like composite figures).
- Land mammals (including kangaroos/wallabies, dingo's, wombats, echidnas, koalas, possums, gliders etc) and their tracks.
- Marine animals (including fish, sharks, whales, eels, dolphins, turtles, stingrays, and jellyfish).
- Items such as axes, shields, spears, clubs, fishing lines and canoes.

Art styles, meaning and variation of Sydney rock engravings (and painted sites) have been studied for a long time. It is unclear what the engravings originally symbolised. None of the engraved sites in the Sydney district have been directly dated. However, *Simple Figurative* engravings around the Sydney landscape are likely to be between 5,000 and 200 years old, with engravings continuing to have been made after colonisation.

Most engraved images in the Sydney region are generally homogenous in style and technique. However, some regional stylistic variations are nevertheless evident. For example, McMahon (1965) identified a trend along the coast from north to south in the way kangaroos were depicted. In the north, kangaroo engravings have a single foreleg, hind-leg, and ear (a profile view) whereas in the south, a high proportion (90%) has two forelegs, two hind-legs, and two ears.¹ The vast majority (97%) of these engraved images are in outline only.² There is also a

¹ There are two known exceptions to this, a macropod located just south of Port Jackson with four legs, and another near the Lane Cove River (JMCHM 2007).

² The only consistently in-filled engravings in general terms in Sydney are 'culture heroes' which are generally decorated with series of pecked lines of dots. Intaglio forms (i.e., fully pecked infill) are extremely rare.

tendency towards further ‘realism’ in the southern part of the range in the increased frequency of the depiction of claws on the feet and of the genitalia being shown on these engraved figures.

Although less clear, there is apparent a trend in the distribution of engraved motifs in the region for an increase from north to south in motifs depicting (possible) ‘food’ animals such as kangaroos/wallabies, emus, birds, and fish (and other marine animals), where the proportional representation in motifs depicting human figures and weapons is greater to the south (Tracey 1974;23). The boundary separating the land to the north of Botany Bay from that to the south broadly correlates with the historically recorded boundary between the Tharawal language group and the coastal (and inland) Darug.

3.4 Local Archaeological Context

3.4.1 Database searches and known information sources

Register searches and research into the findings of archaeological investigations previously completed within the local landscape surrounding the Morgan Road study area undertaken as part of this study, and in addition to the field surveys reported here (Appendix 1) indicates that five (5) archaeological sites occur on or within the immediate vicinity of the study area. These sites are summarised in the table below, and the three sites known to occur in the land, are discussed in detail within following sections of this report.

As indicated below, these sites comprise one rock shelter with painted art, along with four separate rock engravings. On the basis of the information provided by the original site recordings, followed by relocation through archaeological field survey, three of the engraving sites were identified to occur within the boundaries of the Morgan Road study area, a fourth was adjacent to, but outside of, the southern boundary of the site. The rock shelter with art is reported to be located to the south east of the Morgan Road land within the vicinity of Oxford Falls Road.

Table 3.1: AHIMS registered sites within and adjacent to the study area with the three engravings on the land in bold

Site ID	Site Name	Grid Refs	Site Type	First Recorded	Description
45-6-0526	Oxford Falls 4	E336780 N6266190	Shelter with Art	Nd	Nd
45-6-1219	Morgan Road 1	E335660 N6266860	Rock engraving	1975	Kangaroo and nine footprints
45-6-2196	Morgan Road 2	E335670 N6266890	Rock Engraving	1990	Human figure and footprints
45-6-2197	Morgan Road 3	E338820 N6266810	Rock Engraving	1990	Two elliptical shield motifs

45-62335	FW 3	E335840	Rock Engraving	1992	Five footprints
		N6266730			

3.4.2 Aboriginal archaeological site prediction

The following Aboriginal archaeological site predictive statement for was prepared based on the above background heritage review and prior to the completion of field survey and assessment of the land:

- I *Rock Engravings*: The distribution of these sites relates to the occurrence of suitable rock outcrops that were used by Aboriginal people in the past for the creation of engraved images. Engravings occur in groups with numerous depictions of animals, human figures, possible spiritual motifs, and other images of equipment such as shields etc, or as single depictions, that generally are found to occur on extensive level sandstone platforms along with smaller ledges and rock exposures.
- II *Axe Grinding Grooves*: These are grooves which resulted from the manufacture and/or maintenance of the working edge of some stone tools such as axe/hatchet heads by people in the past. They may be found where suitable sandstone is exposed in, or adjacent to, creeks or on elevated platforms where wet-grinding techniques are possible adjacent to natural rock holes and shallow 'basins'.

As for rock engravings, axe/hatchet grinding grooves may occur in large 'clusters' that serves to facilitate their ready recognition or may conversely comprise isolated items that are often difficult to detect within certain light conditions.
- III *Open Camp Sites*: These sites are likely to occur on dry and flat landforms along or adjacent to water sources. Repeatedly or continuously occupied sites are more likely to be located on elevated ground situated at principal creek confluences in the local landscape. Surface scatters of flaked stone artefacts may be the result of mobile hunting activities, while single or low-density occurrences might relate to tool loss, tool maintenance activities or abandonment. These types of sites are often buried in alluvial or colluvial deposits and only become visible when sediments are exposed by erosion or disturbance.
- IV *Isolated Artefacts*: These items occur without any associated evidence for prehistoric activity or occupation. Isolated finds can occur anywhere in the landscape and may represent the random loss, deliberate discard or abandonment of artefacts, or the remains of dispersed artefact scatters. Manuports are items consisting of raw materials of stone that do not naturally occur within the soil profiles of a given region. Transported onto a site by Aboriginal people from sources elsewhere, these items will have subsequently been discarded before use as flaked or ground stone tools.
- V *Scarred Trees*: These sites are the result of bark or wood removal to make shields, shelter, canoes containers or carving designs into the exposed wood. These sites have rarely survived early timber

clearance, bush fires and timber cutting. Unless the tree is at least 150+ years old the scarring is unlikely to have an Aboriginal origin.

4.0 Field survey and recording

4.1 Definition of field survey units

The Morgan Road site was divided into two separate Survey Units (SU 1 and 2) for this report. SU 1 encompasses the irregularly shaped land parcel situated to the west of Morgan Road. The topography of this part of the study area is variable. To the west and south of Snake Creek, the land falls towards the watercourse with an average gradient of approximately 20% whilst in other parts of this portion of the site slopes are within the order of 7-12 degrees. Two spurs run off the watershed between Oxford Creek and Deep Creek that passes through the north western edge of the site; the first being located to the south west of Morgan Road and the second to the north east of this road (in SU 2).

The creek-line itself contains permanent and ephemeral water areas with gravel beds, sandy and flat rock bottoms, whilst the banks of the watercourse are predominantly sandy. In many places the channel of this watercourse is largely obscured by the presence of dense vegetation.

In general terms, the elevated ridges to the west of Morgan Road have relatively broad crests and irregular gradients on their slopes and possess low cliff lines, low broken sandstone scarps or benches that are heavily vegetated. A number of existing tracks and trails in this locality direct access through this intact bush land.

SU 2 encompasses a smaller portion of land situated to the east of Morgan Road. This locality contains a number of flat and exposed sandstone platforms to the south, along with more limited rock exposures interspersed amongst heath vegetation on the crest to the north. A range of walking trails, horse and bike riding tracks have been created within this portion of the study area, along with a number of relatively wide and scoured four-wheel drive paths.

4.2 Survey and recording procedures

The field investigations involved standard archaeological survey, recording and assessment of the subject land. Parallel transects spaced between 10-50m were employed to cover the full survey area on foot where field conditions permitted. Particular focus was upon detailed inspection of the various fire trails, horse tracks, exposed horizontal rock platforms and sloping escarpments contained within the site boundaries.

All items of Aboriginal cultural heritage located during the course of the field survey have been recorded by GPS. Photographic records and scaled and sketch plans, along with diary descriptions were also compiled as part of the field records.

Values recorded included topography, context, vegetation, ground exposures, the nature of ground visibility and the presence and extent of disturbance.

4.3 Assessment of archaeological potential

Frequently used criteria inclusive of landform, aspect, topography, and subsurface integrity have been employed in this study to define areas of *potential archaeological deposit* (PAD). Within the context of the current project, areas of potential archaeological deposit (PAD) are considered to be principally associated with sandstone overhangs of sufficient size (length, width, and headroom), nature (flat and rubble-free floor etc) and aspect (exposure to prevailing weather etc) to provide adequate shelter for at least one person.

Likewise, *areas of archaeological potential* (AAP) are generally considered to represent exposures of sizeable and relatively flat and smooth sandstone rock platforms potentially suitable for engraving that are partially or extensively obscured by vegetation, patina, and natural erosion. Recognition, ascription and recording of scarred trees as being potentially of *definite, probable, or possible* Aboriginal origin is based upon the assessment criteria summarised by Navin Officer.³

³ Navin Officer 1997.

5.0 Survey findings and archaeological site recordings

5.1 Survey Unit I

An indicative view of one the principal access points to the site from the western side of Morgan Road is provided by Figure 5.1. The eroded nature of the informal bike tracks and timber ramps and jumps that have been created to traverse the sandstone outcropping in this locality are indicated. As described below, an extremely faint engraving of a human figure ('Morgan Road 2') that was first recorded in 1990 occurs in this locality and displays damage and erosion from ongoing use of the place for recreational purposes.

These trails lead to an extensive and largely exposed sandstone platform that is traversed by a power-line easement, part of which is illustrated in Figure 5.2. This exposure extends discontinuously for a distance of approximately 250m (up to 40m in width) and runs parallel with eastern boundary of *Survey Unit I* in a broadly north-south orientation. The nature of the vegetation currently filling the numerous natural fissures and shallow basins that occur across this platform are also detailed in this figure. An engraved kangaroo figure and a series of associated footprints ('Morgan Road 1') first recorded in 1975 occur in this locality within the vicinity of the bag and marker flag depicted in the middle foreground of this figure.

The nature and quality of the surface sandstone exposed in *Survey Unit I* is variable. The example below is friable and is largely obscured by the presence of a variety of ground cover. The extremely dense vegetation that is predominant within the centre, northern and southern portions of this survey unit is highlighted in the following image. As indicated, the principal ground exposures that occur across much of the western two-thirds of the Morgan Road site occur in the form of existing fire trails and recently created informal bike trails.

5.2 Survey Unit II

The southern half of *Survey Unit II* is traversed by a complex network of fire trails, horse and bike riding tracks and a number of relatively wide and scoured four-wheel drive paths. The extremely rilled and eroded nature of these exposures, which are fringed by dense vegetation.

A number of small exposures of flat and smooth sandstone also occur within the southern half of *Survey Unit II* as illustrated in the images below. The fringing vegetation is again dense in this locality. This flat sandstone path leads to a distinctively tessellated rock platform of moderate size. One of the two engraved elliptical shield motifs first recorded in 1990 ('Morgan Road 3') on this sandstone surface is depicted in the foreground of the final image below. Now obscured, the second shield motif is likely to occur below the vegetation filling the shallow circular depression that is indicated in the background of this figure and marked by the 1m range pole. The exposed platform as a whole is surrounded by a dense cover of eucalypt timber, low shrubs, and grass.

Figure 5.1: Indicative view of Aboriginal heritage site context



Figure 5.2: Sandstone platform adjacent to Morgan Road

Figure 5.3: Friable sandstone exposures in Survey Unit I



Figure 5.4: Dense vegetation cover in Survey Unit I

Figure 5.5: Eroded fire trail in Survey Unit I



Figure 5.6: Sandstone exposure in Survey Unit II

Figure 5.7: Tessellated sandstone surface in Survey Unit II



Figure 5.8: Detail of sandstone exposure in Survey Unit II

5.3 Summary of effective survey coverage

The nature of the ground exposures prevalent across the Morgan Road consist of three principal types. The first comprise flat to sloping sandstone platforms of differing size and rock quality that display significant differences in both surface texture and the presence of vegetation. The second consist of rocky sandstone scarps of small to moderate size covered by vegetation, whilst the third comprise Lambert clays and friable stone materials that are exposed upon the surface of the various tracks and trails that are present within *Survey Units I and II*.

The nature and distribution of sandstone exposures across the study area is variable and occurs in the form of isolated patches of broken and jumbled cobbles and boulders ranging in size from 1m to 2m up to approximately 20m by 20m, relatively steep escarpments measuring between 10m by 20m and 50m by 50m, and flat sandstone platforms measuring up to a maximum area of approximately 150m by 50m. The texture of these sandstone surfaces ranges from coarse and angular matrices, frequently punctuated by clusters of small to moderate sized quartz pebbling, to flat and smooth platforms. Few other sandstone platforms of notable size were located during the field inspections.

Views of the numerous fire trails and recreational tracks that currently exist in the central part of *Survey Unit I* and within the southern half of *Survey Unit II* above show the surfaces of these tracks consist of scoured matrices of crushed sandstone and clay. Outside of these exposed areas, vegetation is dense and consists of timber cover comprising relatively immature eucalypts, along with a ground cover of leaf litter and low shrubs and grass and ground visibility adjacent to these tracks is poor.

Few overhangs of any size have developed within the study area either through the process of cavernous weathering and/or as a result of rock-fall. Where the latter do occur, the largest measure approximately 2m by 1m with a maximum roof clearance of between 0.5m to 1.5m, generally possess stony and/or sandy floors (developed from roof-fall) and flat to honeycombed walls and ceilings.

Whilst a moderate number of relatively large and mature trees were observed during the field survey in *Survey Units I to II*, a dominant feature of the vegetation present across the subject site is the prevalence of sapling eucalypt re-growth and a ground cover of leaf litter and grasses. Evidence for recent burning from bush fires was observed in a number of locations across the subject land that indicates the dynamic changes in site cover that has occurred over time. The channel of Snake Creek that traverses the site was observed to be in general terms to be narrow, shallow in depth, and heavily overgrown in most places by vegetation. Few exposures of sandstone of any size were identified to occur within the interior of the creek line or upon its associated banks.

In summary, it is estimated the field work for this report has achieved between 1% to 5% effective coverage (which is common in similar bushland contexts). The implications of this outcome are discussed in the following sections and are reflected in the management recommendations that have been prepared for the site.

5.4 Results of the fieldwork

5.4.1 Aboriginal heritage sites identified and recorded within the study area

The three Aboriginal rock engravings previously identified to occur within the Morgan Road study area ('Morgan Road 1-3') have been relocated and re-recorded by this study. 'Morgan Road 1' and 'Morgan Road 2' occur upon the surface of the largest exposure of sandstone present within *Survey Unit I*, whilst 'Morgan Road 3' is likewise situated on an extensive stone platform that is present within *Survey Unit II*. The location, nature and relationship of these engravings are illustrated in the images below. They are described first in the order within which they were relocated and recorded. No further evidence for past Aboriginal visitation or use of the study area has been identified in any other locations of the site. This outcome is evaluated in the following section.

5.4.2 Description of the identified engravings

The first site relocated and recorded consists of a rock engraving coded 'Morgan Road 2' (NPWS #45-6-2196) that is located upon the surface of a moderately sized and relatively flat to rounded sandstone boulder on the southern side of Morgan Road accessed via an informal trail. The site comprises a relatively large (and extremely faint) engraved male figure some 20m from Morgan Road that has arms outstretched, head pointing north east, possible ceremonial markings (scarification) down the torso and across his leg and nearby are at least two additional engraved motifs that appear to represent mundoes (footprints).

The manner in which this figure is depicted is broadly comparable in style to others that are known to occur within the local region, particularly with respect to the small and rounded head, the orientation of the arms and the enlarged feet. The engraving displays considerable evidence across its torso and head for recent damage associated with the use of the track leading from Morgan Road as a bike trail. On the basis of the information provided by the original field recording dating to 1990, that is augmented by the observations recorded during the current study, this human motif is reproduced below along with its general location along the existing recreational track leading from Morgan Road.

Approximately 25m to the south of the above figure is located 'Morgan Road 1' (NPWS #45-6-1219) that comprises an engraved (male?) kangaroo with markings on its face, tail and hind-leg that is depicted in profile and faces south toward Snake Creek. An additional nine large footprints engraved in a line lead up to the kangaroo, with one footprint pointing north and away from the other eight which point west and lead to the tail of the animal. These engravings occur upon the surface of a large, flat, and exposed sandstone platform and most of the motifs are currently in good condition and clear despite impacts from ongoing recreational trail bike activity that is evident within the vicinity. The relationship of the kangaroo/wallaby motif to the alignment of the nine mundoes is provided by the images below.

Although a number of natural rock holes and basin-like depressions occur upon the surface of the large sandstone platform in this locality, no axe grinding grooves were observed to be present during the field survey.

The third site consists of two engraved shield motifs coded ‘Morgan Road 3’ (NPWS #45-6-2197) that are situated on the northern side of Morgan Road some 200m to 300m to the south-east of ‘Morgan Road 1’ and ‘Morgan Road 2’. Located upon a relatively large and flat tessellated sandstone platform approximately 70m to the north of Morgan Road, the motifs are oval to elliptical in shape, display internal divisions, and occur within approximately 8m of each other. One of the engravings is currently obscured by the presence of moss that is growing upon the sandstone surface in this locality. Damage to the exposed sandstone surfaces leading to these engravings occurs in places as a result of past vehicular access to the numerous fire trails that occur in this portion of the subject land.

Views of one of the two ‘*hieleman*’ or shield motifs present in this portion of the Morgan Road site are provided below along with the likely location of the second motif (that is obscured by vegetation). The original site recording for the latter indicates that the second motif is slightly larger than the one recorded during the site survey and includes a second internal diversion orientated parallel to the long axis of the ellipse.

5.4.3 Engraving techniques

Each of the items described above appears to have been created by a technique commonly referred to as ‘conjoined-puncturing’. This is where a series of pits or punctures were first made, possibly along an outline drawn on the surface of the sandstone platform perhaps with ochre and/or scratched with a stick or stone. The ‘pits’ in evidence are generally between 2mm and 5mm deep and in places overlap to form a continuous groove, whilst in others they are spaced between 2cm and 5cm apart and have been subsequently abraded to create a distinctive U-shaped groove that is approximately 0.3cm to 1cm deep and 0.5cm to 1.0cm wide. Many of the engraved motifs (and their respective details) are now faint.

Figure 5.9: Plan of 'Morgan Road 2' (NPWS #45-6-2196)

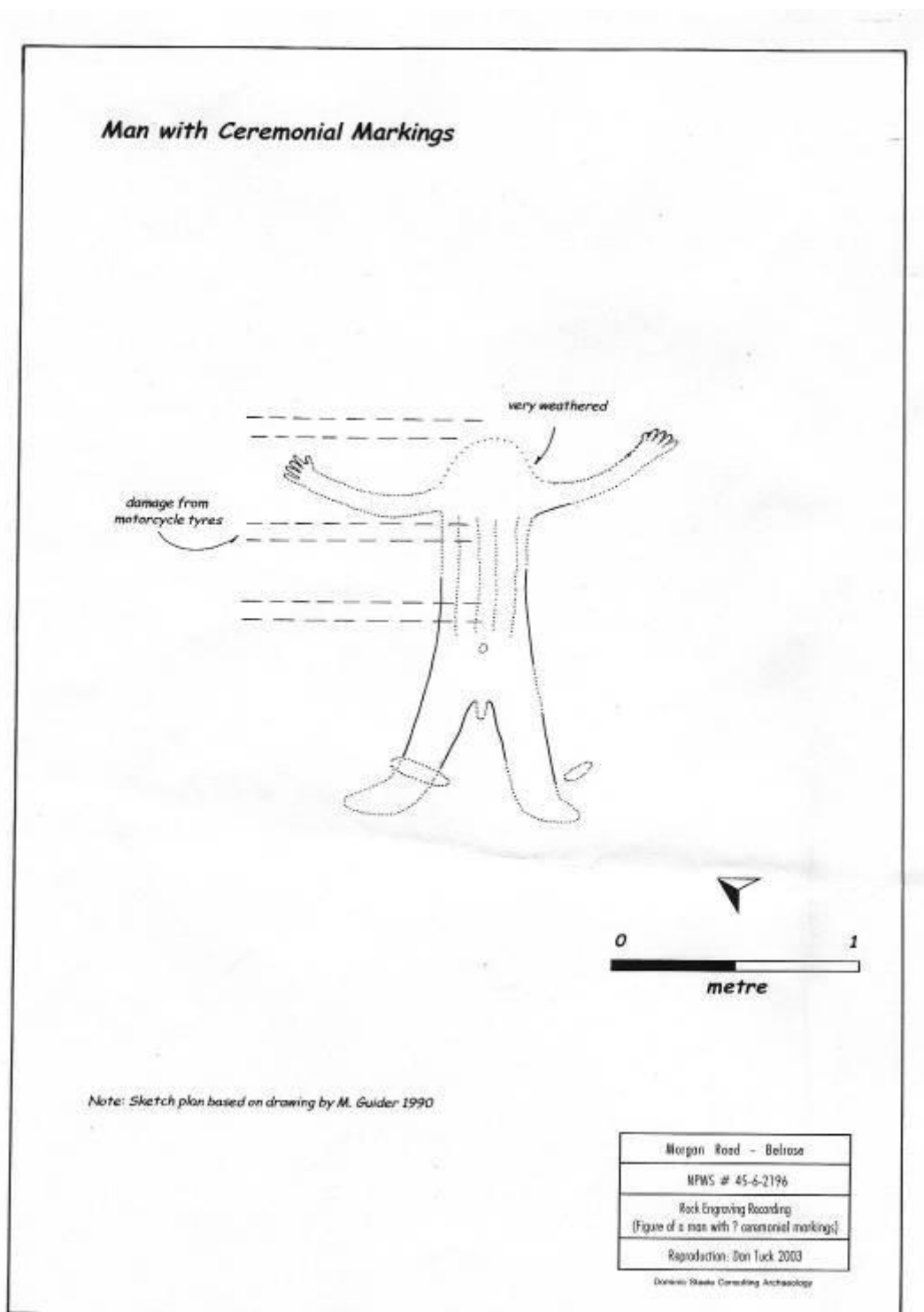


Figure 5.10: Plan of 'Morgan Road 1' (NPWS #45-6-1219)

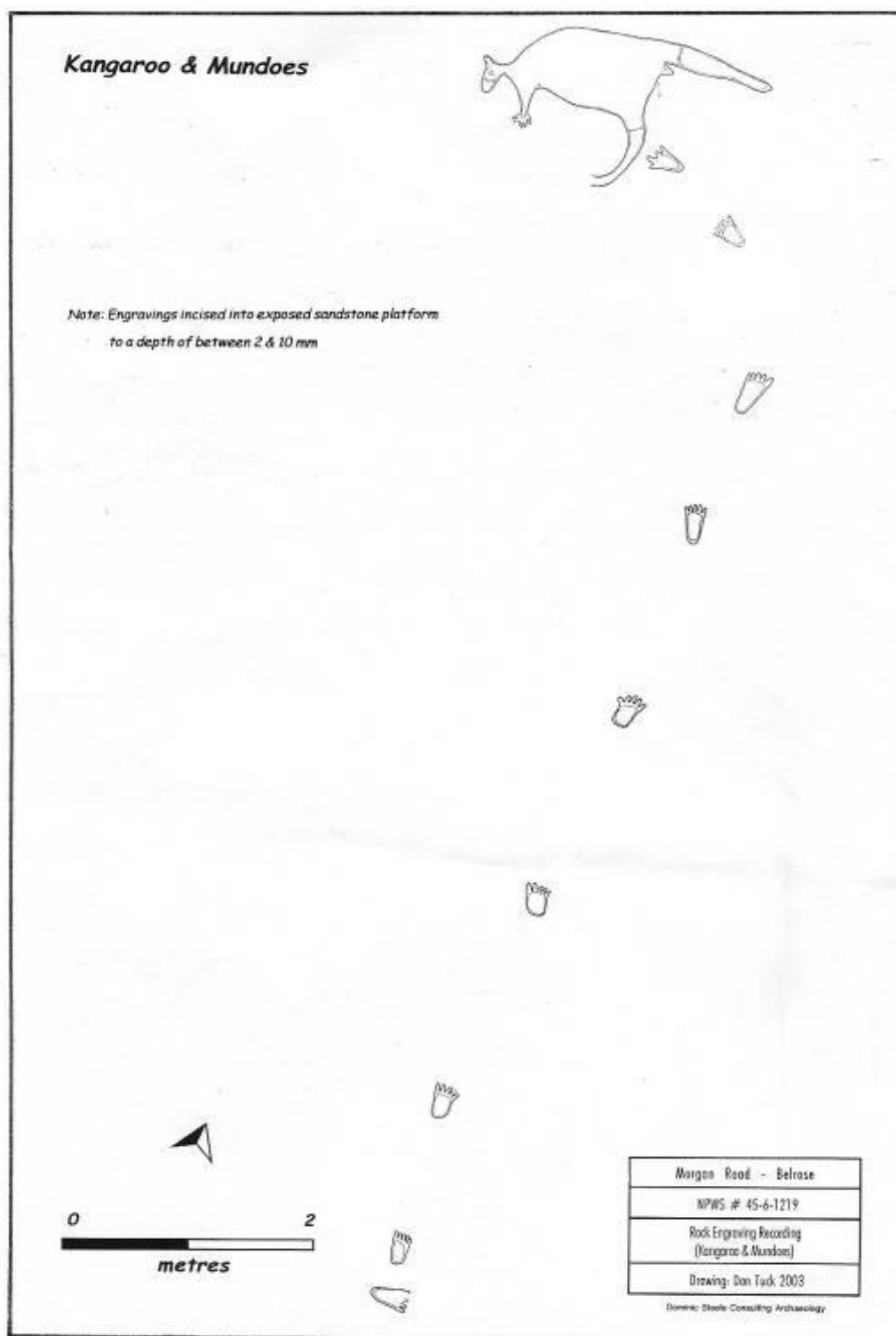


Figure 5.11: Detail of 'Morgan Road 1'

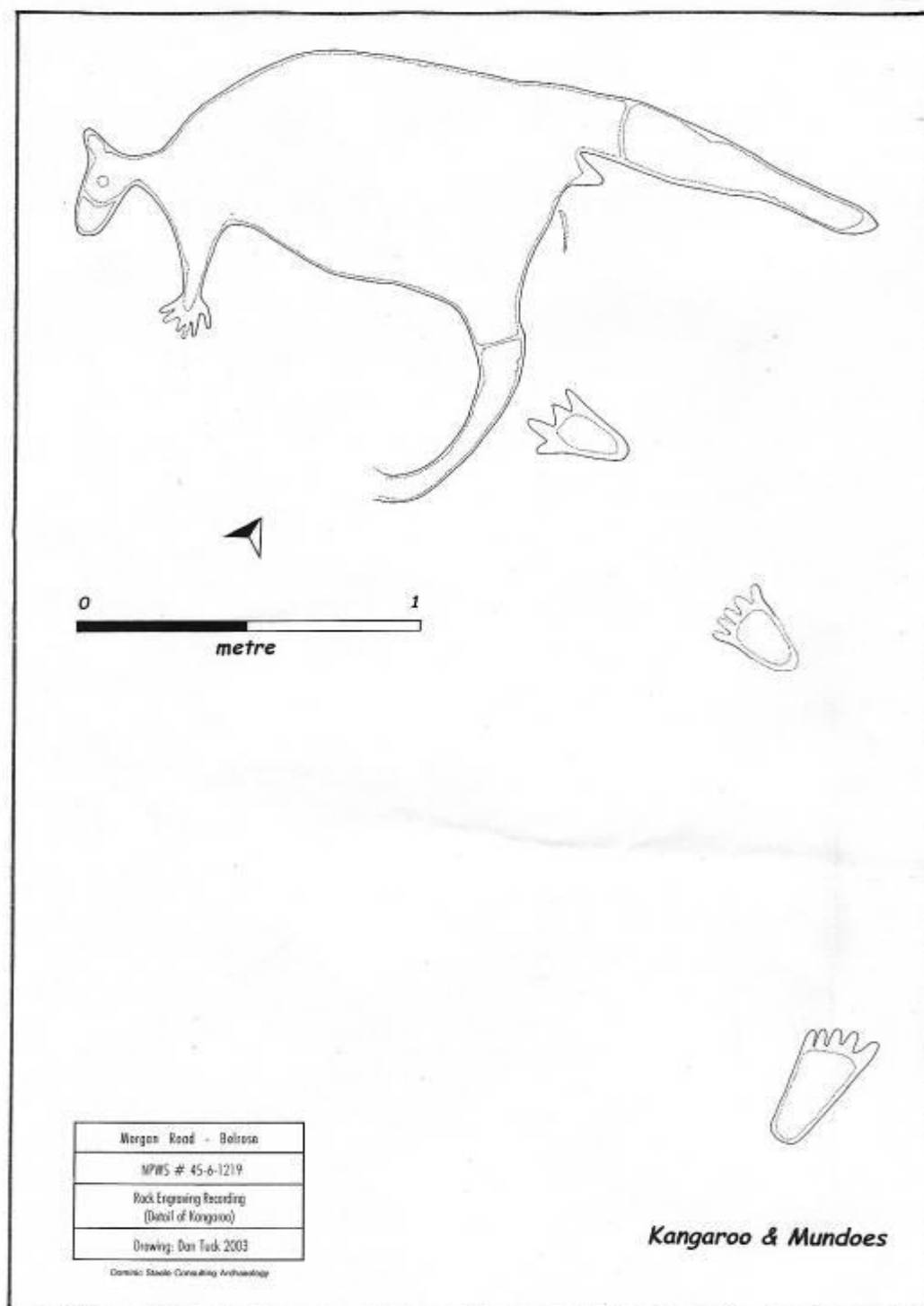


Figure 5.12: Plan of 'Morgan Road 3' (NPWS #45-6-2197)

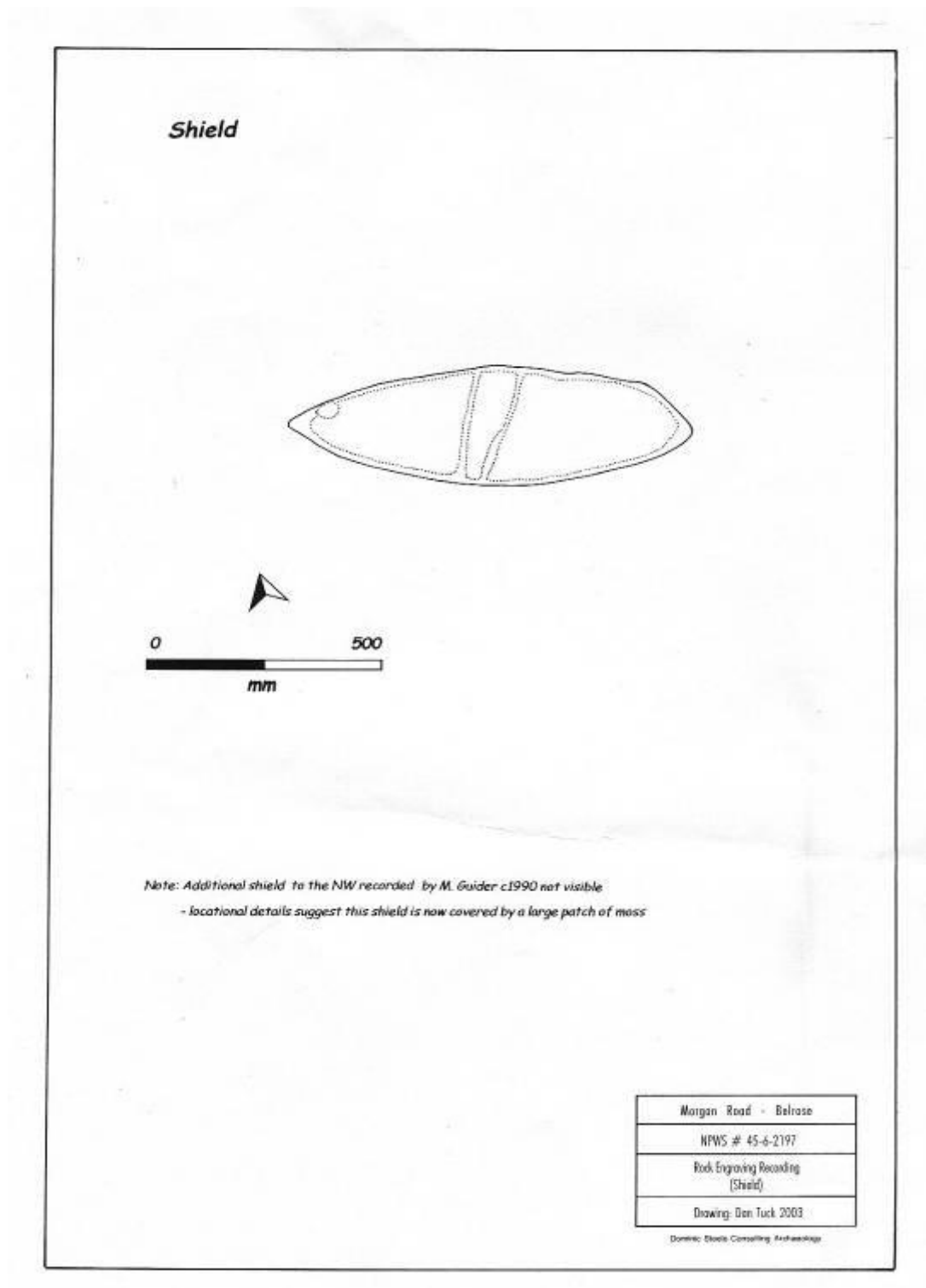


Figure 5.13: Indicative view of 'Morgan Road 1' kangaroo & footprint



Figure 5.14: Indicative view of 'Morgan Road 1' kangaroo

Figure 5.15: Detail of engraved footprint at 'Morgan Road 1'



Figure 5.16: View of 'Morgan Road 3 (NPWS #45-6-2197) shield motif

5.5 Evaluation of survey findings

The series of engravings relocated and recorded during the current study are situated upon the surfaces of the two largest rock platforms that occur within the boundaries of the Morgan Road site. No other flat sandstone exposures of any comparable size have been located in any other portions of the subject site. However, given the densely vegetated nature of the study area, this observation does not preclude the possibility that other suitable sandstone surfaces for engraving do not remain undetected.

Thorough examination of the principal rock platform in *Survey Units I and II* upon which the engravings occur did not locate any further archaeological features, despite inspections being undertaken of each locality under a range of different light conditions over a number of site inspections. However, changes in vegetation cover over time as is evident in *Survey Unit II* suggests the possibility remains for further engravings to be present upon these sandstone platforms.

In summary, this study has found:

- The largest flat (and relatively smooth) sandstone surfaces that occur within the site boundaries other than the principal platforms described above generally measure less than 20m by 20m and none display any discernible evidence for cultural modification. However, the nature and quality of the sandstone present across the site is variable and many of the currently exposed surfaces are coarse and friable and hence retain limited archaeological potential.
- A small number of minor sandstone overhangs and ledges are present within *Survey Unit I and II* that are associated with rock escarpments that have developed either through the process of cavernous weathering and/or as a result of past rock-fall. All are small (within the order of 2m by 1m with a maximum roof clearance of between 0.5m to 1.5m or less) and the roof and rear wall of most also display extensive honeycomb weathering. Whilst these surfaces are variously encrusted and obscured by algae growth and mineral/salt staining in places, no evidence for art (through direct application of pigment, stencilling or engraving) is apparent. The floors of these overhangs are also variously flat to steeply sloping and, in all cases, consist of exposed rock and/or are covered by a shallow and loose sandy matrix derived from roof-fall that is seemingly sterile. No areas of *Potential Archaeological Deposit* (PAD) contained beneath these shallow overhangs have been identified during the study.
- No archaeological deposits or features (such as middens or axe grinding grooves) have been located either within, or adjacent to the channel of Snake Creek that bisects the site. Restrictions to any future development impact upon this watercourse include a buffer zone along the banks of the creek.

- None of the few mature trees that are present within *Survey Units I and II* display any evidence for cultural modification, whilst the remainder of the timber across the site is unlikely to be of sufficient age to possess Aboriginal scarification. It is clear that the existing vegetation across the site has been continuously modified by bushfire over time and that these affects are likely to have served to remove much of the pre-existing mature timber.
- No flaked stone artefacts have been located on the exposed surfaces of the various tracks and trails that cross the site, or within the smaller exposures that occur amongst the relatively dense vegetation outside of these tracks within *Survey Units I to II*.

6.0 Significance assessment

6.1 Assessing heritage significance

The *NSW Heritage Council* has adopted specific criteria for heritage assessment, related to the *NSW Heritage Act 1977* (as amended). Some of these criteria can also be applied to assessing certain aspects of Aboriginal archaeological significance related to the *National Parks and Wildlife Act 1974* (as amended):

Criterion (a) – an item is important in the course, or pattern, of NSW’s cultural or natural history (or the cultural or natural history of the local area).

Criterion (b) – an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW’s cultural or natural history (or the cultural or natural history of the local area).

Criterion (c) – an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).

Criterion (d) – an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural, or spiritual reasons.

Criterion (e) – an item has potential to yield information that will contribute to an understanding of NSW’s cultural or natural history (or the cultural or natural history of the local area).

Criterion (f) – an item possesses uncommon, rare, or endangered aspects of NSW’s cultural or natural history (or the cultural or natural history of the local area).

Criterion (g) – an item is important in demonstrating the principal characteristics of a class of NSW’s cultural or natural places, or cultural or natural environments.

The 2001 *Heritage Council* guidelines outline that loss of integrity or poor condition may diminish an item’s significance, and relative grades used to determine the heritage significance include:

Exceptional: Rare or outstanding item of Local or State significance. High degree of intactness. Item can be interpreted relatively easily. Fulfils criteria for Local or State listing

High: High degree of original fabric. Demonstrates a key element of the item’s significance. Alterations do not detract from significance. Fulfils criteria for Local or State listing.

Moderate: Altered or modified elements. Elements with little heritage value but which contribute to the overall significance of the item. Fulfils criteria for Local or State listing.

Little: Alterations detract from significance. Difficult to interpret. Does not fulfil criteria for Local or State listing.

Intrusive: Damaging to the item’s heritage significance. Does not fulfil criteria for Local or State listing.

The above guidelines (ibid:4) note that element grading systems were developed primarily for built and landscape heritage and do not translate easily to assessing archaeological resources. This point is exemplified in the guidelines by sites of archaeological significance that may have a high degree of deposit intactness and research potential but limited original fabric and often contain archaeological remains of multiple phases of occupation that is not easily interpreted without detailed excavation and analysis.

Within this context, a number of these standard heritage significance assessment criteria apply to the Aboriginal heritage site contexts that are discussed here more than others in general, and also to their individual known and suspected archaeological components in particular.

6.2 Assessing Aboriginal heritage significance

The reason for significance assessments is to explain why particular sites or places may be important to the community and to allow for appropriate management strategies to be developed when changes in landuse circumstances may potentially affect the assessed significance values of a site or a place. Cultural significance is defined in the *Australian ICOMOS Charter for the Conservation of Places of Cultural Significance* (the *Burra Charter*) as ‘*aesthetic, historic, scientific, or social value for past, present, or future generations*’ (Article 1.1). This aspect of significance may be derived from the fabric of a place, association with a place, or the research potential of a place. While these definitions are more commonly used with reference to buildings or items, they can also in a number of respects also apply to archaeological features and deposits.

This assessment of significance of the Morgan Road Aboriginal archaeological resources follows current guidelines (NPWS 1997:5-11) and uses additional criteria derived from the Burra Charter (see below). An important position taken here is that not all sites are equally significant and not all heritage sites at a general level will warrant equal consideration and management. The significance of heritage sites also changes over time, often as more research is undertaken in archaeological and environmental circumstances, and as community values change and develop over time.

OEH guidelines for the assessment of significance of Aboriginal sites, objects and places identify two types of significance criteria; *cultural significance* and *archaeological significance*.

Cultural significance concerns the values of a site or feature to a particular community group. Aboriginal Archaeological heritage sites, objects, and some landscapes are all often important for different reasons or have become important to Aboriginal people over time. This importance involves both people’s historical links to ‘country’ in general, and attachments to specific areas, as well as an overall concern of many Aboriginal people for the continued protection of the land and its cultural heritage sites.

Scientific significance in archaeological contexts is usually assessed using criteria that aim to evaluate a given site's contents, state of preservation (integrity), representativeness or rarity, and research potential.

- *Archaeological research potential* incorporates values of intactness (whether it has stratigraphic integrity or is disturbed), the association of the site to other sites in the local regional (or State) context, and how the site may fit into a datable chronology, when considering how the site may contribute to our further understanding of past Aboriginal life. This area of assessment is consistent with *Criterion 'e'* of the *Heritage Branch* guidelines that are used to assess the potential historical archaeological resources of the site (see below).
- *Representativeness* is a term to convey the idea that most Aboriginal archaeological sites are representative of a particular 'type' or sub-type/class which for example would apply to a rock shelter with art as distinct from an open campsite with stone artefacts. A key issue is whether sites should be conserved to ensure a representative sample of the archaeological record is retained for future generations. This general area of assessment is consistent with *Criterion 'a'* of the *Heritage Branch* guidelines (see below).
- *Rarity* can apply to a unique or uncommon archaeological site itself or elements of its component parts (archaeological rare finds or contexts), can be assessed at a Local and State, and National level, and is consistent with *Criterion 'a'* of the *Heritage Branch* guidelines (see below).

6.3 Preliminary significance

6.3.1 Cultural significance

This area of assessment concerns the relationship and importance of sites to the Aboriginal community. Aspects of cultural significance include both people's traditional and contemporary links with a given site or landscape as well as an overall concern by Aboriginal people for their sites and their continued protection.

From ongoing consultation undertaken with the MLALC for this study it is clear the Morgan Road land is highly valued by the Aboriginal community today. The rock engraving contained within the site are culturally significant and are powerful records of past people and their lives and must be protected and looked-after into the future.

6.3.2 Educational significance

This category is concerned with using a site or a site's potential to educate people about the past. It also relates to the heritage value of particular sites as being representative examples of past lifestyles, why they are important, and why they should be preserved. Education of the wider community is one of the principal concerns of cultural resource management, in so far as education serving to reduce ignorance and raise community awareness (ultimately reducing intended and/or unwitting site destruction) will contribute to preservation and conservation management procedures.

The Morgan Road Aboriginal rock engravings possess high education potential that can be realised through further investigation of the cultural interpretation opportunities provided by the site and continued discussion with the MLALC.

6.3.3 Scientific significance

Scientific significance attempts to place a given site or group of sites into a broader regional framework and strives to present an assessment of research potential according to the rationale that the preservation of a representative sample of ‘the past’ is an objective of cultural resource management. Establishing whether a site/or group of sites can contribute to current research clearly involves the definition of ‘research potential’.

Current significance assessment orthodoxy employs criteria inclusive of site condition/integrity (is the site in good condition or in threat of ongoing degradation?), structure & contents (what does the site comprise?), and representativeness (the latter context being partly based upon whether the site type is common or a rarity) as a means of evaluation.

The Morgan Road rock engravings are located upon the surfaces of elevated horizontal sandstone platforms situated within a ridgetop context that (in the case of Morgan Road 1 and 2 in particular) possess panoramic views over Garigal National Park. The location of these items therefore contributes to our increasing understanding of past Aboriginal landuse practices in the region.

Although Morgan Road 2 is faint and displays evidence for recent damage, the remaining rock engravings are in good condition, will not be *directly* affected by the current development proposal, and will be protected by land-use restrictions that will ensure their long-term preservation. In terms of motif, style and technique, the human figure, shields, kangaroo, and footprints represent relatively typical examples of rock engravings that have been previously recorded in the local region and contribute to our increased understanding of traditional Aboriginal artistic/aesthetic endeavours.

6.3.4 Evaluation

The Morgan Road land is assessed to be a place of medium archaeological research potential. It contains a series of rock engravings of high cultural significance which contribute to our understanding of past Aboriginal use of this part of Sydney. Subject to addressing the issues for consideration that are outlined in this report, and future implementation of heritage management recommendations provided at the end of this report, it is concluded that the proposed Morgan Road Planning Proposal will not have a significant or unacceptable impact on the Aboriginal archaeological, cultural, educational, or scientific significance of the place.

7.0 Effects of proposal on Aboriginal cultural heritage

7.1 Potential impact on documented Aboriginal cultural heritage sites

The Structure Plan and Illustrative Master Plan have been developed in consultation with the MLALC and have been designed to protect and conserve the important Aboriginal archaeological and cultural heritage sites that are known to occur on the land. Their long-term conservation within a large open-space context and future management under the decision-making of the MLALC will enable their continued and ongoing protection.

7.2 Potential impact on potential archaeological resources

The relatively poor archaeological visibility evident across much of the Morgan Road land suggests a range of Aboriginal archaeological sites may remain undetected that may be impacted by future land development that outlined below hierarchically ranked from most likely to least.

- Rock engravings
- Axe grinding grooves
- Open camp sites
- Scarred trees

Future construction and vegetation clearance activities have the potential to expose previously obscured sandstone surfaces that may contain as yet undetected rock engravings and axe grinding grooves. However, excluding the principal rock platforms that contain Morgan Road Aboriginal Sites 1 to 3 as described above, no other *specific* areas of *potential Aboriginal Archaeological Sensitivity* relative to the development proposal have been identified on the basis of the results of the current site investigation or through consultation undertaken with the *Metropolitan Local Aboriginal Land Council* to date.

Furthermore, outside of those areas where there is sandstone outcropping, the soil profiles are stony and of low fertility dominated by surface exposures of friable sandstone materials and clay. It is considered unlikely that extensive archaeological deposits (such as midden materials and/or flaked stone artefact scatters) remain undetected within the study area.

7.3 Opportunities

The Morgan Road engravings are a tangible link between past and present that inscribe an Aboriginal identity onto the land. There are opportunities for the future rezoning to benefit from the implementation of actions directed to ensure the ongoing preservation and future interpretation of these important Aboriginal cultural heritage sites in partnership with the MLALC:

The ongoing care and protection of the Aboriginal heritage sites will enable their long-term conservation and offer future opportunities for the creation of cultural centre based around sites interpretation and story-telling that will enhance the community values of the place.

7.4 Conservation and management options for the Morgan Road engravings

The Morgan Road 1 site (Human figure) is located along the alignment of an existing track that runs from Morgan Road. This track is currently used as a bike trail and the sandstone boulder upon which the engraving occurs is therefore suffering ongoing damage as riders cross over this slightly rounded outcrop. In the short term at least, it would be appropriate to install low timber bollards at the entrance of the trail and/or at the base of the rock outcrop to restrict access to and/or over this feature.

The Morgan Road 2 engravings are located upon the surface of the largest and most elevated flat sandstone platform within the land and this context is to be preserved by the proposed rezoning.

There exists the possibility that other engraved features occur within the vicinity of the Morgan Road 1 and 2 sites that are currently obscured by existing vegetation cover. Careful removal of those areas of vegetation (in consultation with the MLALC) that exist on the platform in these localities will provide an opportunity to ensure that further engravings are not impacted upon should any development be proposed for the sandstone platform.

An Aboriginal Heritage Impact Permit (AHIP) issued under the National Parks and Wildlife Act 1974 would be required for this activity, and for any vegetation removal that may be undertaken in the future for the specific purposes of locating further engravings.

The creation of a cultural centre with an appropriate timber boardwalk design within the vicinity of the Aboriginal engravings will help better define the access to the sandstone platform and reduce accumulated impacts to the sites that may result from increased public visitation.

The Morgan Road 3 engravings are located upon a flat sandstone outcrop that exhibits a distinctive tessellated surface and this context should be preserved. The sandstone shelf is broadly defined by existing fire trails and/or relatively steep drop-offs and there exists the opportunity to conserve this feature without grossly impacting upon the natural landform in this locality.

One of the two shield motifs in this location is presently obscured by vegetation, and there also exists the possibility that other features remain undetected within the vicinity. As for Morgan Road 1 and 2, any vegetation clearance beyond that anticipated by the DA that may be considered for the specific purpose of exposing the second engraving will require consent from Heritage NSW via an AHIP.

7.5 Evaluation

On the basis of these considerations, it is concluded the Morgan Road Proposal is unlikely to have an adverse impact upon the Aboriginal cultural heritage values of the land and should proceed, but contingent upon the implementation of the recommendations in the following section.

8.0 Management recommendations

8.1 Basis for Recommendation of Management Advice

The following recommendations are based upon the legal requirements and automatic statutory protection provided Aboriginal 'objects' under the terms of the National Parks and Wildlife Act 1974 (as amended), the results of the archaeological assessment of the land documented here, and in consideration of the views on the proposed rezoning by the Metropolitan Local Aboriginal Land Council.

8.2 Management Recommendations

It is recommended that:

- The Patyegarang Project Planning Proposal will not have an unacceptable adverse impact upon the Aboriginal cultural heritage values of the land and should proceed, and the Aboriginal archaeological heritage sites recorded on the land should be protected and conserved within the nominated open space identified by the Structure Plan.
- There is the possibility that other engravings occur within the vicinity of the Morgan Road sites that are obscured by vegetation cover. Any vegetation clearance on the sandstone exposures containing the rock engravings or which may be considered in the future for the specific purposes of locating engravings in other parts of the site should be undertaken with care and completed according to the terms of an Aboriginal Heritage Impact Permit issued for the activity under the *National Parks and Wildlife Act 1974*.

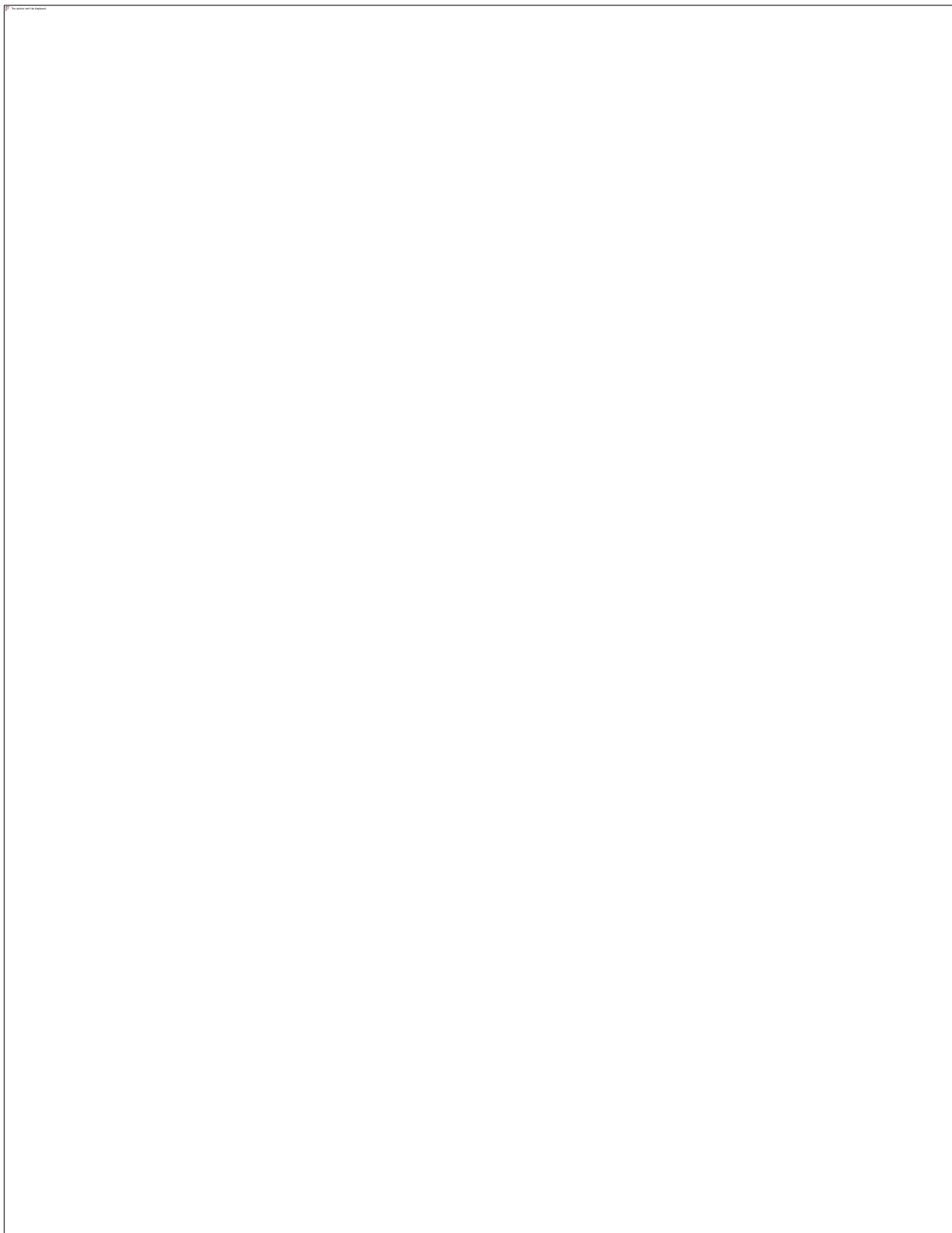
9.0 References

- Attenbrow, V.J. 2010. **Sydney's Aboriginal Past. Investigating the Archaeology and Historical Records**. Second Edition. University of NSW Press.
- Benson, D. and J. Howell. 1995. **Taken for Granted: The Bushland of Sydney and its Suburbs**. Kangaroo Press. Kenthurst.
- Chapman, G.A. & C.L. Murphy. 1989. **Soil Landscapes of the Sydney 1:100 000 Sheet**. Soil Conservation Service of NSW, DECC. 2005 (January). National Parks and Wildlife Act 1974: Part 6 Approvals. Interim Community Consultation Requirements for Applicants. Department of Environment and Conservation.
- DECCW. 2009 (May). Aboriginal Cultural Heritage. Draft Community Consultation for Proponents. Part 6 National Parks and Wildlife Act 1974. Department of Environment and Climate Change.
- DECCW. 2010 (April). Aboriginal Cultural Heritage Consultation Requirements for Proponents. Part 6 National Parks and Wildlife Act 1974. Department of Environment, Climate Change and Water.
- Jo McDonald-CHM. 1997a. ADI Site St Marys. Test Excavation of Five Sites. 2 Volumes. Survey for Archaeological Sites: Proposed Rouse Hill Stage 2 Infrastructure Works at Rouse Hill, Parklea and Kellyville, NSW. GHD Pty Ltd for RHIC. Aboriginal Archaeological Due Diligence Assessment - 11 Windsor Road, Kellyville
- McDonald, J.J. 2007. *'Dreamtime Superhighway: An Analysis of Sydney Basin Rock Art and Prehistoric Exchange'*. **Terra Australis 27**. ANU Press. Canberra.
- McDonald, J.J & E. Rich. 1993. Archaeological Investigations for the Rouse Hill Infrastructure Project (Stage 1) Works along Caddies, Smalls and Second Ponds Creeks, Rouse Hill and Parklea, NSW. Final Report on Test Excavation Programme. Report by Brayshaw McDonald Pty Ltd for the Rouse Hill Joint Venture Pty Ltd.
- NPWS. 1997. Aboriginal Cultural Heritage Standards & Guidelines Kit. NSW National Parks and Wildlife Service.
- White, B. & J.J. McDonald. 2010. *'Lithic Artefact Distribution in the Rouse Hill Development Area, Cumberland Plain, NSW'*. **Australian Archaeology**. Volume 70:29-38.

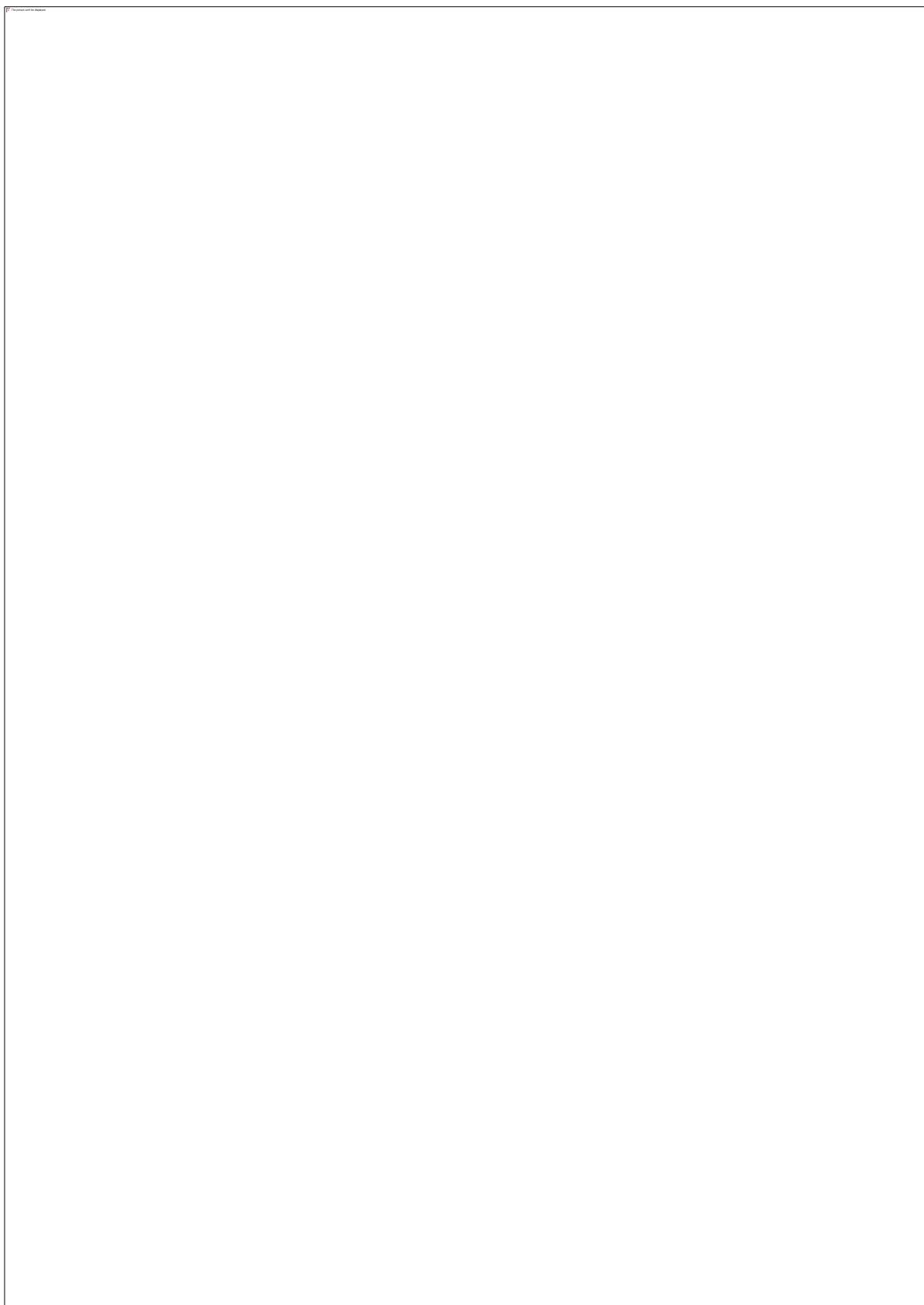
Appendix 1

AHIMS site searches and cards

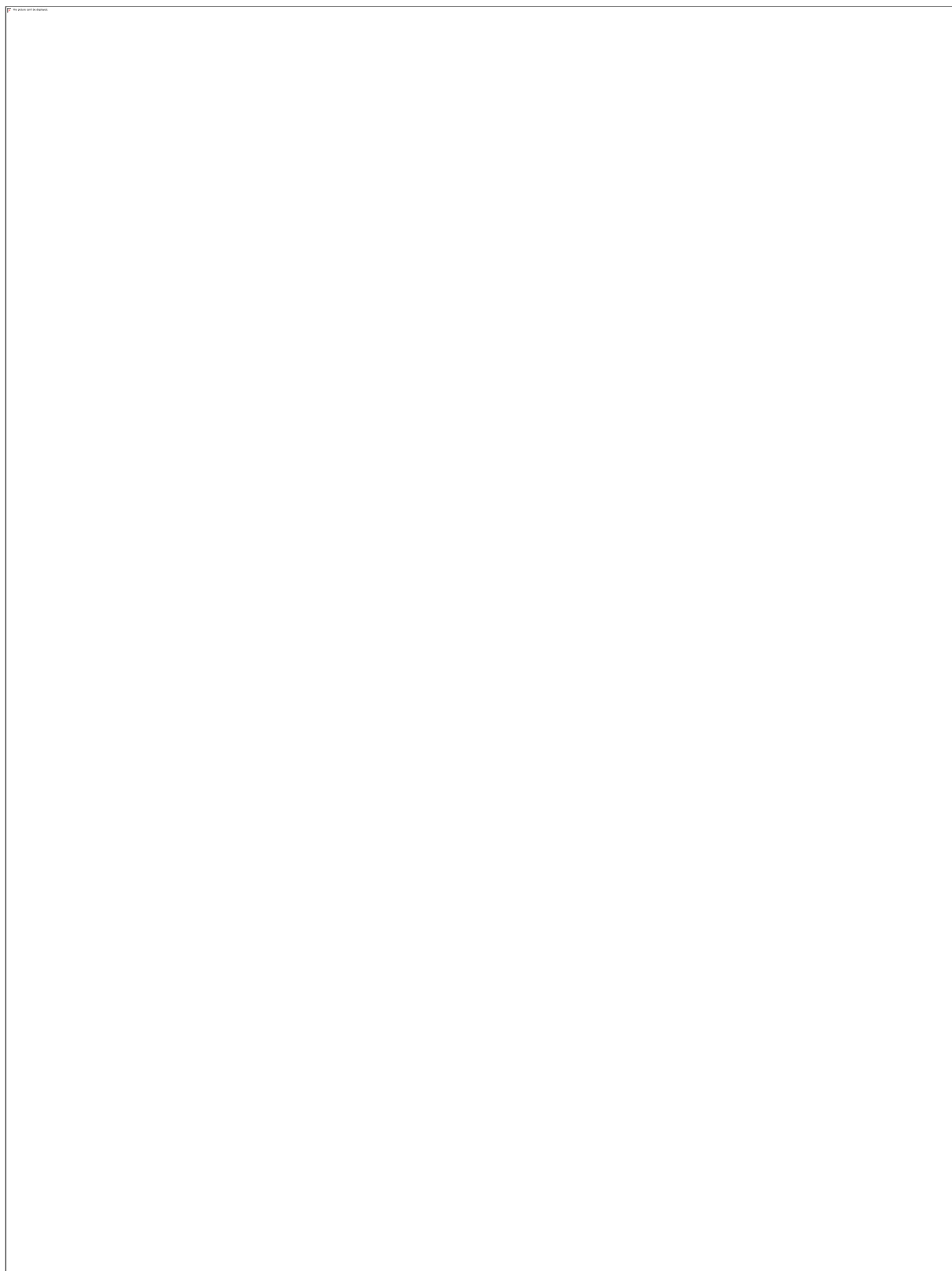
Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



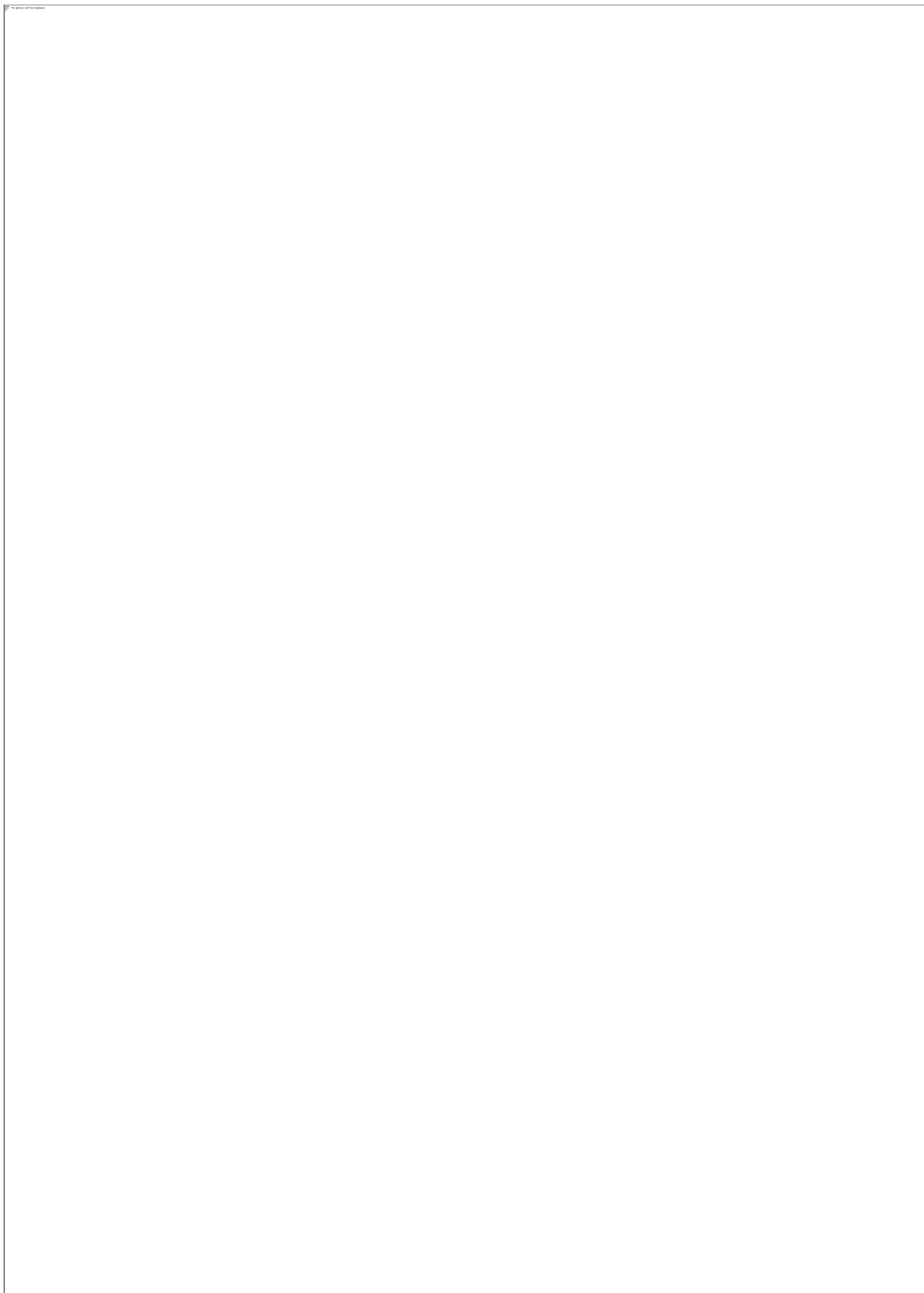
Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



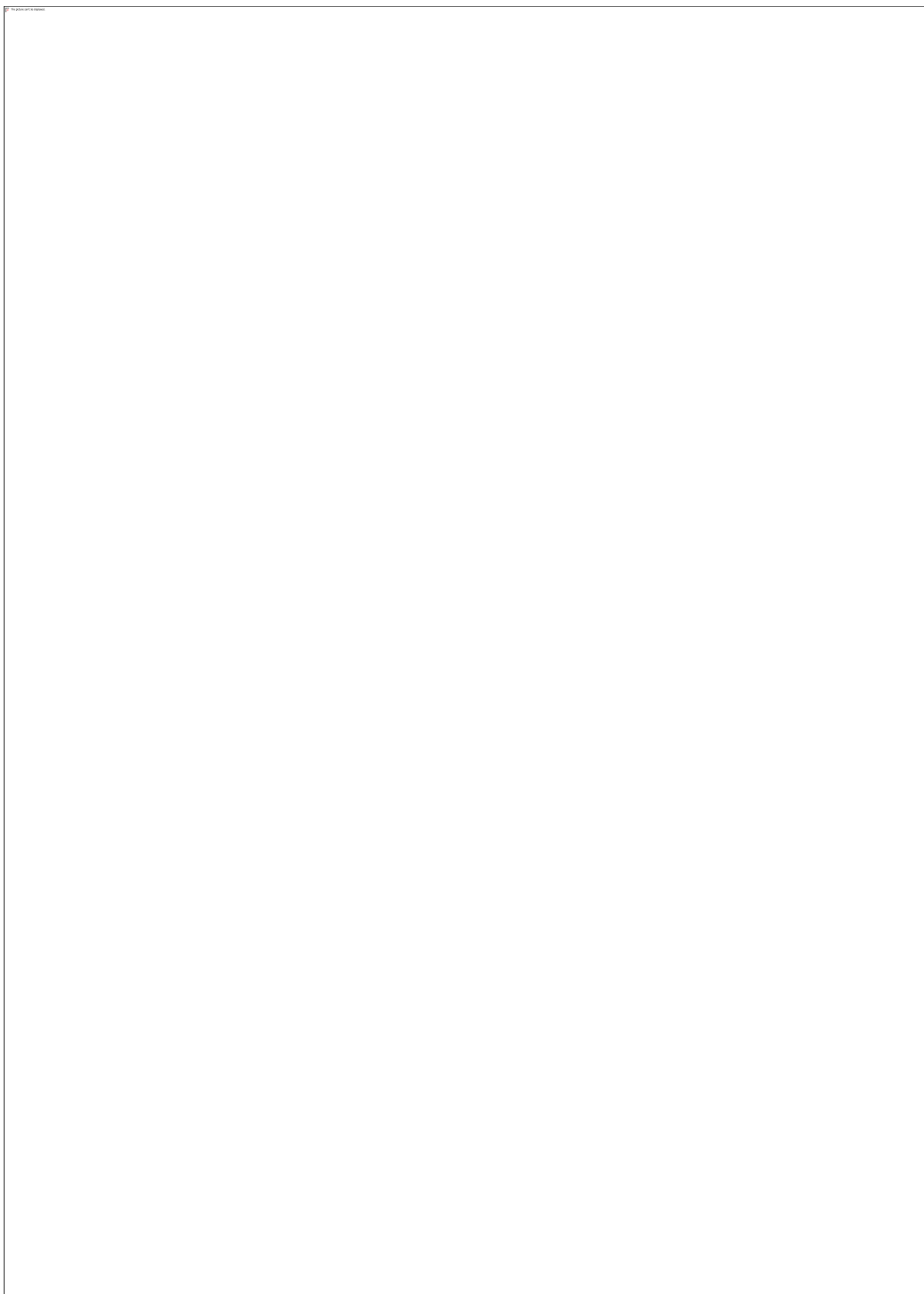
Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



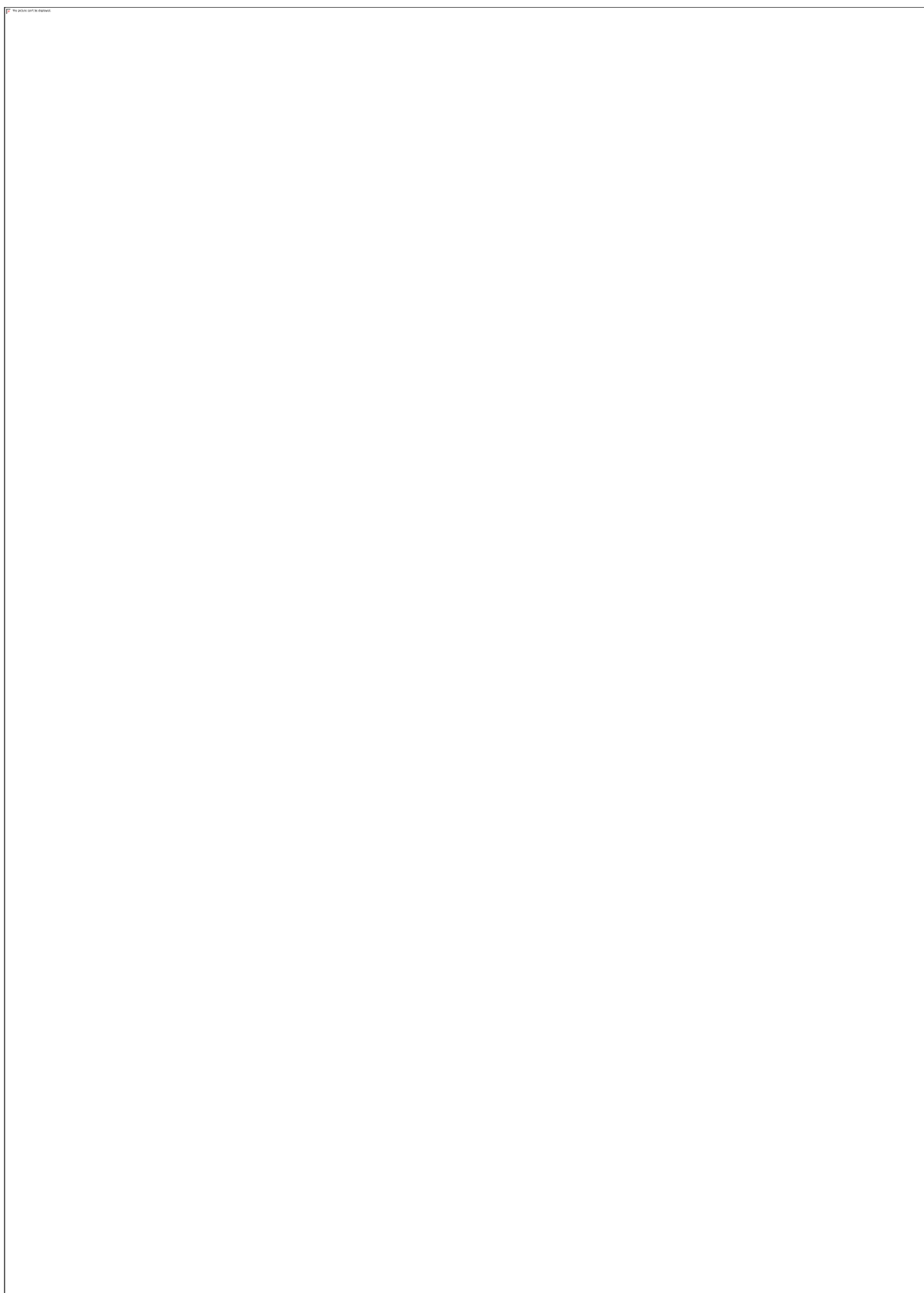
Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



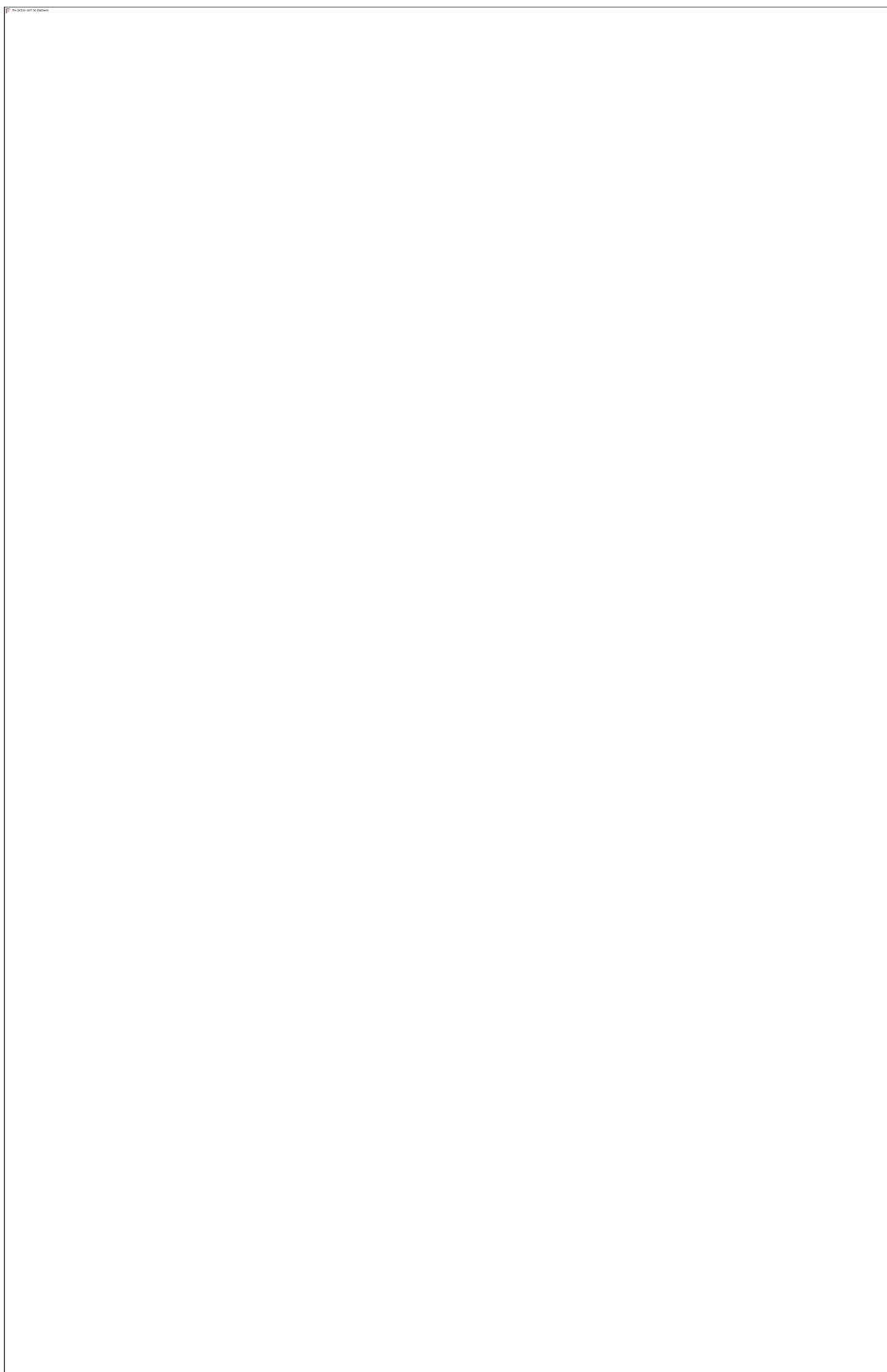
Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



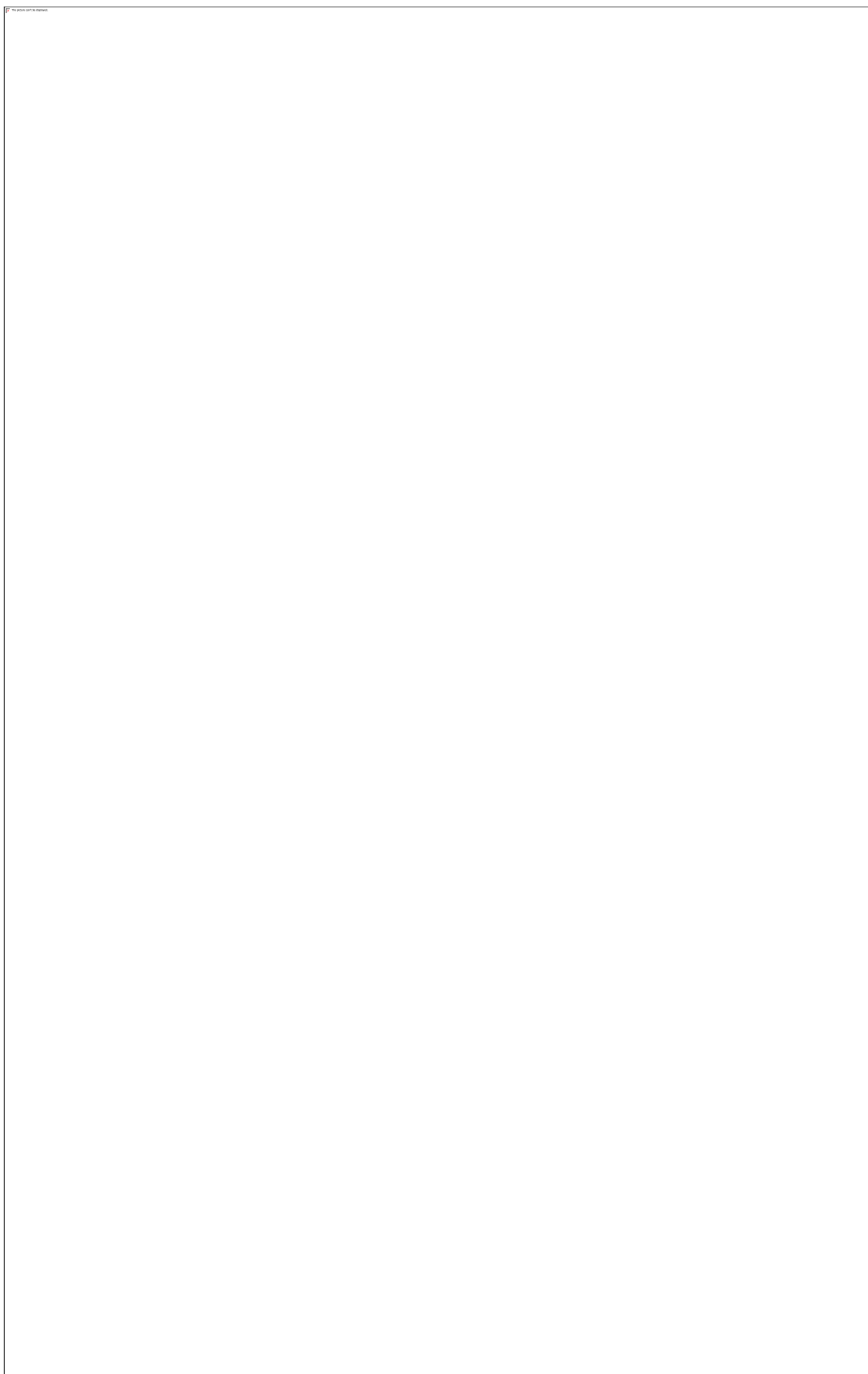
Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



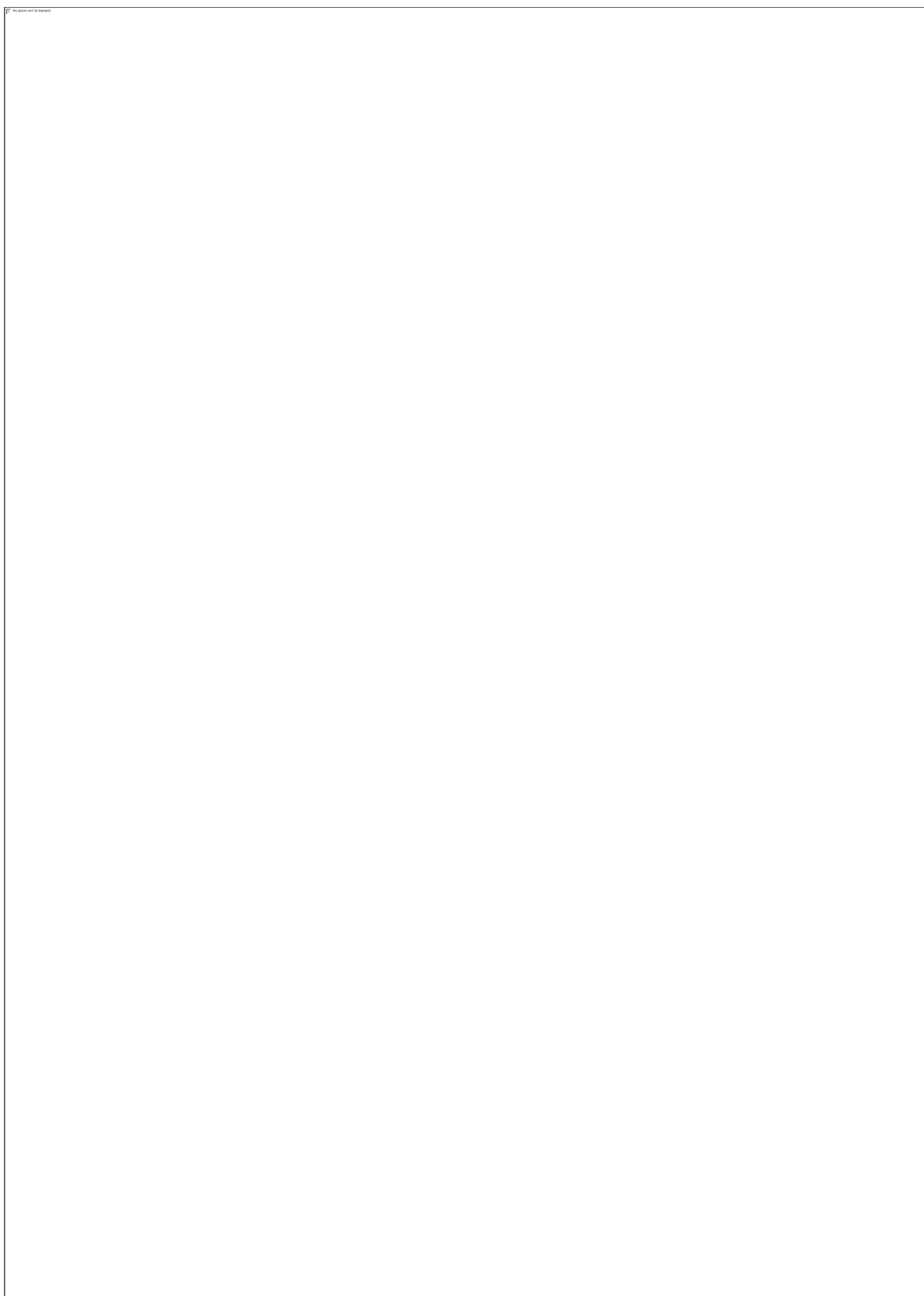
Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



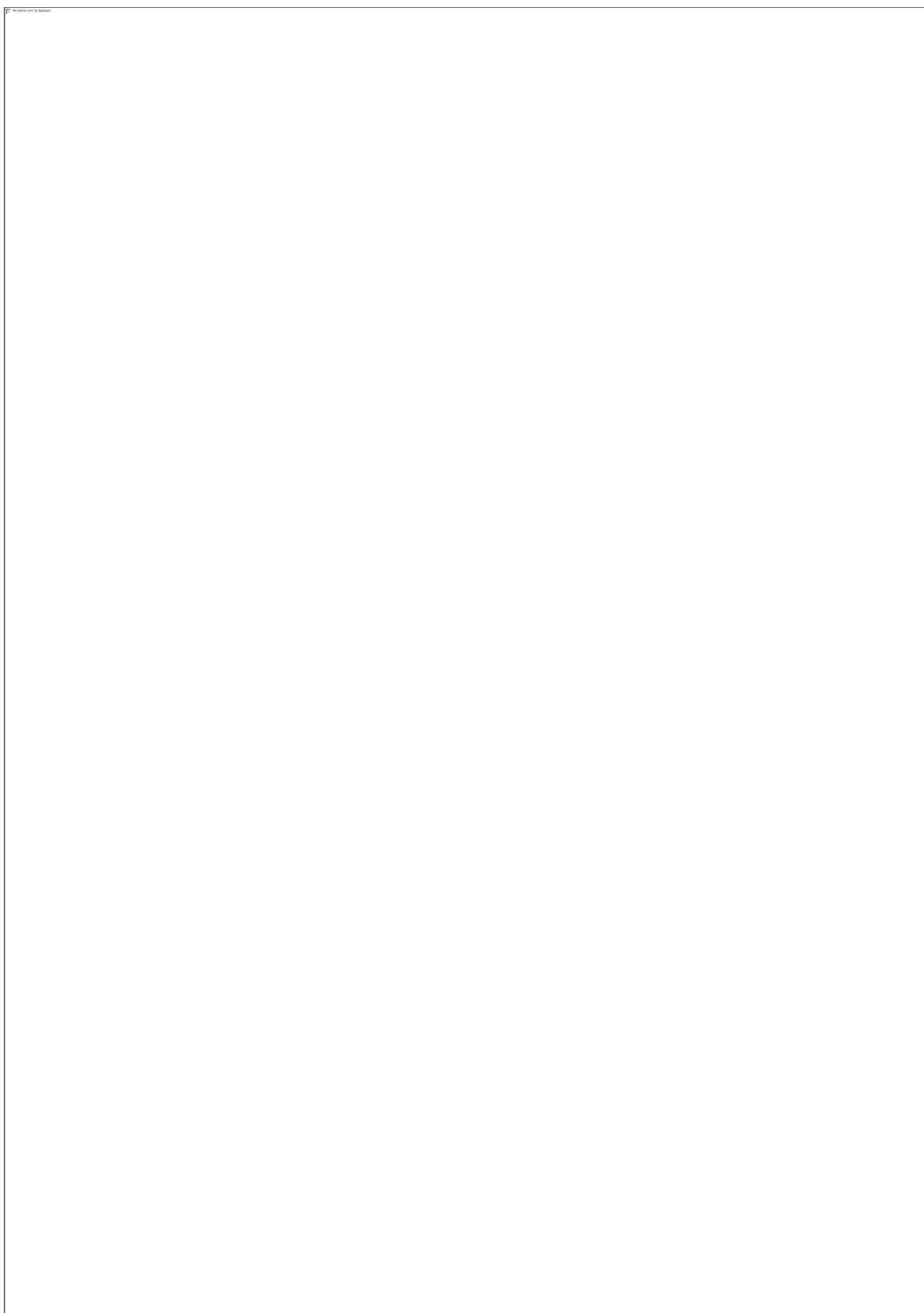
Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



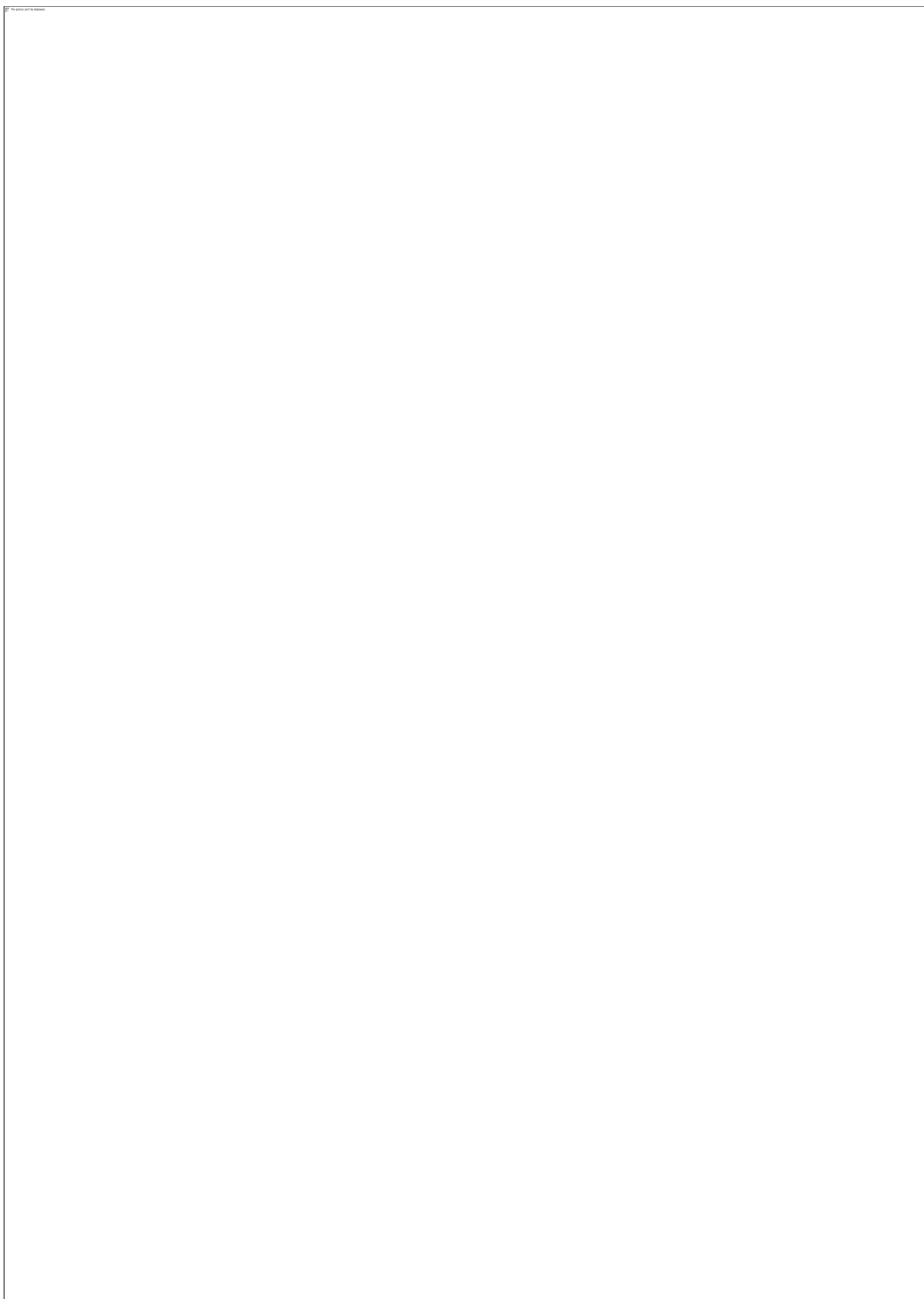
Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



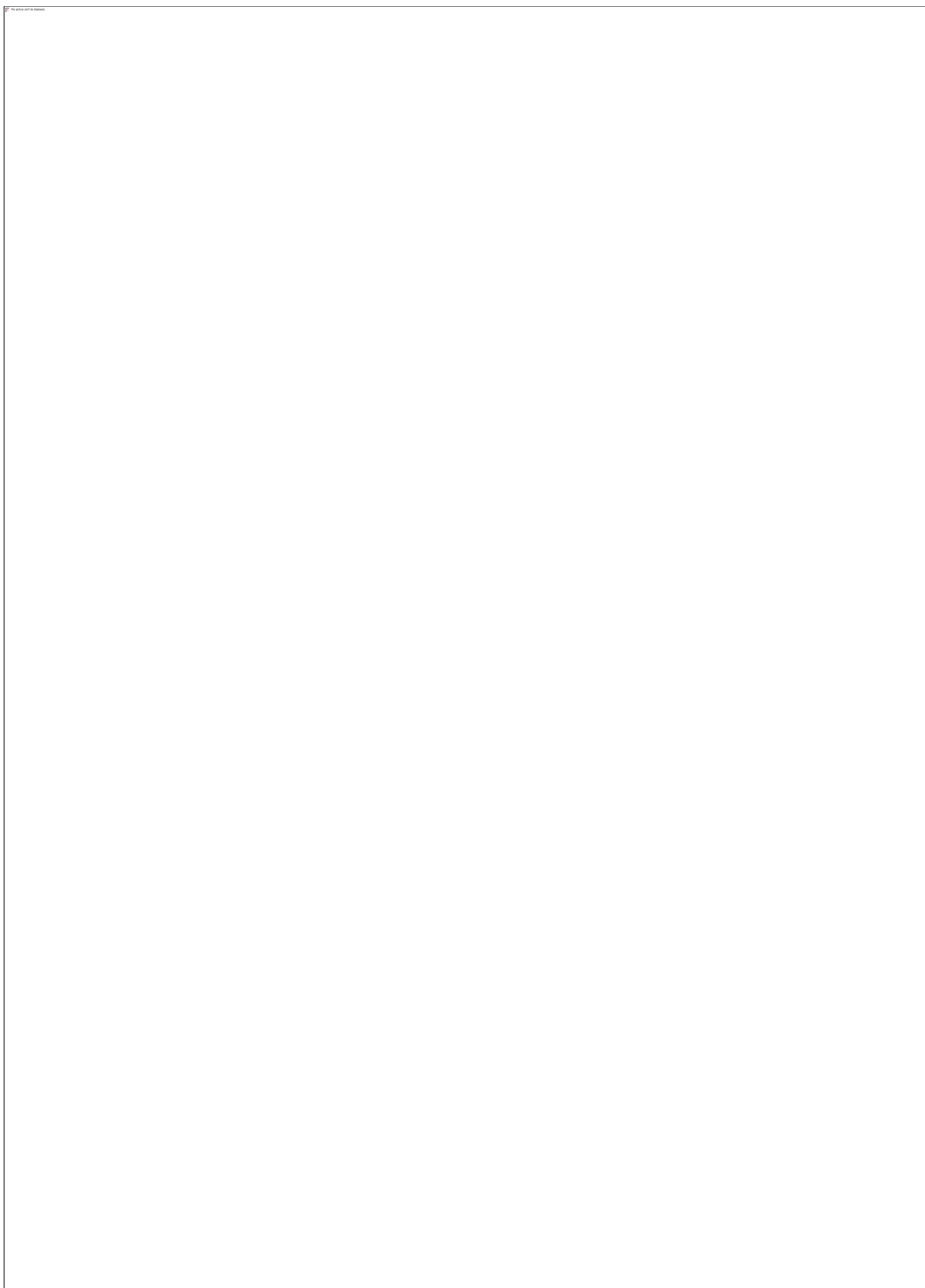
Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



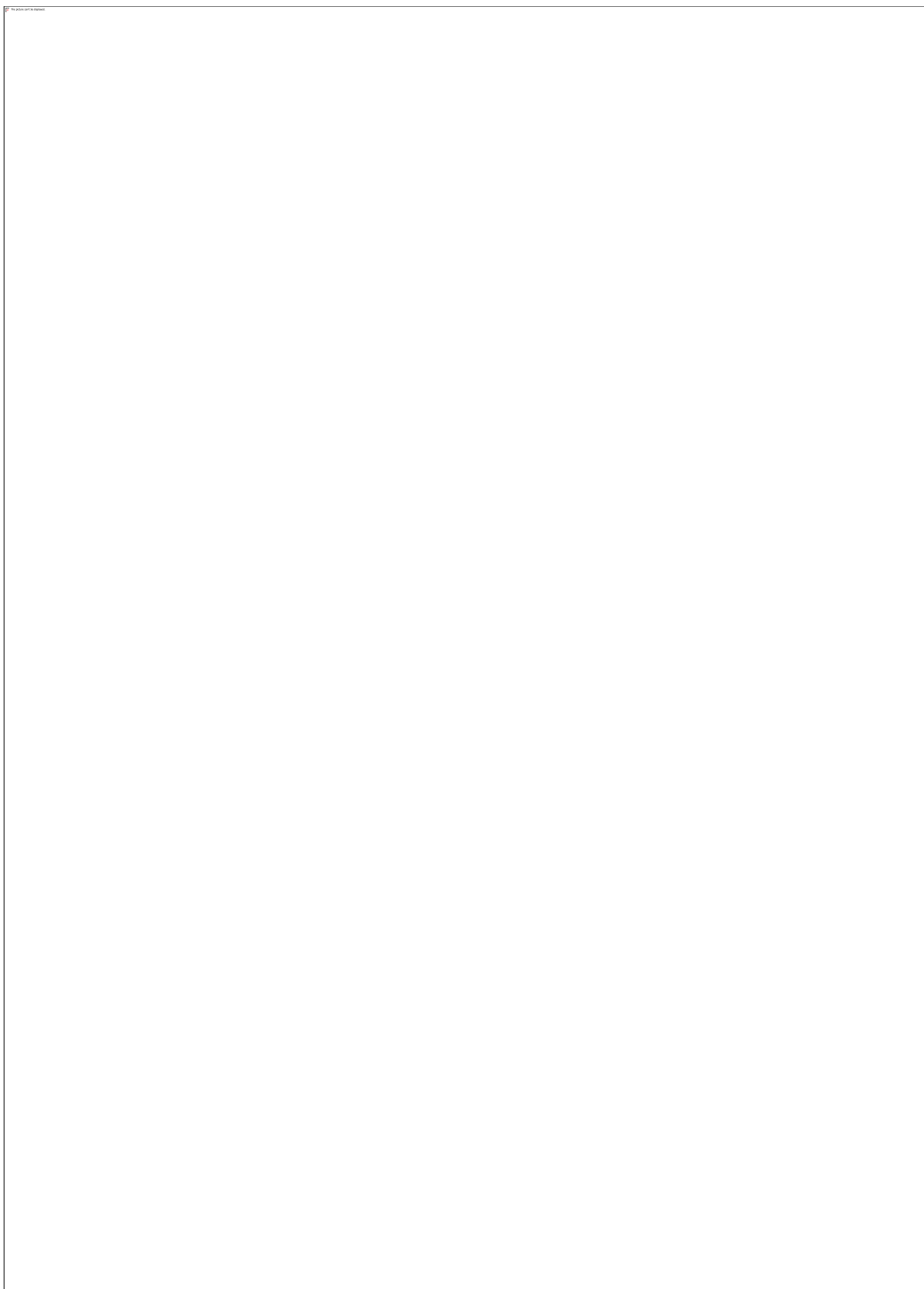
Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



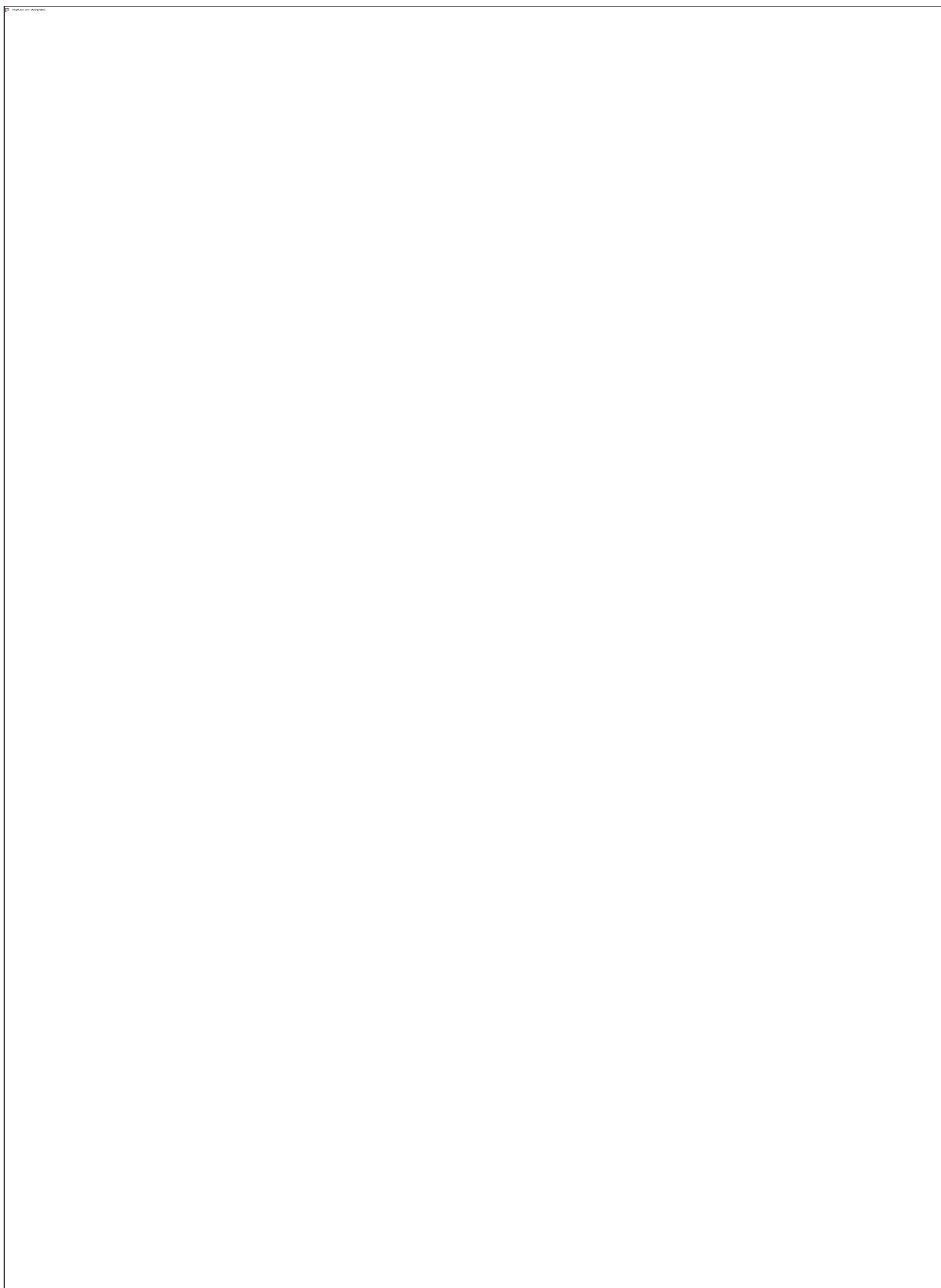
Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



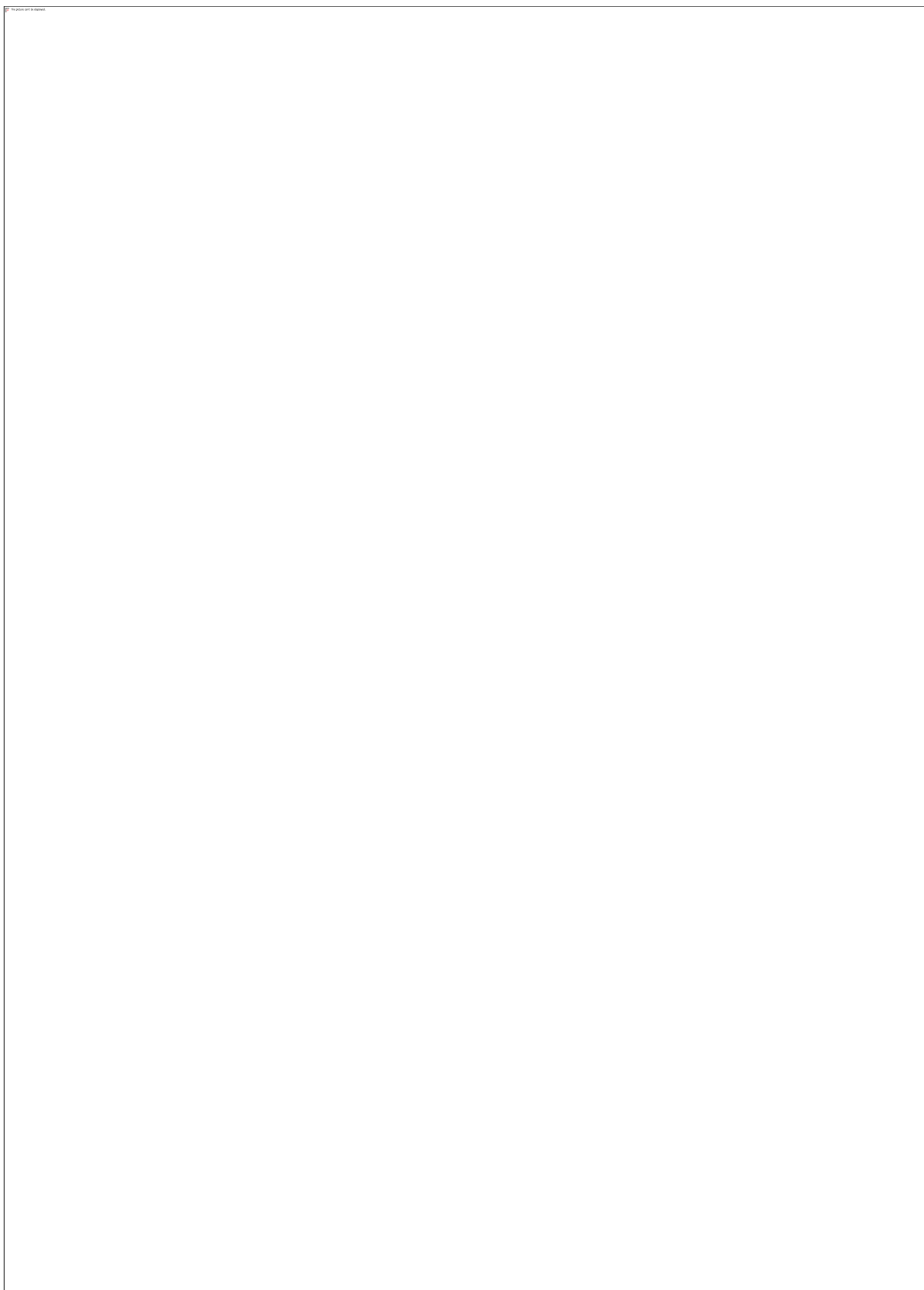
Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



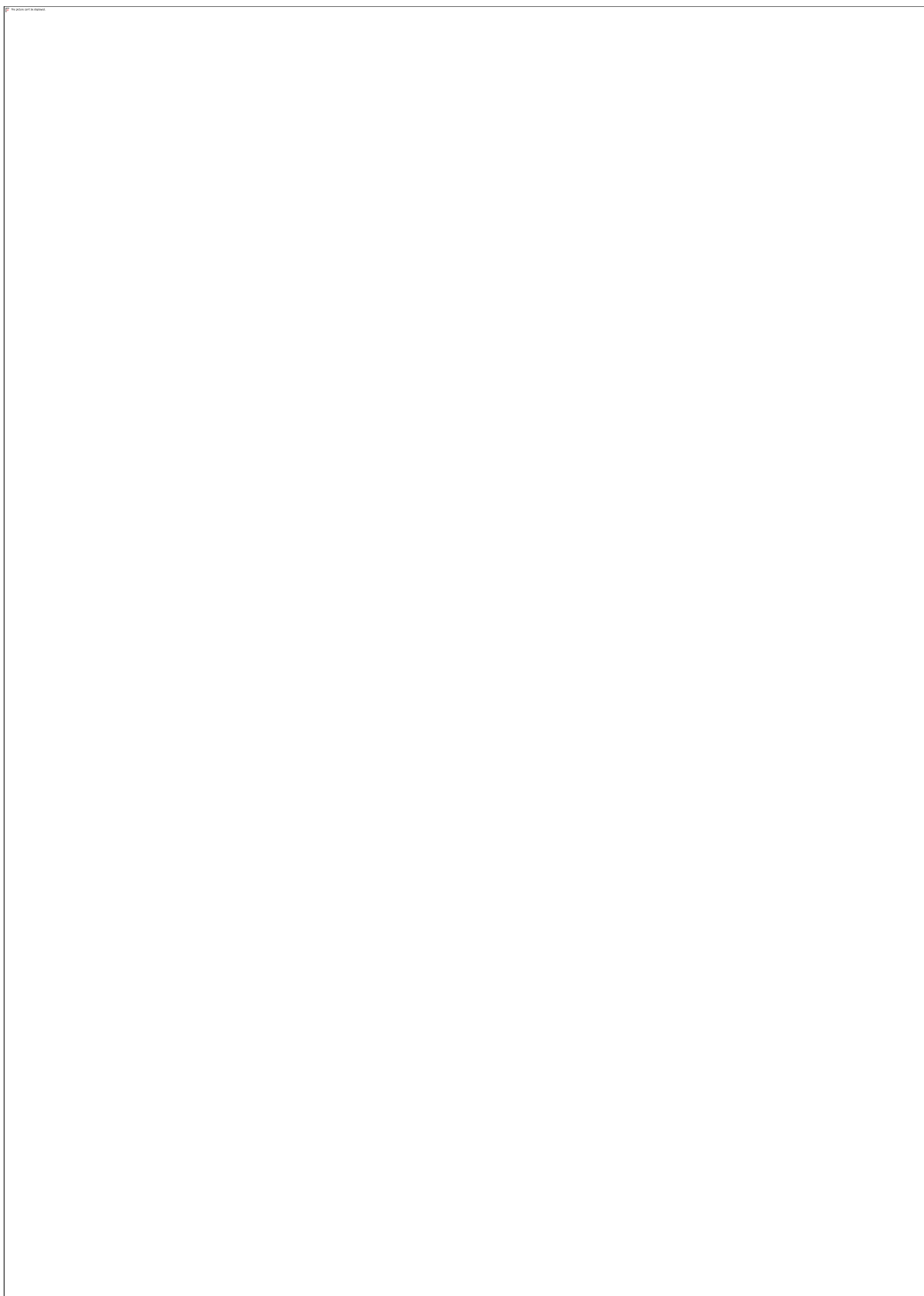
Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



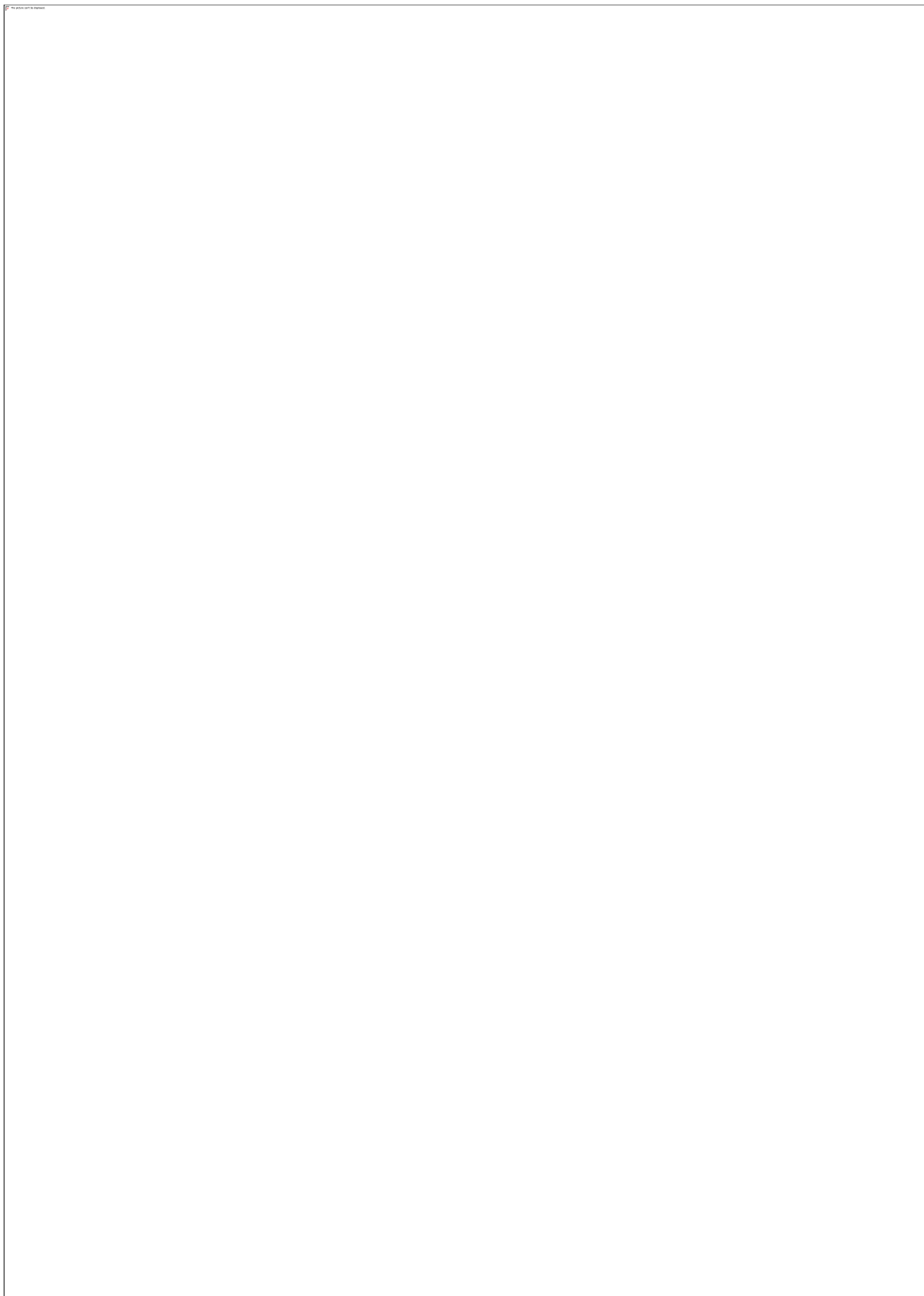
Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



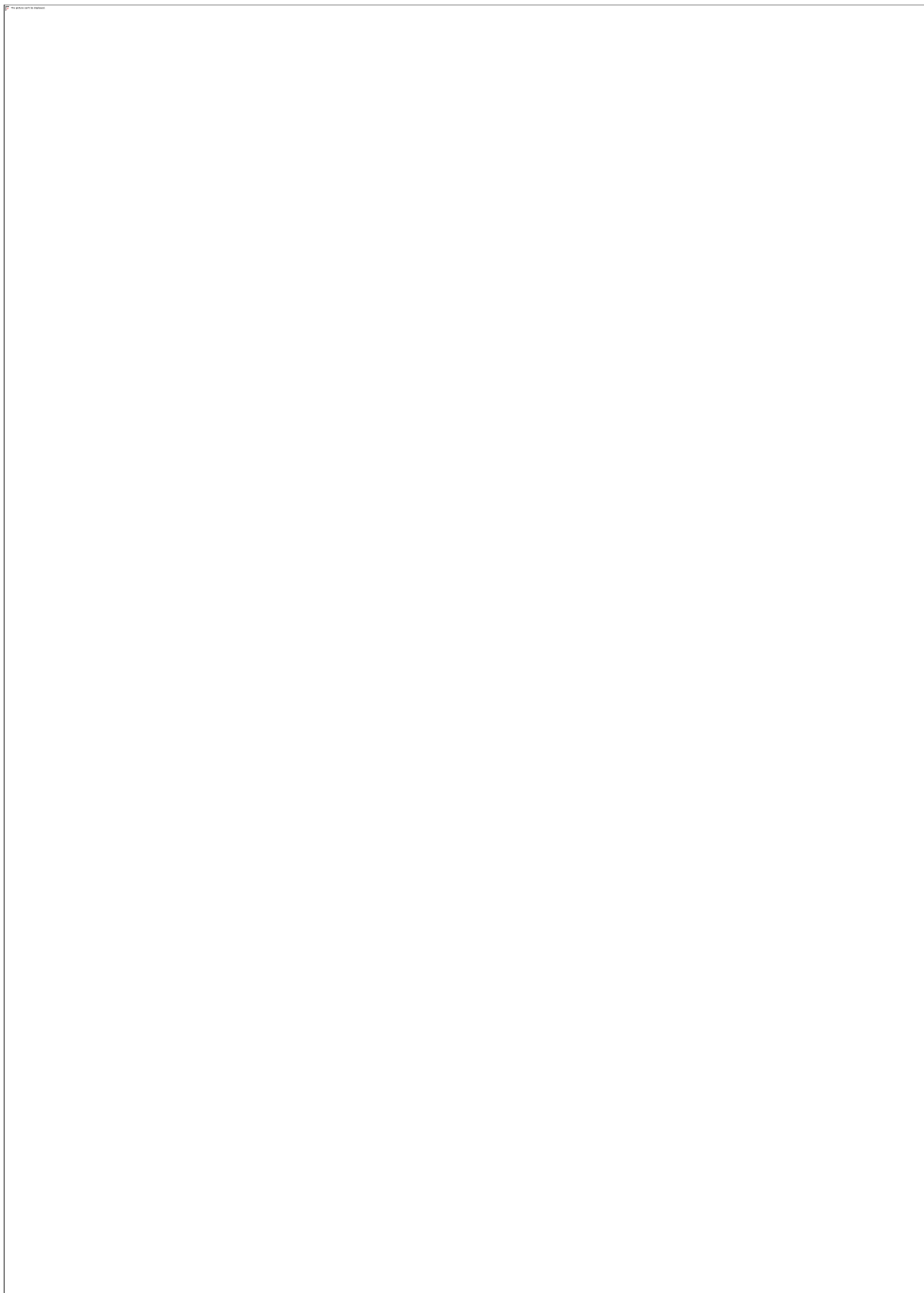
Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



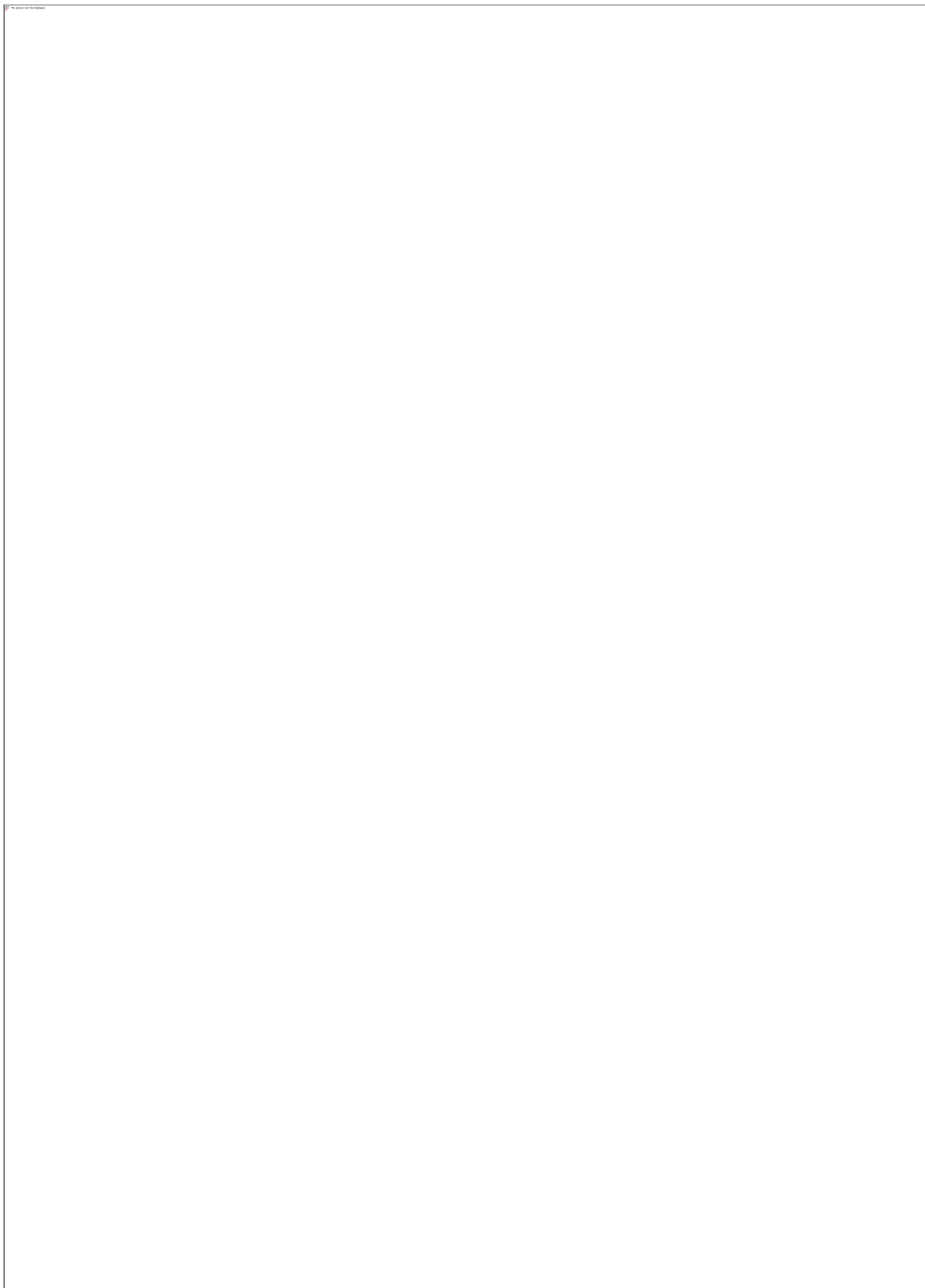
Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



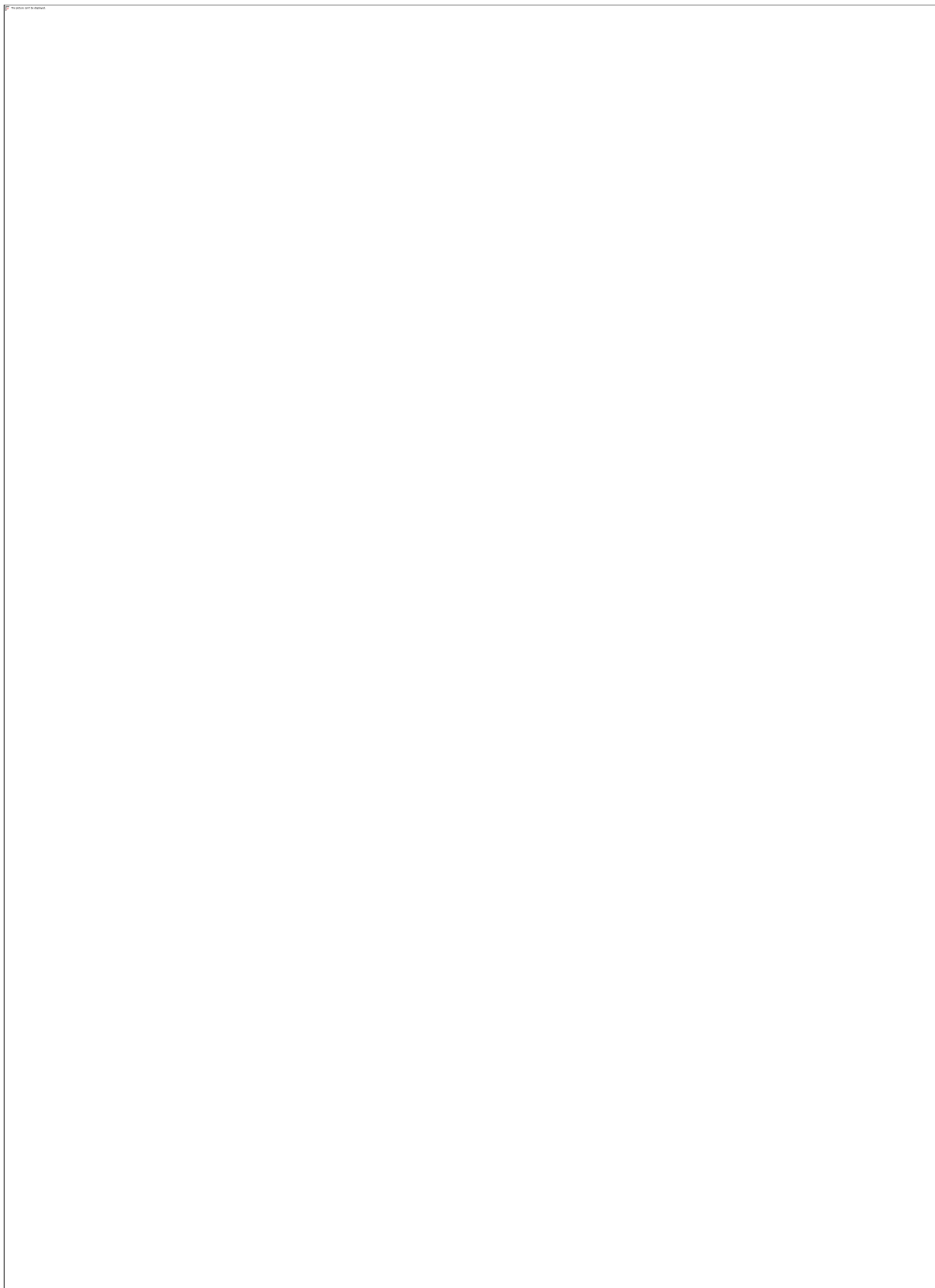
Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



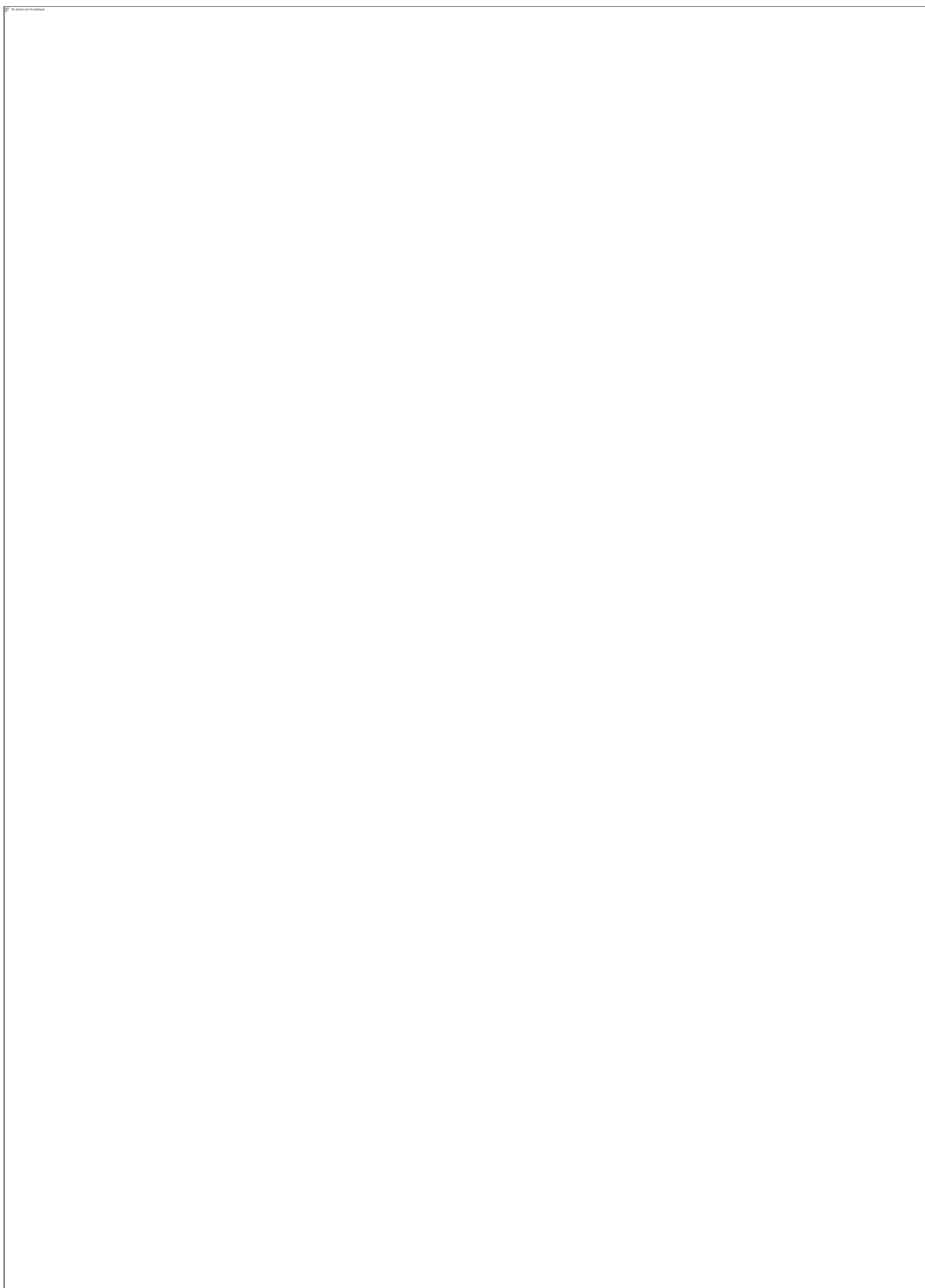
Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023



Aboriginal Archaeological Assessment – Patyegarang Project Belrose – July 2023

