C&D Facility: 2-4 Hale Street, Botany

Aboriginal Cultural Heritage Assessment Report

LGA: Bayside

Report to EME Advisory

April 2024

artefact

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EXECUTIVE SUMMARY

Combes Property Group (CPG) and KLF Group (KLF) are proposing a Construction and Demolition (C&D) waste management facility at 2-4 Hale Street Botany (the project). The project was declared a State Significant Development (SSD) on 25 October 2023 and was granted Secretary's Environmental Assessment Requirements (SEARs) (SSD 62855708). Artefact Heritage and Environment (Artefact) have been engaged to prepare an Aboriginal Cultural Heritage Assessment (ACHAR) to support Environmental Impact Statement (EIS) in accordance with the SEARs.

Overview of findings

An Aboriginal Technical Report (ATR) was prepared to support this ACHAR which found that, one Aboriginal PAD has been identified (2-4 Hale PAD 01), and that partial direct impacts were likely. Subsequently the designs have gone through revision and final designs have not yet been completed. Consultation with the Aboriginal Community commenced on 30 October 2023 and a list of Registered Aboriginal Parties (RAPs) was prepared with 13 parties registering. Consultation was completed on 30 March 2024, responses were broadly supportive of the ACHAR conclusion with one RAP recommending any identified litho material, be subject to analysis by a specialist and X-Ray Fluorescence (XRF) or Portable X-Ray Fluorescence (PXRF) be undertaken if appropriate.

The results of the ATR and community consultation were synthesised to produce an assessment of the cultural heritage values for the study area and significance assessment for 2-4 Hale PAD 01.

One Aboriginal PAD has been identified within the study area (2-4 Hale PAD 01). Direct impacts to 2-4 Hale PAD 01 are likely during the proposed works, particularly as a result of the proposed UST remediation works.

Recommendation

Based on the findings of this report the following recommendations are made:

- An Aboriginal Cultural Heritage Management Plan (ACHMP) must be prepared which provides guidance on the following:
    - Key project approvals information for Aboriginal heritage
    - Ongoing consultation with registered Aboriginal parties
    - A methodology for archaeological investigation of 2-4 Hale PAD 01 and reporting on the results of those activities. The intention of the archaeological investigation is to test the nature and extent of archaeological remains on site subsequent to demolition of extant built structures. The methodology will apply to the whole site, and include triggers for when archaeological investigation is required, such as when natural contexts associated with 2-4 Hale PAD 01 are encountered that will be harmed by the proposed works
    - An unexpected finds procedure
- The following timing considerations should be taken into consideration in preparing the ACHMP:

- Demolition of extant structures and contamination – the results of contamination testing undertaken to date must be considered during the preparation of the archaeological investigation methodology. It is understood that further site investigation works, including contamination testing, will take place following demolition of extant structures. It is anticipated that:
  - The archaeological methodology will be prepared prior to further contamination testing taking place on site. Although some portions of 2-4 Hale PAD 01 may be harmed during contamination testing, contamination testing is essential to ensure safety of workers on site during any subsequent archaeological investigation and other project works
  - revisions to the archaeological investigation methodology may be required based on the results of further contamination testing
- Design and constructability information – relevant design and constructability information, particularly approach to UST remediation works, will be required to inform the archaeological investigation methodology

- The ACHMP must be prepared in consultation with registered Aboriginal stakeholders, and must be approved by the NSW DPHI Environmental Representative and/or NSW DPHI prior to commencement of further archaeological investigation.
- As the presence, and significance, of Aboriginal objects in the study area is unknown, the results of any archaeological investigation on site will be assessed in a results report. Should it be concluded that Aboriginal objects are present on site and will be harmed by the proposed works, it is anticipated that the archaeological results report, significance assessment, impact assessment, and records of continuing consultation with registered Aboriginal stakeholders will be submitted to NSW DPHI as part of a management process to be laid out in the ACHMP. Depending on the results and recommendation of that report it is possible that archaeological salvage excavation will be required as part of and/or prior to the main works program
- If changes are made to the proposal that may result in impact to areas not assessed by this ACHAR, further assessment must be undertaken

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GLOSSARY OF TECHNICAL TERMS

Aboriginal cultural heritage: The material (objects) and intangible (mythological places, dreaming stories etc) traditions and practices associated with past and present day Aboriginal communities.

Aboriginal object: Any deposit, object or material evidence (not being a handicraft made for sale), including Aboriginal remains, relating to the Aboriginal habitation of NSW.

Aboriginal place: Any place declared to be an Aboriginal place under s.94 of the *National Parks and Wildlife Act 1974*.

Aboriginal stakeholders: Members of a local Aboriginal land council, Aboriginal groups or other Aboriginal people who have registered their interest with the RTA to be consulted about a proposed RTA project or activity

AHIMS: Acronym for 'Aboriginal heritage information management system'. AHIMS is a register that contains information about NSW Aboriginal heritage, and it is maintained by DECCW.

Archaeological object: any object that was made, affected, used, or modified in some way by humans in the past and has been discarded.

Archaeology: The scientific study of human history, with focus on material remains and ethnographic evidence.

Clay: A type of sediment with particles less than 4 microns in size and that is composed of clay minerals (Keary 2001: 49).

Easting: This is a measurement used to determine location. The easting is the x-coordinate and relates to the vertical lines on a map, which divide east to west. It increases in size when moving further east.

Holocene: The Holocene epoch forms part of the late Quaternary period and extends from about 11,000 years ago to the present day.

***In situ*:** A description of any cultural material that lies undisturbed in its original point of deposition.

Layer: In stratigraphy, it is used to describe a horizon (soil, rock, charcoal) that is distinct from its surrounds.

Northing: This is a measurement used to determine location. The northing is the y-coordinate and relates to the horizontal lines on a map, which divide north to south. It increases in size when moving further north.

Potential Archaeological Deposit (PAD): A PAD is a location that is considered to have a potential for sub-surface cultural material. This is determined from a visual inspection of the site, background research of the area and the landform's cultural importance.

Sand: A material composed of small grains (0.625-2.0 mm) (Keary 2001: 233). Sand is formed from a variety of minerals and rocks, but commonly contains silica, such as quartz.

Stratigraphy: The study of soil stratification (layers) and deposition.

Sub-surface testing: An archaeological method used to determine the cultural sensitivity of an area by excavating small (0.5 metre x 0.5 metre) pits and recording the stratigraphy, material remains (such as stone tools) and disturbance.

Survey: In archaeological terms, this refers to walking over a surface while studying the location of artefacts and landmarks. These are then recorded and photographed.

Visibility: Refers to the degree to which the surface of the ground can be observed. This may be influenced by natural processes such as wind erosion or the character of the native vegetation, and by land use practices, such as ploughing or grading. It is generally expressed in terms of the percentage of the ground surface visible for an observer on foot.

NOTE ON LANGUAGE IN QUOTES

A number of quotes used in this report come from documents written in the nineteenth and twentieth centuries by European observers. They have been included because they provide information on the lives of Aboriginal people in the region, though the language used and views expressed by these writers can be offensive and distressing.

1.0 INTRODUCTION

1.1 Project brief

Combes Property Group (CPG) and KLF Group (KLF) are proposing a Construction and Demolition (C&D) waste management facility at 2-4 Hale Street Botany (the project). The project was declared a State Significant Development (SSD) on 25 October 2023 and was granted Secretary's Environmental Assessment Requirements (SEARs) (SSD 62855708). Artefact Heritage and Environment (Artefact) have been engaged to prepare an Aboriginal Cultural Heritage Assessment (ACHAR) to support Environmental Impact Statement (EIS) in accordance with the SEARs.

1.2 Description of the study area

The study area comprises an area of approximately 7,439 m^2 located at 2-4 Hale Street, Botany (LOT 1 DP 562374). The study area is located within the Bayside Local Government Area (LGA), and within the boundaries of La Perouse LALC. The study area is bounded to the north by the Mill Stream, to the east by industrial development, to the south by Hale Street and to the west by a natural reserve abutting Mill Stream.

1.3 Aims and objectives

Artefact has been engaged to prepare an ACHAR to meet the expected requirements of the SEARs. The ACHAR must be prepared in accordance with:

- National Parks and Wildlife Regulation 2019
- *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010a, known as the Consultation Requirements)
- *Guide to investigating, assessing and reporting on Aboriginal heritage in NSW* (OEH 2011, known as the Guide)
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010b, known as the Code of Practice)

This report considers the impacts the proposed construction might have on Aboriginal cultural heritage and the potential archaeological resources within the study area. The report has the following objectives:

- Complete a search of the AHIMS database to confirm if known Aboriginal objects are present within the study area
- Complete desktop research to gather enough information to characterise the local or regional archaeological context and develop predictions of whether Aboriginal objects will be present within the study area
- Test predictions with an archaeological survey and gather enough information to assess if Aboriginal objects are present or likely to be present
- Complete assessment of the Aboriginal cultural heritage values of the study area and identification of any specific areas of cultural significance
- Conduct Aboriginal stakeholder consultation.

1.4 Statutory framework

The development proposal was submitted to the NSW Department of Planning and Environment (DPE) for consideration as a State SSD under Part 4.1 of the Environmental Planning and Assessment Act 1979. SEARs (SSD-62855708) were granted on 25 October 2023. As of January 2024, DPE was dissolved and responsibility for SSD approval was moved to the Department of Planning Housing and Infrastructure (DPHI). The SEARs requirements are listed in Table 1.

Table 1. Secretary's Environmental Requirements

Secretary's Environmental Assessment Requirements	Where addressed
Aboriginal Cultural Heritage – an Aboriginal Cultural Heritage Assessment Report (ACHAR) prepared in accordance with the Code of Practice for Archaeological Investigation in NSW (2010), and guided by the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales (2011), including evidence of adequate and continuous consultation in accordance with Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010).	This report

1.5 Contributors

The *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (Department of Environment, Climate Change and Water [DECCW] 2010b) requires that archaeological investigations must be undertaken by suitably qualified and experiences individuals. In accordance with this requirement the qualifications of all contributors to this report are presented in Table 2.

Table 2: Contributors

Contributor	Qualification	Experience	Role
Josh Symons (Principal)	• Bachelor of Arts (Hons), Prehistoric and Historical Archaeology	+20 years	Project overview and quality assurance
Ryan Taddeucci (Aboriginal Heritage Team Leader)	• Bachelor of Arts (Hons), Archaeology • Master of Museum Studies • Graduate Certificate in Maritime Archaeology	+ 11 years	Project overview and technical assurance
Gareth Holes (Senior Heritage Consultant)	• Bachelor of Arts (Hons), Archaeological Practice • Master of Arts, Neolithic Europe	+15 years	Project management Report preparation
Kieran Murray (Aboriginal Cultural Heritage Officer)	• Bachelor of Archaeology	+1 year	Report preparation
Kelly Barton (Aboriginal Cultural Heritage Officer)	• Diploma in Screen and Media	+2 years	Site Survey Consultation

Contributor	Qualification	Experience	Role
Mike Douglas (GIS Officer)	• Bachelor of Arts, North American Archaeology • Master of Science, Geology • Masters Certificate in GIS Science	+20 years	Map preparation GIS services

2.0 SUMMARY OF CONSULTATION

Aboriginal community consultation has been conducted in accordance with the Consultation Requirements (DECCW 2010a). A consultation log has been maintained which details all correspondence with the registered Aboriginal parties for the ACHAR (see Section 10.1).

2.1 Stage 1

2.1.1 Agency letters

The consultation for this ACHAR commenced on 30 October 2023. In accordance with step 4.1.2 of the Consultation Requirements, Artefact corresponded with the following organisations by email on 30 October 2023, requesting the details of Aboriginal people who may hold cultural knowledge relevant to determining the Aboriginal significance of Aboriginal objects and/or places within the local area. The due date for response was 13 November 2023. The following agencies/organisations were contacted:

- Heritage NSW
- Bayside Council
- Native Title Service Corporation (NTSCorp)
- National Native Title Tribunal
- Office of the Registrar, Aboriginal Land Rights Act 1983
- La Perouse LALC
- Local Land Service (LLS)

2.1.2 Advertisement

No local paper could be found that complied with Step 4.1.3 of the Consultation Requirements, following advice from Heritage NSW an advertisement was placed in *buysearchsell,com.au* for publication on 10 November 2023. The advertisement invited the participation of Aboriginal people who may hold cultural knowledge relevant to determining the Aboriginal significance of Aboriginal objects and/or places within the local area. Responses were requested by 24 November 2023.

2.1.3 Registration of Aboriginal parties

In accordance with Step 4.1.3 of the Consultation Requirements, an Invitation to Register an Interest in the ACHAR was sent by email or letter to all those people identified through contacting the agencies on 30 November 2023 with a response date of 14 December 2023. As a result of the agency letters and the advert 13 individuals / organisations responded and these are listed in Table 3. During registration Lilly Carroll noted that her father was a nomadic man in the area and this has been integrated into the cultural values assessment as demonstrating continued traditional occupation and utilisation of the area by Aboriginal people.

Table 3. Groups or individuals registered as RAPs.

Organisation	RAP contact person
Redacted for public display	

2.1.4 Notification of RAPs

In accordance with Section 4.1.6, a Notification Letter was sent to Heritage NSW on 9 February 2024 to inform them of the RAP list. A copy of the letter was sent to La Perouse LALC on the same day.

2.2 Stage 2 & 3

Stages 2 and 3 of the consultation were conducted together, an ACHAR methodology was prepared which presented information about the proposed project and sought to gather information about the cultural significance of the study area. This was sent to RAPs on 18 December 2023, the statutory 28 day notification period was extended to account for office closures the public holidays, with responses requested by 31 January 2024. Responses were received from 5 RAPs, all supporting the methodology, a summary of these comments can be found in Table 4.

Table 4: Responses to ACHAR methodology

Organisation	Comment	Response
Redacted for public display	Would like to register for the project	Was already registered for the project
	Am happy with the methodology and would like to be involved with fieldwork	Noted

Organisation	Comment	Response
Redacted for public display	Would like to register for the project	Was already registered for the project
	Have reviewed the Methodology and would like to be involved in fieldwork	Noted
	Have reviewed the Methodology and would like to be involved in fieldwork	Noted

2.3 Stage 4

The draft ACHAR and ASR were submitted to RAPs for review on 1 March 2024 for the statutory 28 day notification period, with responses requested by by 30 March 2024. Two responses to the draft ACHAR were received and are summarised in Table 5.

Table 5: Responses to the draft ACHAR

Organisation	Comment	Response
Redacted for public display	Supports the draft ACHAR	Noted
	Suggests that any litho material identified be analysed by a specialist. Inquired if Artefact had access to X-Ray Fluorescence (XRF) or Portable X-Ray Fluorescence (PXRF) for further analysis.	Litho material will be analysed by a specialist as part of Artefacts standard process. Artefact does not have XRF or PXRF capacity in house, external capacity can be sought if necessary.

3.0 SUMMARY AND ANALYSIS OF BACKGROUND INFORMATION

3.1 Archaeological background

A number of studies have taken place within the wider area these are summarised in Table 6, a full review of the Aboriginal archaeological background can be found in Appendix 2 – 2-4 Hale Street, Aboriginal Technical Report. The review found that the Sand Dunes of the Botany dune system are sensitive for Aboriginal potential but that this is typically limited to the upper portion of the dune profile. However, within the estuarine environment, such as is found in the study area, Aboriginal objects and potential have been found at much greater depths, such as is demonstrated at Shea's Creek. In addition to the sand dunes, water sources were found to be significant for predicting Aboriginal potential, both fresh water and proximity to estuarine and marine environments.

Table 6: Previous studies

Study	Key Points

On the occurrence of a submerged forest, with remains of the dugong, at Shea's Creek near Sydney
(Etheridge et al. 1897)
	• Remains of a dugong were found at Sheas Creek during excavation of Alexandria Canal
	• The remains showed evidence of butchery by Aboriginal people
	• The remains were found at a depth of between 1.7m and 2.6m demonstrating the potential for Aboriginal Archaeology within deep deposits
	• Haworth et.al. (Haworth et al. 2004), subsequently undertook further investigations of the Dugong remains and found:
	  ○ C^{14} dating of the dugong bones from Sheas Creek provided a date of 5520±70 years BP (Wk-8616)
	  ○ Demonstrated a pattern of sea-level fluctuations during the Holocene

Study	Key Points
St Peters Brick Pit, Sydney NSW Investigation of Shell Material (Attenbrow 1984)	• Investigation of a potential shell midden at St Peters Brick Pit • Determined not to be archaeological in nature • Demonstrates the care that needs to be taken when investigating shell deposits to demonstrate that such deposits are Aboriginal in nature.
Report on the Salvage Excavation of a Portion of the Kendrick Park Midden, Tempe NSW (Report to Marrickville Council) (AMBS 2003)	• Investigation of Aboriginal site at sandstone outcrop in Kendrick Park, Tempe • Area had been heavily disturbed by quarrying and dumping of modern rubbish • A shell midden, three animal bone fragment and six stone artefacts were identified.
MetroGrid Project Test Excavation of Buried Shell Bed at Fraser Park, Marrickville, NSW (McIntyre-Tamwoy 2003)	• Test excavation of subsurface shell bed, 4km north west of the study area • Investigations found the shell bed was natural and not Aboriginal in nature.
Archaeological testing and Salvage Excavation at Discovery Point, Site # 45-6-2737 in the former grounds of Tempe house, NSW (Jo McDonald CHM PTY Ltd 2005)	• Investigation near Tempe House • Despite significant disturbance 389 stone artefacts and an Aboriginal hearth were identified • Remains were identified within the sand body
CBD and South East Light Rail (CSELR) Project: Early Works, Moore Park Tennis Centre. Archaeological Salvage Excavation Report to Laing O'Rourke (Artefact 2014)	• Test excavation at Moore Park Tennis centre • Identified the fragile nature of the Aboriginal sensitive Tuggerah t1 soils

Study	Key Points
4-18 Doncaster Avenue, Kensington. Aboriginal Cultural Heritage Assessment Report for Built Pty Ltd (GML Heritage 2017)	• Aboriginal archaeological excavations at Doncaster Avenue • Tuggerah t1 soils were identified, having been protected by the placement of overlying fill • Demonstrates the potential for imported fill to preserve archaeologically sensitive deposits
Sydney Gateway Project, Technical Working Paper 10 ACHAR (Artefact 2019)	• A predictive model was prepared that identified sub-surface artefact sites are closely tied to major watercourses. The predictive model also identified that shell midden sites were tied to marine and estuarine areas
CSELR Aboriginal Archaeological Excavation Report (Artefact 2020)	• The final report for CSELR provided a thematic synthesis of the project which found that Aboriginal archaeological material is limited to the upper Tuggerah t1 soils measuring up to 300mm in depth.
Kamay Ferry Wharves Project, Aboriginal and Non-Aboriginal Test Excavation Report (Artefact 2021)	• Two areas of test excavation at La Perouse and Kurnell in a similar foreshore landform to the study area. • Investigations at La Perouse were halted due to asbestos. • 22 test pits at Kurnell recovered two artefacts from within natural sands, sealed below modern fill.

3.2 AHIMS search

NOTE: The location of Aboriginal sites is considered culturally sensitive information. It is advised that this information, including the AHIMS data appearing on mapping below must be removed from this report if it is to enter the public domain.

An extensive search of the Aboriginal Heritage Information Management System (AHIMS) was undertaken on 21 September 2023 (Client Service ID: 822254]) to determine the location of Aboriginal sites in relation to the current study area. The search area comprised an area approximately 6 km x 6 km surrounding the study area to inform the characterisation of the local archaeological context. The AHIMS search parameters were as follows:

GDA, Zone	56
Eastings :	329725.0 - 335850.0,
Northings :	6239335.0 - 6245460.0
Buffer	0 metres (m)
Number of sites	3

A breakdown of the AHIMS search results can be seen in Table 7, the distribution of sites can be seen in Figure 1.

Table 7: AHIMS search results

Site Feature	Frequency	Percentage (%)
Aboriginal Resource and Gathering, Artefact, Non-Human Bone and Organic Material	1	33.3%
Artefact	1	33.3%
Artefact, Burial, Shell	1	33.3%
Total	**3**	**100%**

Few Aboriginal sites are known from the local area, within the wider region it is recognised that water sources are important for the predicting Aboriginal potential. Investigation of AHIMS ID 45-6-0751 has demonstrated that Aboriginal objects may be present at significant depths where intact soils profiles are present. AHIMS ID 45-6-0629 is located on a similar landform to the study area and demonstrates the presence of Aboriginal objects in the local area. Disturbance caused by development may remove potential for Aboriginal sites however AHIMS 45-6-4017 demonstrates that where intact remnant soils survive Aboriginal objects may be present.

3.3 Environmental background

The study area is located on the foreshore of Botany Bay near the mouth of the Mill Stream, while the landscape has been subject to extensive modification, early mapping from 1853 shows the study area was located on the southern side of Mill Stream and to the rear of the foreshore. The majority of the study area is within the disturbed terrain soil landscape, with smaller portions of the Tuggerah (dune system) and Woy Woy (foreshore sands) soil landscapes. Geotechnical investigations undertaken within the study area by JBS&G (2024) demonstrate that natural sands and sandy clays survive below a layer of historic fill (Figure 2).

The geology of the study area comprises fine grain Botany sands within a Holocene swamp environment (Herbert 1983, Gale and Wales 2022). The foreshore environment would have provided significant resources for Aboriginal people and includes contexts with demonstrated potential for Aboriginal sites, the geotechnical investigations have demonstrated that despite disturbance natural sand deposits remain within the study area.

While Aboriginal archaeological evidence in the local area is limited, within the wider region potential is recognised as being closely tied to water, both creek lines and the foreshore. The foreshore has been subject to significant variation in sea level during the Holocene, with individual locations having evidence for a range of environmental conditions such as at Sheas Creek. While the Aboriginal potential of the Botany Sands is largely limited to the upper deposits, former swamps have potential at much greater depth, with the Dugong remains at Sheas Creek found between 1.7m-2.6m.

3.4 Predictive model

Based on the background research the following predictive statement can be made:

- Due to historic disturbance no surface remains will be present
- Background research indicates that no natural vegetation remains and therefore it is unlikely that culturally marked trees will be present
- Historic disturbance will be limited to the upper layers of the soil profile with potential for archaeological sensitive deposits present at depth
- The lack of surface remains and extent of surface disturbance is not predictive of subsurface potential.

3.5 Summary of field investigations

A site survey was undertaken on 31 October 2023, Gareth Holes (Senior Heritage Consultant, Artefact), Kelly Barton (Aboriginal Cultural Heritage Officer, Artefact) and Steven Ella, (Site Officer, LA Perouse LALC). The study area by industrial buildings and a concrete carpark, small exposures were seen around the edge of the study area, adjacent to the fence line exposing imported gravel fill. Indications of multiple subsurface services were seen. No evidence of the natural landform, no natural deposits and no Aboriginal objects were observed during the survey.

3.6 Identification of PAD

While no evidence of Aboriginal objects or sites was seen during the field investigation review of the results of detailed site investigations identified buried sands that were highlighted in the predictive model as holding potential for the presence of Aboriginal objects. As such a Potential Archaeological Deposit (PAD) was identified based on the direct evidence of the location of the sensitive sands (Figure 3), seen in the results of geotechnical investigations (JBS&G 2024a).In accordance with the site recording procedure, Redacted for public display as this was the boundary of the investigation.

2-4 Hale PAD 01 comprises buried natural sands within an estuarine environment subject to extensive sea level variation during the Holocene. Such landforms have been demonstrated to hold potential for Aboriginal objects to be present at significant depth and therefore may have been protected from significant surface disturbance. In the case of 2—4 Hale PAD 01 the deposits are covered by a layer of modern fill that acts to provide a protective layer above the sensitive deposit. Impacts to the PAD will only take place where this protective modern fill layer is removed.

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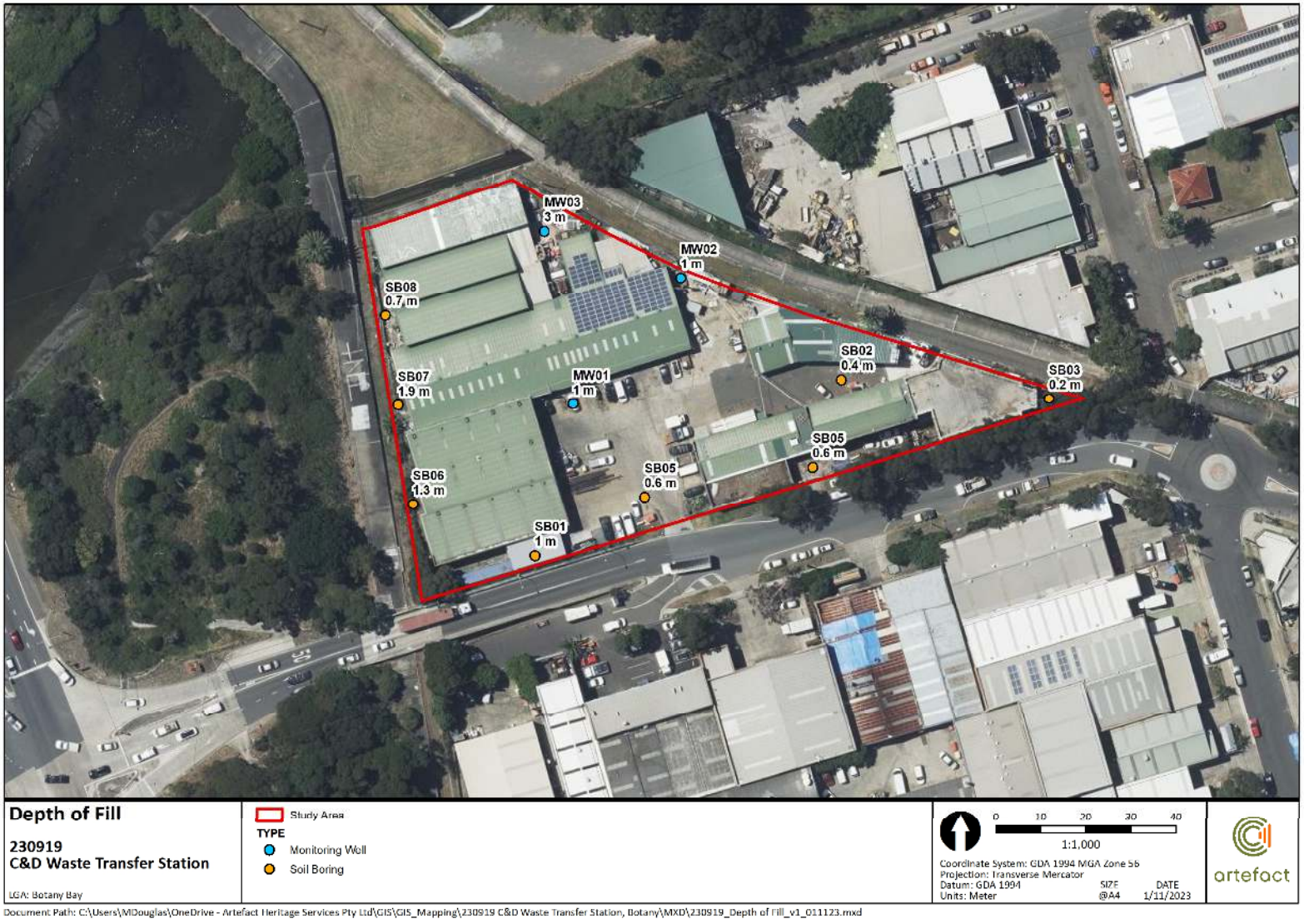
Figure 2: Depth of fill, based on preliminary boreholes



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4.0 CULTURAL HERITAGE VALUES

4.1 Methodology

The cultural assessment in this report includes information collected through desktop assessment and Aboriginal community consultation undertaken in accordance with the Consultation Requirements. This information was collected by Gareth Holes (Senior Heritage Consultant, Artefact).

4.2 Cultural landscape

The World Heritage Convention of United Nations Educational, Scientific and Cultural Organisation (UNESCO) defines a cultural landscape as one which has 'powerful religious, artistic or cultural associations of the natural element rather than material cultural evidence, which may be insignificant or even absent' (UNESCO and Intergovernmental Committee for the Protection of the World 2021). The relationship between Aboriginal Australians and the land is conceived in spiritual terms rather than primarily in material terms (Andrews et al. 2006). Aboriginal cultural knowledge has been defined as:

> *Accumulated knowledge which encompasses spiritual relationships, relationships with the natural environment and the sustainable use of natural resources, and relationships between people, which are reflected in language, narratives, social organisation, values, beliefs and cultural laws and custom (Andrews et al 2006).*

Aboriginal cultural knowledge was traditionally bequeathed through oral traditions from generation to generation. Within all Aboriginal communities there was a time of dislocation and upheaval associated with the arrival of colonial settlers. This widespread disruption resulted in much of the detailed knowledge and understanding of many of the elements of the cultural landscape being lost from the Aboriginal community, nonetheless many Aboriginal people maintain a strong connection to the land of their ancestors and collectively possess a wealth of knowledge passed down through the generations.

4.3 Identified Aboriginal cultural heritage values

Limited information on the cultural values of the study area were provided by RAPs as part of the Registration and ACHAR methodology review stages of the consultation, further contributions would be welcomed. Lilly Carroll noted that her father was a nomadic man in the local area, this can be taken to demonstrate continued utilisation of the area by Aboriginal people. In addition a range of Cultural values have been extrapolated from the background research.

Table 8 provides a summary of the Aboriginal cultural heritage values associated with the study area.

Table 8: Cultural heritage values identified for the study and surroundings

Cultural heritage value	Description	Source
Aboriginal occupation	Excavation in the wider area have demonstrated the presence of Aboriginal people over an extended period of time, while Redacted for public display father as a nomadic man in the area demonstrates the continuation of this presence into current memory.	Synthesis from background research Consultation, Redacted for public display Redacted for public display

Cultural heritage value	Description	Source
Burials	Sand dune systems are known to be locations used by Aboriginal people for the burial of ancestors. This is further supported by the closest registered Aboriginal site being a burial.	Synthesis from background research
Watercourses	Watercourses are widely recognised as being very important to Aboriginal people, the estuarine environment of the botany bay area would have provide a range of resources for Aboriginal people.	Synthesis from background research

5.0 SIGNIFICANCE ASSESSMENT

A significance assessment of the scientific, social, historic and aesthetic values of the study area is included below.

5.1 Significance assessment criteria

An assessment of the cultural heritage significance of an item or place is required in order to form the basis of its management. The ACHAR Guidelines (OEH 2011) provides guidelines, in accordance with the Burra Charter (Australia ICOMOS 2013) for significance assessment with assessments being required to consider the following criteria:

- Social values – does the area have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons
- Historic values – is the area important to the cultural or natural history of the local area and/or region and/or state
- Scientific values - does the area have the potential to yield information that will contribute to an understanding of the cultural and natural history of the local area and/or region and/or state
- Aesthetic values – is the area important in demonstrating aesthetic characteristics in the local area and/or region and/or state.

Scientific values should be considered in light of the following criteria:

- Research potential - does the evidence suggest any potential to contribute to an understanding of the area and/or region and/or state's natural and cultural history?
- Representativeness - how much variability (outside and/or inside the subject area) exists, what is already conserved, how much connectivity is there?
- Rarity - is the subject area important in demonstrating a distinctive way of life, custom, process, land-use, function or design no longer practised? Is it in danger of being lost or of exceptional interest?
- Education potential - does the subject area contain teaching sites or sites that might have teaching potential?

It is important to note that heritage significance is a dynamic value.

5.2 Aesthetic

No specific aesthetic values have been identified, in addition modern development of the area has destroyed the natural surface landforms such that it unlikely that any aesthetic values remain. No specific aesthetic values were identified during the consultation.

5.3 Socio/ Cultural Significance

Socio/cultural heritage values should be addressed by Aboriginal people who have a connection to, or interest in, the area.

A number of cultural values have been identified in the background research, these include the occupation of the local area by Aboriginal people as well as the use of the dune system for burials, in addition the estuarine environment would have provided an important and rich source of a range of resources utilised by Aboriginal people, all of which contributes to the cultural value of the study area as well as the wider dune and estuarine environment. No additional socio/ cultural heritage values were identified during the consultation.

5.4 Historic Significance

Historic values refer to the association of place with aspect of Aboriginal history. Historic values are not necessarily reflected in physical objects, but may be intangible and relate to memories, stories, or experiences.

No specific historical significance has been identified in the background research, as being associated with the study area. No specific historic consultation was identified during the consultation.

5.5 Scientific Significance

2-4 Hale PAD 01

Limited investigation has taken place of the coastal sands in the local area, test excavations at Kamay have demonstrated that foreshore sands may contain Aboriginal objects. The sands have potential to provide significant insight to the changing environment of the botany area and provide an important comparison to Shea's Creek, and other sites in the Botany Bay area. While the upper portion of the dune profile has been impacted, the lower profile is largely intact and may provide insight into the changing environment of the Holocene. This contributes to the research potential of 2-4 Hale PAD 01. However, 2-4 Hale PAD 01 is assessed as having unknown representativeness, educational and rarity, as while natural sands have been demonstrated to be present it is unknown whether Aboriginal objects are present. Overall, as 2-4 HALE Street PAD 01 has not yet been subject to archaeological investigation it is of unknown significance.

A summary of the archaeological significance of sites identified is presented in Table 9.

Table 9: Significance assessment

Site name (AHIMS ID)	Research potential	Representativeness	Rarity	Education potential	Overall significance assessment
2-4 Hale PAD 01 (AHIMS ID: Pending)	High	Unknown	Unknown	Unknown	Unknown

5.6 Statement of significance

2-4 Hale PAD 01 has the potential to provide significant insight into the archaeological record associated with the changing Holocene environment of the Botany Bay area. Whilst the upper portions of the natural sands have likely been disturbed, this is typical of the local area due to the extent of modern development. Archaeological investigations at Shea's Creek have demonstrated that Aboriginal objects may be present at significant depth, within the estuarine environment.

The foreshore sands have demonstrated potential for Aboriginal objects and may contribute to our understanding of Aboriginal people's utilisation of the area, the sands may also allow for investigations into how this utilisation changed over time reflected by the variation in Holocene sea levels. Burials have also been identified within the sands and, while rare, are highly significant to Aboriginal people.

However, as 2-4 HALE Street PAD 01 has not yet been subject to archaeological investigation it is of unknown significance. Natural sands such as those identified at 2-4 Hale PAD 01 have the potential to contain a range of aboriginal objects or features including but not limited to:

- Artefacts: Stone tools or other Aboriginal artefacts are found throughout the landscape wherever Aboriginal people were active
- Burials: Dune systems were used by Aboriginal for burials. Two burials are known in the local area less than 1km from the study area
- Butchery or occupation sites: The remains of the Dugong found at Sheas Creek demonstrates the potential for *in situ* sites to remain survive within the estuarine sands, this may include butchery sites such as Sheas Creek, evidence of hearths or other evidence of occupation
- Shell middens: Shell middens are well known from the area, previous research however has demonstrated that, careful investigation is required to determine if shell deposits are Aboriginal or natural in origin.

6.0 IMPACT ASSESSMENT

6.1 Proposed works

The current proposal is for the construction and operation of a C&D Waste Management Facility at 2-4 Hale Street, Botany. This section provides outlines for the broad scope of works outlined in the scoping design (EME Advisory 2023), detailed site investigation (JBS&G 2024a), remedial action plan (JBS&G 2024b), acid sulphate soil management plan (JBS&G 2024c) and preliminary design plans (Figure 4 and Figure 5), and assesses impacts based on these broad scopes of works. Works within the study area will comprise the design includes an indicated warehouse ground level of 2500mm AHD, built up from the current ground level of 1600-2200mm AHD. Works will include:

- 500 – 600mm excavation for slab edge beams/ foundations subject to ground conditions;
- No deep excavation for underground water storage for Water Sensitive Urban Design (WSUD) solutions.
- Cut and fill across site to provide level surface (Figure 4)

In addition, remediation works are planned which will address:

- The presence of two disused Underground Storage Tanks (USTs) that are required to be decommissioned in accordance with the UPSS Regulation (2019);
- Elevated Chlorinated Hydrocarbon (TCE) in soil vapour poses a potentially unacceptable risk to future site receptors via vapour intrusion and requires further assessment and/or remediation;
- Bonded asbestos impacts on the ground surface and potentially within site based fill poses a potentially unacceptable risk to future site receptors and requires further assessment and/or remediation; and
- Elevated levels of heavy metals within site based fill poses a potentially unacceptable risk to vegetation to be established within future landscaped areas and requires further assessment and/or remediation.

The preferred remediation option is to conduct on site treatment of the TCE impacted soils and burial of soils contaminated with asbestos or heavy metals beneath a capping layer of at least 0.5m. The USTs would be removed through excavation.

The natural sands have been identified as Potential Acid Sulphate Soils (PASS), if natural sands are exposed, Aboriginal heritage management should be considered during PASS mitigation.

Figure 4: Cut and fill plan, provided by Coombes Property Group, February 2024

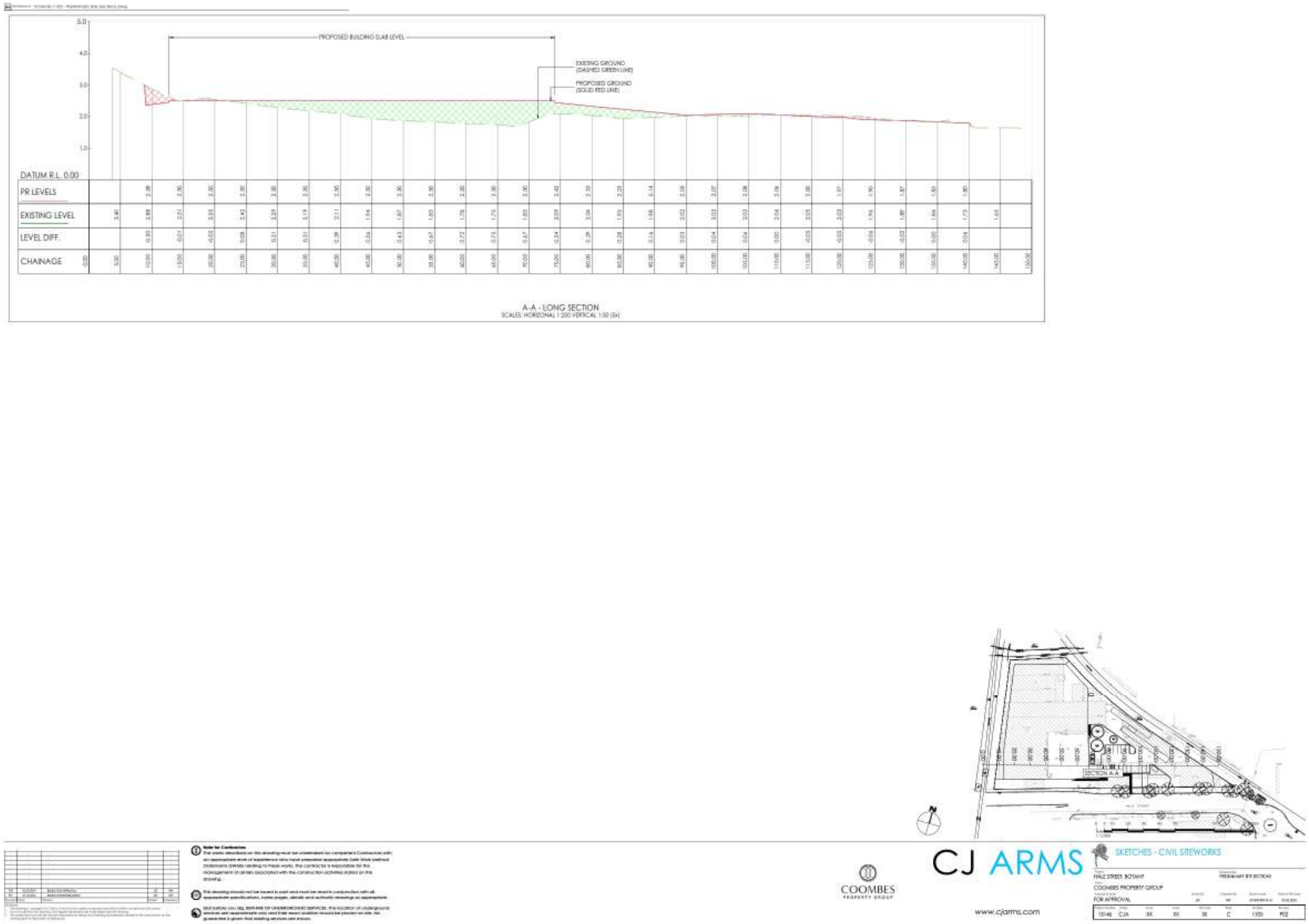
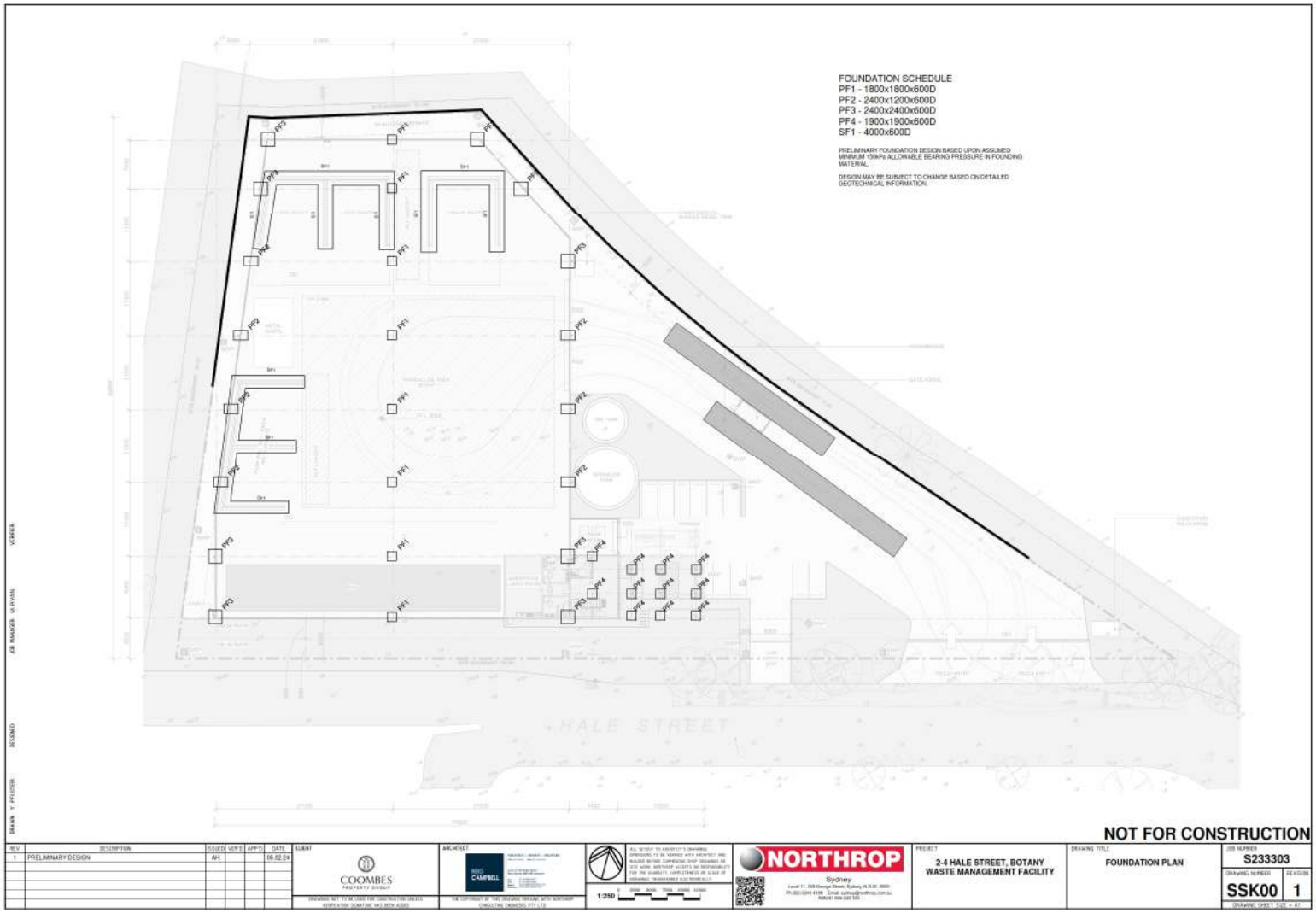


Figure 5: Preliminary footing designs, Provided by Coombes Property Group, February 2024



6.2 Aboriginal heritage impact

2-4 Hale PAD 01 covers the entirety of the study area and comprises the natural sand contexts situated beneath the modern fill across the site. The depth of the modern fill varies substantially across the site ranging from 0.2 – 3 m, as established by preliminary investigations. Shallower fill deposits are concentrated in the eastern portion of the study area with the central and western portions of the study include fill depths of at least 0.6m (Figure 2). Cut and fill plans indicate that the ground level in the centre of the site will be further raised (Figure 4). Based on preliminary designs, discussed in Section 6.1, impacts will be not exceed the depth of the modern fill identified during preliminary investigations (Figure 4 and Figure 5. Works that do not exceed the depth of modern fill are unlikely to result in harm to 2-4 Hale PAD 01.

Remediation of the USTs may result in disturbance to the surrounding deposits and therefore may result in direct partial impacts to 2-4 Hale PAD 01.

The summary of the impacts provided in Table 10 is based on currently available design and constructability information. The nature and extent of Aboriginal objects within 2-4 Hale PAD 01 is unknown. If impacts to 2-4 Hale PAD 01 cannot be avoided, further archaeological investigation and assessment of results of that activity must be undertaken to confirm the presence of Aboriginal objects and update the significance assessment and potential for harm from the proposed works (see Section 7.2).

Table 10: Impact assessment

Site name (AHIMS ID)	Type of harm	Degree of harm	Consequence of harm
2-4 Hale PAD 01	Direct	Partial	Partial loss of value

6.3 Ecological Sustainable Development principles

The Guide (OEH 2011) specifies that Ecological Sustainable Development (ESD) principles must be considered when assessing harm and recommending mitigation measures in relation to Aboriginal objects.

The following relevant ESD principles are outlined in Section 3A of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*:

- Decision-making processes should effectively integrate both long term and short term economic, environmental, social and equitable considerations (the ‘integration principle’)
- If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (the ‘precautionary principle’)
- The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations (the ‘principle of intergenerational equity’).

6.3.1 The integration principle

Decision making processes should effectively integrate both long term and short term economic, environmental, social and equitable considerations (the 'integration principle'). The preparation of this ACHAR demonstrates regard for the integration principle by considering Aboriginal heritage values and impacts to these from the proposal during the planning phase. The nature of the proposal is in itself one that contributes to the long term economic and social needs of current and future residents of the area.

6.3.2 The precautionary principle

If there are threats of serious or irreversible environmental damage, lack of full scientific confidence should not be used as a reason for postponing measures to prevent environmental degradation (the 'precautionary principle'). This report has been prepared to the Code of Practice therefore has met the industry standards for scientific confidence that one archaeological site is located within the study area (2-4 Hale PAD 01). Although the majority of proposed works are not expected to impact 2-4 Hale PAD 01, remediation of the USTs may result in disturbance of surrounding deposits which may include 2-4 Hale PAD 01. Proposed remediation of USTs is unavoidable work and likely to be limited to minor disturbance around the edge of the excavation for UST remediation.

6.3.3 The principle of intergenerational equity

The proposed works would adhere, as close as possible, to the principle of intergenerational equity by collating scientific and cultural information on former Aboriginal occupation of the study area through the previous investigations and this ACHAR. This report has prepared an assessment of the study area and synthesised the regional character of Aboriginal objects and sites for posterity and future generations.

6.4 Cumulative impacts

A cumulative impact is an impact on Aboriginal cultural heritage resulting from the incremental impact of the action/s of a development when added to other past, present and reasonably foreseeable future actions. It is assessed that 2-4 Hale PAD 01 is of unknown significance therefore further investigation is required to determine the level of harm, therefore the works will have an unknown cumulative impact.

7.0 MANAGEMENT AND MITIGATION MEASURES

7.1 Guiding principles

The overall guiding principle for cultural heritage management is that where possible Aboriginal sites should be conserved.

Where unavoidable impacts occur then measures to mitigate and manage impacts are proposed. Mitigation measures primarily concern preserving the heritage values of sites beyond the physical existence of the site. The most common methods involve detailed recording of Aboriginal objects, archaeological test and salvage excavations, artefact analysis and, where appropriate, reburial of Aboriginal objects in a location determined by the RAPs.

Mitigation measures vary depending on the assessment of archaeological significance of a particular Aboriginal site and are based on its research potential, rarity, representatives and educational value. In general, the significance of a site would influence the choice of preferred conservation outcomes and appropriate mitigation measures, usually on the following basis:

- Low archaeological significance – conservation where possible. SSD Conditions of Approval would be required to impact the site before work can commence
- Moderate archaeological significance – conservation where possible. If conservation was not practicable, further archaeological investigation would be required such as salvage excavations or surface collection in accordance with the SSD Conditions of Approval.
- High archaeological significance – conservation as a priority. Where all other practical alternatives have been discounted mitigation measured such as comprehensive salvage excavations in accordance with the SSD Conditions of Approval would be required.

Sites of unknown scientific value should be conserved where possible. Where conservation is not practical further archaeological investigation, such as archaeological excavation, will be required to confirm the presence of Aboriginal objects and gather enough information to assess significance. Test excavation is not a mitigation measure, it is an investigatory action required to gather enough information to inform the development of appropriate mitigation measures.

7.2 Further archaeological investigation

The presence of Aboriginal objects within the 2-4 Hale PAD 01 and their significance is unknown, in accordance with the guiding principles discussed above further archaeological investigation must take place. It is anticipated that further investigation will include archaeological excavation within the works footprint, primarily UST remediation works.

The timing and methodology of further archaeological investigation will be dependent upon:

- Timing of removal of built structures on the site. It is not possible to undertake archaeological excavation with the extant structures in place
- Contamination testing. There is the possibility of contaminated fill and/or soils across the site. The methodology utilised for archaeological investigation will take into consideration contamination testing results

- Project constructability information. Information on UST remediation technique, for example, is unknown at this stage

It is recommended that an Aboriginal Cultural Heritage Management Plan (ACHMP) is prepared which provides guidance on the following:

- Key project approvals information for Aboriginal heritage
- Ongoing consultation with registered Aboriginal parties
- A methodology for archaeological investigation of 2-4 Hale PAD 01 and reporting on the results of those activities. The intention of the archaeological investigation is to test the nature and extent of archaeological remains on site subsequent to demolition of extant built structures. The methodology will apply to the whole site, and include triggers for when archaeological investigation is required, such as when natural contexts associated with 2-4 Hale PAD 01 are encountered that will be harmed by the proposed works
- Where Aboriginal objects or suspected Aboriginal objects are retrieved from excavations, an archaeologist will complete a visual and tactile assessment. Confirmed Aboriginal objects will be recorded in a catalogue and, where appropriate, quantitative analysis will be completed to facilitate archaeological interpretation of the assemblage. Where these methods are insufficient to address the research requirements of the CHMP, additional analysis would be completed which may include XRF analysis
- An unexpected finds procedure

The following timing considerations should be taken into consideration in preparing the ACHMP:

- Demolition of extant structures and contamination – the results of contamination testing undertaken to date must be considered during the preparation of the archaeological investigation methodology. It is understood that further site investigation works, including contamination testing, will take place following demolition of extant structures. It is anticipated that:
    - The archaeological methodology will be prepared prior to further contamination testing taking place on site. Although some portions of 2-4 Hale PAD 01 may be harmed during contamination testing, contamination testing is essential to ensure safety of workers on site during any subsequent archaeological investigation and other project works
    - revisions to the archaeological investigation methodology may be required based on the results of further contamination testing
- Design and constructability information – relevant design and constructability information, particularly approach to UST remediation works, will be required to inform the archaeological investigation methodology

The ACHMP must be prepared in consultation with registered Aboriginal stakeholders, and must be approved by the NSW DPHI Environmental Representative and/or NSW DPHI prior to commencement of further archaeological investigation.

As the presence, and significance, of Aboriginal objects in the study area is unknown, the results of any archaeological investigation on site will be assessed in a results report. Should it be concluded that Aboriginal objects are present on site and will be harmed by the proposed works, it is anticipated that the archaeological results report, significance assessment, impact assessment, and records of continuing consultation with registered Aboriginal stakeholders will be submitted to NSW DPHI as part of aa management process to be laid out in the ACHMP. Depending on the results and recommendation of that report it is possible that archaeological salvage excavation will be required as part of and/or prior to the main works program.

7.3 Changes to the project area or design

Advice provided within this ACHAR is based upon the most recent information provided by the proponent at the time of writing. Any changes made to the project should be assessed by an archaeologist in consultation with the RAPs, such assessment should follow procedures outlined in the ACHMP. Any changes that may impact on Aboriginal sites not assessed as part of the project may warrant further investigation and result in changes to the recommended management and mitigation measures.

8.0 CONCLUSION

The following conclusions and recommendations are based on consideration of the requirements of Aboriginal heritage guidelines including:

- National Parks and Wildlife Regulation 2019
- The Requirements for Proponents 2010 (DECCW 2010a)
- The Guide (OEH 2011)
- The Code of Practice (DECCW 2010b)
- The ACHAR must also outline the results of archaeological survey and archaeological test excavation.

One Aboriginal PAD has been identified within the study area (2-4 Hale PAD 01). Direct impacts to 2-4 Hale PAD 01 are likely during the proposed works, particularly as a result of the proposed UST remediation works.

8.1 Recommendations

Based on the findings of this report the following recommendations are made:

- An Aboriginal Cultural Heritage Management Plan (ACHMP) must be prepared which provides guidance on the following:
    - Key project approvals information for Aboriginal heritage
    - Ongoing consultation with registered Aboriginal parties
    - A methodology for archaeological investigation of 2-4 Hale PAD 01 and reporting on the results of those activities. The intention of the archaeological investigation is to test the nature and extent of archaeological remains on site subsequent to demolition of extant built structures. The methodology will apply to the whole site, and include triggers for when archaeological investigation is required, such as when natural contexts associated with 2-4 Hale PAD 01 are encountered that will be harmed by the proposed works
    - An unexpected finds procedure

- The following timing considerations should be taken into consideration in preparing the ACHMP:
    - Demolition of extant structures and contamination – the results of contamination testing undertaken to date must be considered during the preparation of the archaeological investigation methodology. It is understood that further site investigation works, including contamination testing, will take place following demolition of extant structures. It is anticipated that:
        - The archaeological methodology will be prepared prior to further contamination testing taking place on site. Although some portions of 2-4 Hale

PAD 01 may be harmed during contamination testing, contamination testing is essential to ensure safety of workers on site during any subsequent archaeological investigation and other project works

- revisions to the archaeological investigation methodology may be required based on the results of further contamination testing

- Design and constructability information – relevant design and constructability information, particularly approach to UST remediation works, will be required to inform the archaeological investigation methodology

- The ACHMP must be prepared in consultation with registered Aboriginal stakeholders, and must be approved by the NSW DPHI Environmental Representative and/or NSW DPHI prior to commencement of further archaeological investigation.
- As the presence, and significance, of Aboriginal objects in the study area is unknown, the results of any archaeological investigation on site will be assessed in a results report. Should it be concluded that Aboriginal objects are present on site and will be harmed by the proposed works, it is anticipated that the archaeological results report, significance assessment, impact assessment, and records of continuing consultation with registered Aboriginal stakeholders will be submitted to NSW DPHI as part of a management process. Depending on the results and recommendation of that report it is possible that archaeological salvage excavation will be required as part of and/or prior to the main works program.
- If changes are made to the proposal that may result in impact to areas not assessed by this ACHAR, further assessment must be undertaken.

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10.0 APPENDICES

10.1 Appendix 1 – Consultation records

Redacted for public display

10.2 Appendix 2 – 2-4 Hale Street, Aboriginal Technical Report

Hale Street Waste Facility

Archaeological Technical Report

LGA: Bayside

Report to Coombes Property Group and KLF Group

April 2024

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EXECUTIVE SUMMARY

Combes Property Group (CPG) and KLF Group (KLF) are proposing to construction and Demolition (C&D) waste management facility at 2-4 Hale Street Botany (the project). A State Significant Development (SSD) application was prepared and the project was declared SSD, Secretary's Environmental Assessment Requirements (SEARs) were issued on 25 October 2023 (SSD-62855708). Artefact Heritage have been engaged to provide an Aboriginal Cultural Heritage Assessment Report (ACHAR) to support an Environmental Impact Statement (EIS) in accordance with a requirement of the SEARs. An Aboriginal Technical Report (ATR) is required to be appended to the ACHAR therefore this report has been prepared to meet this requirement.

Overview of findings

Background research was undertaken to inform the development of a predictive model, this included a search of the Aboriginal Heritage Information Management System (AHIMS) database, a review of the archaeological literature for the local area, a review of the local environmental conditions including the soils and geology and a review of historic activity and associated disturbance. The background research included a review of geotechnical data which identified surviving natural sand below modern fill. The following predictive statements were made to guide the site survey:

- Due to historic disturbance Aboriginal objects are unlikely to be present on the ground surface
- Remnant natural vegetation is unlike to be present within the study area and therefore no culturally modified trees are likely to be present
- Historic disturbance is likely to be limited to the upper layers (approximately 0.5-1m) of the soil profile and deposits with the potential to contain Aboriginal objects may be present below these disturbed layers

Subsequent to the preparation of the predictive model an archaeological survey was completed by Gareth Holes (Senior Heritage Consultant, Artefact Heritage), Kelly Barton (Aboriginal Cultural Heritage Officer, Artefact Heritage) and Steven Ella (Site Officer, LA Perouse LALC). The survey found that there was no natural landforms visible and the whole site had been built on. Based on the background research, predictive model and site survey an area of PAD was identified within the natural sands, a review of geotechnical results for the study area determined that these were located beneath modern fill ranging from 0.2- 3m in depth. The proposed works include excavation to a depth of between 500 and 600mm, therefore partial direct impacts have been identified that may result in partial loss of value.

Recommendation

As a result of these conclusions the following recommendations were made:

- An ACHAR be prepared to satisfy the conditions of SEARs for the project (SSD-62855708), as they relate to Aboriginal heritage. The ACHAR must include consultation with RAPs in accordance with the Consultation Requirements
- A site card should be prepared and submitted for 2-4 Hale PAD 01 and submitted to AHIMS
- In the first instance the proponent should explore options to avoid harm to the PAD in line with the NPW Act

- If designs can be revised such that impacts to Aboriginal objects or PADs are unlikely remaining risk may be managed through archaeological monitoring conducted by suitably qualified archaeologists and RAPs
- An Aboriginal Test Excavation Methodology (ATEM) should be prepared and should include procedures for archaeological monitoring
- If impacts are unavoidable, or archaeological monitoring determines that the PAD will be impacted test excavation will be required
- It is understood that demolition will require consent therefore test excavation may not be feasible prior to development consent being granted, therefore test excavation should be a condition of consent and an ACHMP should be prepared to provide post excavation management and mitigation in consultation with the RAPs
- If changes are made to the proposal that will result in in additional impacts within the study area or impacts to areas not assessed by this report, additional Aboriginal heritage assessment will be required.

CONTENTS

FIGURES

TABLES

1.0 INTRODUCTION

1.1 Project brief

Combes Property Group (CPG) and KLF Group (KLF) are proposing the construction and operation of a Construction and Demolition (C&D) waste management facility at 2-4 Hale Street Botany (the project). Secretary's Environmental Assessment Requirements (SEARs) were issued on 25 October 2023 (SSD-62855708). Artefact Heritage have been engaged to provide an Aboriginal Cultural Heritage Assessment Report (ACHAR) to support an Environmental Impact Statement (EIS) in accordance with a requirement of the SEARs. An Aboriginal Technical Report (ATR) is required to be appended to the ACHAR therefore this report has been prepared to meet that requirement. This ATR will be appended to the ACHAR.

This report has been prepared in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (Department of Environment, Climate Change and Water [DECCW] 2010 known as the Code of Practice).

1.2 Description of the study area

The study area comprises an area of approximately 7,439 m^2 located at 204 Hale Street (Lot 1 DP 562374), Botany (Figure 1). The study area is located within the Bayside Local Government Area (LGA), and within the boundaries of La Perouse LALC. The study area is bounded to the north by the Mill Stream, to the east by industrial development, to the south by Hale Street and to the west by a natural reserve abutting the Mill Stream.

1.3 Aims and objectives

The aims of this ATR are to:

- Confirm the presence of Aboriginal objects within the study area.
- Gather sufficient evidence to assess significance of such Aboriginal objects.

The objectives of this ATR include carrying out:

- Background research
- Database searches
- Development of predictive statements
- Testing predictive statements through survey
- Discussion and analysis of data gained

1.4 Limitations and constraints

This report is restricted to the assessment of Aboriginal heritage. It does not assess potential or recorded historical heritage values. It also does not provide advice for compliance with the *Heritage Act 1977*. This report is limited to publicly available information and does not consider information that is private or confidential. This report relies on the accuracy of the information in sources utilised for the background research this data was not independently verified unless inconsistencies or contradictions were identified.

Figure 1: Study area

Document Path: C:\Users\MDouglas\OneDrive - Artefact Heritage Services Pty Ltd\GIS\GIS_Mapping\230919 C&D Waste Transfer Station, Botany\MXD\230919_StudyArea_v1_260923.mxd

1.5 Authors and contributors

Contributor	Qualification	Experience	Role
Josh Symons (Principal)	• Bachelor of Arts (Hons), Prehistoric and Historical Archaeology	+20 years	Project overview and quality assurance
Ryan Taddeucci (Aboriginal Heritage Team Leader)	• Bachelor of Arts (Hons), Archaeology • Master of Museum Studies • Graduate Certificate in Maritime Archaeology	+ 11 years	Project overview and technical assurance
Gareth Holes (Senior Heritage Consultant, Artefact Heritage)	• Bachelor of Arts (Hons), Archaeological Practice • Master of Arts, Neolithic Europe	+15 years	Project management Report preparation
Kieran Murray (Aboriginal Cultural Heritage Officer, Artefact Heritage)	• Bachelor of Archaeology	+1 year	Report preparation
Kelly Barton (Aboriginal Cultural Heritage Officer, Artefact Heritage)	• Diploma in Screen and Media	+2 years	• Site Survey Consultation
Mike Douglas (GIS Officer, Artefact Heritage)	• Bachelor of Arts, North American Archaeology • Master of Science, Geology • Masters Certificate in GIS Science	+20 years	• Map preparation • GIS services

2.0 PROJECT FRAMEWORK

2.1 Commonwealth legislation

2.1.1 Environment Protection and Biodiversity Conservation Act 1999

The *Environment and Heritage Legislation Amendment Act (No.1) 2003* amends the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) to include 'national heritage' as a matter of National Environmental Significance and protects listed places to the fullest extent under the Constitution. It also establishes the National Heritage List (NHL) and the Commonwealth Heritage List (CHL).

The *Australian Heritage Council Act 2003* (AHC Act) establishes a new heritage advisory body - the Australian Heritage Council (AHC) - to the Minister for the Environment and Heritage and retains the Register of the National Estate (RNE).

The *Australian Heritage Council (Consequential and Transitional Provisions) Act* 2003 repeals the *Australian Heritage Commission Act* 1975, amends various Acts as a consequence of this repeal and allows the transition to the current heritage system.

Together the above three Acts provide protection for Australia's natural, Indigenous and non-Indigenous heritage. Features of the Acts include:

- the NHL of places of national heritage significance
- the CHL of heritage places owned or managed by the Commonwealth
- the creation of the AHC, an independent expert body to advise the Minster on the listing and protection of heritage places
- continued management of the Register of the National Estate (RNE).

A summary of register searches is outlined below:

- A search of the NHL was undertaken on 25 September 2023, no registered items were found within the study area
- A search of the CHL was undertaken on 25 September 2023, no registered items were found within the study area
- A search of the RNE was undertaken on 25 September 2023, no registered items were found within the study area

2.1.2 Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The Commonwealth *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (ATSIHP Act), deals with Aboriginal cultural property (intangible heritage) in a wider sense. Such intangible heritage includes any places, objects and folklore that 'are of particular significance to Aboriginals in accordance with Aboriginal tradition'. These values are not currently protected under the NPW Act.

There is no cut-off date and the ATSIHP Act may apply to contemporary Aboriginal cultural property as well as ancient sites. The ATSIHP Act takes precedence over state cultural heritage legislation where there is conflict. The Commonwealth Minister who is responsible for administering the ATSIHP Act can make declarations to protect these areas and objects from specific threats of injury or

desecration. The responsible Minister may make a declaration under Section 10 of the Commonwealth Act in situations where state or territory laws do not provide adequate protection of intangible heritage.

Where an Aboriginal individual or organisation is concerned that intangible values within the proposal are not being adequately protected, they can apply to the Minister for a declaration over a place.

A search of declared places was undertaken on 25 September 2023 through enquiry of the Federal Register of Legislation (https://www.legislation.gov.au/AdvancedSearch) and no such places were found within or adjacent to the study area.

2.1.3 Native Title Act 1993

The main purpose of the *Native Title Act 1993* is to recognise and protect native title. Native title is the rights and interests in land and waters that Aboriginal and Torres Strait Islanders have under their traditional laws and customs.

The following list is indicative of the type of land, which might be subject to native title:

- vacant Crown land and any other public or Crown lands including oceans and inland waterways, beaches and foreshores, State forests, national parks and public reserves
- pastoral leases
- land held by government agencies
- land held in trust for Aboriginal communities.

Under the amended *Native Title Act 1993*, Native Title is extinguished by the following:

- private freehold land, valid grants of private freehold land or waters
- residential, commercial or exclusive possession leases
- mining dissection leases
- community purpose leases (e.g. religious, sporting or charitable purposes)
- scheduled interests that give exclusive possession
- public works (e.g. schools, public amenities, hospitals etc.).

Section 24KA of the *Native Title Act 1993*, requires that native title claimants are notified of any 'future act' which may result in a change in land use for Crown lands affected by claims. A 'future act' is defined in section 233 of the Act as a proposed activity or development on land and/or waters that may affect native title, by extinguishing (removing) it or creating interests that are inconsistent with the existence or exercise of native title. If, after one month, there were no response to the notification, then the proponent will be deemed to have fulfilled their obligations under the Act.

The Consultation Requirements stipulate that consultation must be conducted with Native Title holders or registered Native Title claimants. A search of the National Native Title Tribunal database was completed on 25 September 2023. No Native Title claims were found within the study area.

2.2 State legislation

2.2.1 National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act), administered by Heritage NSW, DPC provides statutory protection for all Aboriginal 'objects' (consisting of any material evidence of the Aboriginal occupation of NSW), and for 'Aboriginal Places' (areas of cultural significance to the Aboriginal community).

The protection provided to Aboriginal objects applies irrespective of the level of their significance or issues of land tenure. However, areas are only gazetted as Aboriginal places if the Minister is satisfied that sufficient evidence exists to demonstrate that the location was and/or is of special significance to Aboriginal culture.

There are no gazetted Aboriginal places in the study area. All Aboriginal objects, whether recorded or not, are protected under the NPW Act.

Section 86 of the NPW Act identifies that it is an offence to harm or desecrate an Aboriginal object and/or an Aboriginal place. Section 86 outlines penalty units applicable where it is identified that a person or corporation is in breach of Section 86.

The NPW Act defines harm to an object or place as any act or omission that:

(a) destroys, defaces or damages the object or place, or

(b) in relation to an object moves the object from the land on which it had been situated, or

(c) is specified by the regulations, or

(d) causes or permits the object or place to be harmed in a manner referred to in paragraph (a), (b) or (c)

A section 90 permit is the only Aboriginal Heritage Impact Permit (AHIP) available under the *National Parks and Wildlife Act 1974* and is granted by Heritage NSW. Various factors are considered by Heritage NSW, DPC in the AHIP application process, such as site significance, Aboriginal consultation requirements, Ecological Sustainable Development (ESD) principles, project justification and consideration of alternatives. The penalties and fines for damaging or defacing an Aboriginal object were increased in 2010.

As this project is being assessed under Part 4 Division 4.1 of the EP&A Act, permits issued under the NPW Act are not required for impacts approved by Heritage NSW,under the SSD provisions. Impacts to Aboriginal objects will be authorised by the Conditions of Approval for the project issued by DPC under the EP&A Act.

2.2.2 Environmental Planning and Assessment Act 1979

The EP&A Act establishes the framework for cultural heritage values to be formally assessed in the land use planning, development assessment and environmental impact assessment processes. Part 3, Division 3.4 deals with the development of Local Environmental Plans (LEPs). Planning decisions within Local Government Areas (LGAs) are guided by LEPs. Each LGA is required to develop and maintain an LEP that includes Aboriginal and historical heritage items which are protected under the EP&A Act and the *Heritage Act 1977*. The study area is located within the boundaries of the Bayside LGA and is covered by the Bayside LEP. No registered heritage items were identified within the study area.

The proposal will be assessed under Part 4, Division 4.1 of the EP&A Act, which establishes an assessment and approval regime for SSD. Part 4, Division 4.1 applies to development that is declared to be an SSD by a State Environmental Planning Policy (SEPP). Section 4.41 (previously section 89J(c)) of the EP&A Act specifies that approvals or permits under section 90 of the NPW Act 1974 are not required for approved SSD.

2.2.3 NSW Native Title Act 1994

The *Native Title Act 1994* was introduced to ensure that the laws of NSW are consistent with the Commonwealth *Native Title Act 1993*. Native Title claims, registers and Indigenous Land Use Agreements are administered under the Act. A search of the National Native Title Tribunal database was completed on 25 September 2023. No Native Title claims were found within the study area.

2.2.4 Aboriginal Lands Right Act 1983

The *Aboriginal Land Rights Act 1983* (ALR Act) established Aboriginal Land Councils (at State and Local levels). These bodies have a statutory obligation under the ALR Act to:

> *(a) take action to protect the culture and heritage of Aboriginal persons in the council's area, subject to any other law, and*
>
> *(b) promote awareness in the community of the culture and heritage of Aboriginal persons in the council's area.*

The study area is within the boundary of the La Perouse LALC.

3.0 ARCHAEOLOGICAL CONTEXT

3.1 AHIMS search

NOTE: The location of Aboriginal sites is considered culturally sensitive information. It is advised that this information, including the AHIMS data appearing on mapping below must be removed from this report if it is to enter the public domain.

An extensive search of the Aboriginal Heritage Information Management System (AHIMS) was undertaken on 21 September 2023 (Client Service ID: 822254]) to determine the location of Aboriginal sites in relation to the current study area. The search area comprised an area approximately 6.125km by 6.125km surrounding the study area to inform the characterisation of the local archaeological context. The AHIMS search parameters were as follows:

GDA, Zone:	56
Eastings :	329725.0 - 335850.0,
Northings :	6239335.0 - 6245460.0
Buffer	0 metres (m)
Number of sites	3

There were three AHIMS registered sites located within the search area, no sites were registered within the study area.

Aboriginal occupation covered the whole of the landscape, though the availability of fresh water and resources was a significant factor in repeated and long-term occupation. Certain site types, such as culturally modified trees, are particularly vulnerable to destruction through historical occupation. As a result, more resilient site types, such as stone artefacts, are predominant in the archaeological record. Because of this, the nature and location of registered Aboriginal sites is an imperfect reflection of past Aboriginal occupation. Furthermore, the surviving archaeological record is also a reflection not only of historical land-use, disturbance, and the post-depositional events, but also reflects the sampling bias of previous archaeological investigation. A breakdown of the AHIMS search results can be seen in Table 1, the distribution of sites can be seen in Figure 2 and Figure 3.

Table 1: AHIMS search results

Site Feature	Frequency	Percentage (%)
Aboriginal Resource and Gathering, Artefact, Non-Human Bone and Organic Material	1	33.3%
Artefact	1	33.3%
Artefact, Burial, Shell	1	33.3%
Total	**3**	**100%**

Few Aboriginal sites have been recorded in the local area, comprising the northern side of Botany Bay, with just three found within the search area. All three of the registered sites, within the search area included stone artefacts, stone artefacts are one of the more resilient site features within the archaeological record and may survive where other less resilient site features do not. Two of the three recorded sites are associated with water sources, either creek lines or the foreshore which would have provided a rich source of resources for Aboriginal people. The registered sites within the search area, show a marked tendency towards less common site features, while two of the five most

common site features (Artefact, Art, Grinding Grooves, Modified tree and Shell), are present, less common site features (Aboriginal Resource and Gathering, Burials, Non-Human Bone and Organic Materia) are present at two of the three sites. Should the typical distribution of site features be present in the local area it is likely that a larger number of Artefact and Shell sites in particular should be present.

AHIMS ID 45-6-0629

Located approximately Redacted for public display AHIMS 45-6-0629 comprises a large area of oyster shell and two burials uncovered in 1936-1937. The site card provides limited information and no report has been filed with AHIMS, it is unknown at what depth the remains were found or the extent of surface material. AHIMS ID 45-6-0629 is located Redacted for public display from the current shoreline, within Sir Joseph Banks Park.

AHIMS ID 45-6-0751

Located approximately Redacted for public display AHIMS ID 45-6-0751 comprises Aboriginal Resource and Gathering, Artefact, Non-Human Bone and Organic Material, during the excavation of Shea's Creek for Alexandria Canal in the 1890s remains of a Dugong skeleton was found 1.7m – 2-6m below the modern high-water level, when the remains were inspected transverse and oblique curved cuts caused by stone tools was seen. Stone axes were also identified at the site alongside the remains. This site demonstrates how Aboriginal sites can be affected by changes in geography and environment, this will be discussed in more detail in Section 3.2.

AHIMS ID 45-6-4017

Located approximately Redacted for public display AHIMS 45-6-4017 comprises a single artefact, a silcrete geometric microlith, located within remnant soils, identified during test excavation. Development had removed the natural soils across half of the study area with much of the remainder having been disturbed, only a small portion of the study area contained intact remnant soils.

Summary

Few Aboriginal sites are known from the local area, however the importance of water is clear, with both AHIMS ID 45-6-0751 and AHIMS ID 45-6-00629 providing evidence for the utilisation of marine resources. Investigation of AHIMS ID 45-6-0751 has demonstrated that Aboriginal objects may be present at significant depths where intact soils profiles are present. AHIMS ID 45-6-0629 is located on a similar landform to the study area and demonstrates the presence of Aboriginal objects in the local area. Disturbance caused by development may remove potential for Aboriginal sites however AHIMS 45-6-4017 demonstrates that where intact remnant soils survive Aboriginal objects may be present.

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3.2 Review of existing archaeological literature

The Further Discovery of Dugong Bones on the Coast of NSW (Etheridge 1905)

In the 1890s a skeleton of Dugong, a warm-water marine mammal, was identified associated with Aboriginal artefacts from Botany Bay salt marsh. The remains were found near the top of estuarine clay, just above an extensive shell bed, at a depth of between 1.7m-2.6m below the high water level, this demonstrates the potential for Aboriginal objects and evidence of Aboriginal occupation to survive in deep buried deposits.

Haworth et al. (Haworth et al. 2004), reviewed the records of the excavation of the Dugong at Sheas creek following carbon dating giving a conventional ^{14}C age of 5520±70 years BP (Wk-8616), and found that cross sections of the exposed deposits demonstrated a pattern of Holocene sea-level fluctuations in the Sydney region.

St Peters Brick Pit, Sydney NSW Investigation of Shell Material (Attenbrow 1984)

Val Attenbrow was originally engaged by the Sydney City Council in 1983 to assess shell material identified within the St Peters Brick Pit, 4 kilometres northwest of the study area. The material was considered to form part of a shell midden and subsequently registered with AHIMS ID 45-6-1496. The 1984 report details a reassessment of the site, to determine if the site was a midden or the product of natural processes.

This reassessment considered the material to represent a former shoreline associated with Botany Bay rather than cultural consumption and discard. This hypothesis was supported by the discovery of dugong bones during the excavations of Alexandra Canal in the late 19th century. Another hypothesis proposed that the shell material was introduced during brick production.

It was determined that AHIMS ID 45-6-1496 was not the result Aboriginal activity and it was recommended the site card be updated to reflect this. This demonstrates the care that needs to be taken when investigating shell deposits to demonstrate that such deposits are Aboriginal in nature.

Report on the Salvage Excavation of a Portion of the Kendrick Park Midden, Tempe NSW (Report to Marrickville Council) (AMBS 2003)

Archaeological excavation was undertaken within a portion of AHIMS ID 45-6-2198, located on a sandstone outcrop at the back of Kendrick Park, Tempe (approximately 3.6 km west of the study area). The midden encompassed an area of approximately 7.6 metres by 3 metres and had been heavily disturbed by past sandstone quarrying and the dumping of modern rubbish. Various shellfish species were recorded, with the faunal assemblage dominated by Sydney cockle (Anadara trapezia). Three animal bone fragments, six stone artefacts and locally available estuarine shell material were identified. Two radiocarbon dates were obtained from an intact layer of the midden and returned dates of 4328 ± 50 years BP (Wk-11004 [Sh]) and 3901 ± 53 years BP.

MetroGrid Project Test Excavation of Buried Shell Bed at Fraser Park, Marrackville, NSW (McIntyre-Tamwoy 2003)

McIntyre-Tamwoy undertook test excavation at Fraser Park, 4km north west of the study area, to investigate a buried shell bed. 4 test pits were excavated, which identified that the shell layer was located within a grey silty sand deposit identified as estuarine deposits. This was interpreted as the shell layer having formed underwater and was therefore natural and not Aboriginal in origin.

Aboriginal Heritage Impact Statement, Discovery Point Precinct (Jo McDonald CHM PTY Ltd 2010)

In 2010 Jo McDonald CHM PTY Ltd, prepared an Aboriginal Heritage Impact Statement for Discovery Point, this included a review of previous work undertaken at the site. This report was found that despite the Discovery Point development precinct being heavily disturbed by previous construction and land modification, some significant remnant intact archaeological deposit has been found to exist. Salvage excavation was undertaken at AHIMS ID 45-6-2737 located at Discovery Point, directly north of Tempe House (3.6 km west of the study area) in 2005. Despite considerable levels of ground disturbance in the area, 389 stone artefacts and an Aboriginal hearth was identified within a sand body and subsequently radiocarbon dated to 9,376 ± 61 years BP (Wk-16167). Subsequently in 2006, a two stage test and salvage excavation, was undertaken ahead of proposed Stormwater Corridor (SWC), A total of 457 Artefacts were identified during the test excavation, in addition a thick layer of compact shell layer was found.

CBD and South East Light Rail Project: Early Works, Moore Park Tennis Centre. Archaeological Salvage Excavation Report to Laing O'Rourke (Artefact 2014)

As part of early works preparation for the CBD and South East Light Rail Project (CSELR) archaeological test excavation was carried out at the Moore Park Tennis centre (5.5km north of the study area). These excavations identified in one test pit (TP4), limited preserved Tuggerah unit 1 Soils (t1), immediately above preserved bleached white undisturbed Tuggerah unit 2 Soils (t2). Spit 3 of TP4 was located at 900 millimetres to 1000mm depth. A total of five Aboriginal lithic artefacts were retrieved from Spit 3 in TP4. Soils in other test pits showed clear evidence of disturbance to potentially archaeologically sensitive soils. Subsequent salvage excavation looked to explore the archaeological sensitivity of the Moore Park Tennis Centre study area. An additional three Aboriginal artefacts were located during salvage. In total eight artefacts retrieved through test and salvage excavation were all located within the preserved t1 soil unit or at the transition to t2 underlying soil.

The results from test and salvage excavation at the Moore Park Tennis Centre illustrated the fragile nature of the archaeologically sensitive deposits and shallow t1 soils which have frequently been disturbed through relatively minor works and developments.

4-18 Doncaster Avenue, Kensington. Aboriginal Cultural Heritage Assessment Report for Built Pty Ltd (GML Heritage 2017)

Aboriginal archaeological excavations were carried out at Doncaster Avenue as part of the CSELR project. The northern half of the development area, beneath a unit of historical fill, was found to be composed of intact sand dune profiles with a partially truncated t1 surface horizon, characteristically dark as a result of the presence of decomposed organic materials. RSY 1 (AHIMS ID 45-6-3246) was identified within the truncated but intact dune surface horizon. At RSY 1, Aboriginal objects were identified in a sandy topsoil that represented the ground-surface after cessation of aeolian accretion and prior to topographic modification by European activity. Several artefacts were identified as made from English flint ballast, offloaded at Sydney Cove, the flint was retrieved by Aboriginal people and transported to Randwick where it was utilised by local Aboriginal people for its superior knapping properties (GML Heritage 2020). Final reporting as reflected in the RSY 1 site card lists artefact numbers as "2396 flint, 6 glass and 5 other artefacts". The total area off RSY 1 was 250 square metres, of which 80% has been impacted for development.

RSY 1 (AHIMS ID 45-6-3246) provides a unique insight to the manner in which Aboriginal archaeological material was once deposited on t1 soils and was subsequently protected from removal through the placement of overlying fill material – apparently without marked displacement other than through some downwards compaction resulting from horse and pedestrian trampling.

Sydney Gateway Project, Technical Working Paper 10 ACHAR (Artefact 2019)

In 2019 Artefact undertook an ACHAR as part of the Sydney Gateway Project, approximately 750m north of the current study area. The ACHAR identified two Investigation Areas (2.5km north west of the study area), as having Aboriginal potential, closely associated with buried estuarine tidal flats adjacent to the Alexandria Canal, similar to the landscape where butchered dugong remains, and Aboriginal artefacts were found in the late 19th century.

The ACHAR prepared a predictive model that identified sub-surface artefact sites are closely tied to major watercourses. The predictive model also identified that shell midden sites were tied to marine and estuarine areas. A program of salvage excavation was recommended but no results were included in the ACHAR.

Botany Rail Duplication, ACHAR (Artefact Heritage 2020)

Artefact undertook an ACHAR on behalf of the Australian Rail Track Corporation (ARTC) for the Botany Rail Duplication project located approximated 850m north of the study area. The ACHAR included a review of background research to synthesise a predictive model and found that the area had been part of an extensive dune system but had been subject to extensive historic modification in the form of levelling to facilitate industrial development. A site survey undertaken as part of the ACHAR did not identify any areas of Aboriginal potential and assessed the project area as being of low potential.

CSELR Aboriginal Archaeological Excavation Report (Artefact 2020)

The final report on Aboriginal excavations undertaken as part of the CSELR project was prepared by Artefact, that report included a thematic synthesis of all results produced by the project. This included a detailed review of the Tuggerah soils which found that sensitivity for Aboriginal archaeological material was limited to the t1 deposit which comprises the upper topsoil deposit and measures up to 300mm in depth. The underlying t2 sands can continue to a depth of up to 10m, however these sands were determined to be archaeologically sterile and not hold potential for Aboriginal objects or sites.

Kamay Ferry Wharves Project, Aboriginal and Non-Aboriginal Test Excavation Report (Artefact 2021)

In 2020 Artefact undertook test excavation at Kamay in a similar landform to that found in the study area. Test excavation occurred at two locations one on the north side of the bay at La Perouse, and on the southern side at Kurnell. Investigations at LA Perouse were halted by the presence of asbestos and non-Aboriginal remains. Investigations at Kurnell comprised a total of 22 test pits, however due to a variety of constraints including contamination, and inundation with water only 16 pits were completed. The Kurnell test excavation indicated that the area had been subjected to multiple fill events largely comprising modern refuse, these had stabilised the underlying natural sands, occasional fragments of animal bone and two isolated artefacts were identified within the natural sands, demonstrating the presence of Aboriginal objects within the natural foreshore sands. A band of shell was seen however analysis determined that it was natural in origin and Aboriginal. The results from Kamay demonstrates that Aboriginal objects may survive within natural sands sealed by modern fill, as well as further demonstrating that shell deposits require detailed investigation to determine whether they are natural or Aboriginal in origin.

3.3 Historic records of Aboriginal material cultural

Note on Language and Cultural Warning:

Aboriginal and Torres Strait Islander people should be aware this report may contain words and terms in quotations from works written by non-Indigenous people in the past that may be confronting and considered inappropriate today. Artefact does not endorse these views or the

use of these terms. These historical sources have been included because they provide information on the lives of Aboriginal people in the region.

This report also contains the names and images of deceased people and descriptions of historical events including massacres that may be distressing to some readers.

Many Aboriginal people, like other Indigenous or First Nations people around the world, say they have been living on Country for 'time immemorial' – that they have always been here and their origins lie in the creation of the land and animals. Over the last few decades, archaeologists' knowledge of deep human time in Australia has expanded from just a few thousand years in the 1950s, to 25,000 years in the 1960s, then 40,000 years, to now around 60,000 years or more (Karskens et al. 2017, Griffith 2018, Belshaw et al. 2020).

The traditional lands and waters of the and Dharawal around Kamay-Botany And the people who continued to live there after 1770 up to today were for a long time in the shadow of Australian nation-making and industrial development. From as early as 1822 when the first plaque commemorating the 1770 landing of Cook and the Endeavour crew was erected, up to the 1970s Bicentennary replete with a reenactment of Cook's landing, Aboriginal people were depicted as the precursor to the arrival of the British and the birth of the modern Australia. But all along during over 200 years of erasing Aboriginal history, Aboriginal people lived, survived and now thrive in particular at La Perouse.

Indeed in 2020, Shayne Williams could write that his family had 'a continuous cultural connection' to the place – his 'great uncle King Burraga spoke of his great grandfather being present at the time of Cook's landing' (Ingrey et al. 2020).

The moment of Cook's landing at Kamay – what he was to later call Botany Bay – has been portrayed by Australian historians as a moment of bravery by two warriors who 'opposed' his landing, and so too, by Cook himself. In fact it was a moment where the British completely misunderstood the intentions of the gamayngal – the Dharawal people at Kamay. Cook and the Endeavour crew had no concept of Aboriginal protocols about meeting new people or travelling through other peoples' lands. Cook ordered his men to fire their muskets at the two warriors who 'threatened them', but as historian Maria Nugent suggests, the 'threat' to Cook was part of a 'repertoire of responses covering encounters with strangers' that did not require a 'counter display of force'. Indeed, recent language revitalisation work by La Perouse Community and Dharawal people suggests the so-called warning to go away (based on observation not translation in 1770) may have misunderstood the meaning of warrawarrawa – which seems to be associated with the phrase 'they are all dead', corroborating the widespread Aboriginal association of whiteness and death (Nugent 2005).

The access to fishing and traditional foods at La Perouse, as well as being far enough away from the city to be relatively 'out of sight' from the authorities, but also close enough to southern Sydney for work opportunities, meant it had become a focal point for the people of Sydney who had survived invasion and dispossession. Others, particularly from communities on the south coast had moved to government was under increasing pressure to take action on Aboriginal affairs and in 1882 George Thornton was appointed as Protector of Aborigines. Thornton promoted removing Aboriginal people from urban areas, but he did allow five families to stay at La Perouse, suggesting that their 'camp' was 'economically viable' via fishing in the main. (Elsewhere around Sydney, other camps were seen as 'parasitic' and a 'nuisance to society'). Thornton had some huts built at La Perouse for the community there, which in 1881 was around 50 people around Kamay-Botany Bay (35 at La Perouse and 15 in the area of Kamay) (Kensy 2008).

In 1883, Thornton's role was replaced by the Aborigines Protection Board. The Board wanted to segregate Aboriginal people onto small areas of land and by 1885, seven acres of land at La Perouse was declared a 'Reserve for the use of Aborigines' – the only one at this stage in the Sydney region.

As the city of Sydney grew, in the 1880s, numbers Sydneysiders were taking day trips to the seaside. Many went to Kurnell and Botany and others to La Perouse curious to see the Aboriginal people who lived there. This caused concern for the Aborigines Protection Board who wanted to keep the La Perouse community segregated and led to further restrictions. In 1895, the reserve was enclosed by a fence and only the local constable and the resident missionary had keys. Aboriginal people were prevented from selling fish at the markets and restrictions placed upon boat and rail travel. In 1897 the Aborigines Protection Board rejected requests by missionaries for more huts and increased rations for the La Perouse community because the board believed this would encourage more people to move from the south coast to La Perouse. The late 19th and early 20th centuries were a grim period of Australian racism (Kensy 2008).

But the strength of the La Perouse community was astounding. After concerns about white tourists mingling with the community, in 1900, the Aborigines Protection Board decided to relocate Aboriginal people from La Perouse to Wallaga Lake on the south coast. But they refused to move, despite the fact that the Aborigines Protection Board reduced, and eventually ceased supplying rations. By 1902, it seems that the Aborigines Protection Board had given up and resumed supplying rations to those on the reserve. In 1908 there were 73 people living on the reserve. During 1908, new houses were built and by 1912, the population on the reserve had grown to 106. In 1915 there were 124 people living on the reserve (Kensy 2008).

4.0 LANDSCAPE CONTEXT

4.1 Soils and geology

The study area is located on medium to fine grained marine sands of the Botany Sands (Herbert 1983), within a Holocene Swamp environment (Gale and Wales 2022). While investigations elsewhere in the Botany Sands, such as at Moore Park, have shown that Aboriginal potential of the sands is limited to the upper deposits, evidence from the swamp environments, such as at Sheas Creek, have proven to be more robust with Aboriginal sites located at greater depth.

The study area is located on three soil landscapes; Disturbed terrain, the Tuggerah soil landscape, and the Woy Woy soil landscape (Figure 4). Disturbed terrain comprises land that has been disturbed to a depth of at least 1m, this may take place through excavation or deposition of material. While disturbance may have an impact Aboriginal potential it is possible for Aboriginal sites to survive where they are located within deeper undisturbed deposits or where deposition of fill has sealed the sensitive deposits. Due to the nature of disturbed terrain it is unlikely that sites will be visible on the surface (Environment NSW 2021). The southeast portion of the study area is covered by the Tuggerah soil landscape, which is charactered by gently undulating Quaternary sand dunes. Sand dune environments are known to hold significance for Aboriginal people and may be associated with burials. The southwest corner of the study area is covered by the Woy Woy soil landscape, which is charactered by non-tidal beach ridges of marine sands. The Woy Woy soil landscape is associated with sheltered foreshores which would have provided a rich source of resources for Aboriginal people, this may be reflected by the presence of shell middens or other Aboriginal sites.

JBS&G Australia Pty Ltd (JBS&G) was engaged by CPG to undertake a Detailed Site Investigation (DSI) of the study area (JBS&G 2022). As part of this investigation JBS&G undertook a program of boreholes, review of the borehole results identified the presence of natural sands and clay beneath gravel-clay fill in all bar SB06 which remained entirely within a fill deposits. The fill varied in depth from 0.2m (SB03) – 3m (MW03), with the majority between 0.6-1m (Figure 5). The fill varied from gravelly sand to sandy clay and contained brick, sandstone and slag inclusions. Beneath this fill a number of sand layers were identified in most of the boreholes, grey – brown in colour, with one borehole SB02 containing grey sandy clay. The sands were found to extend beyond the maximum depth of investigation (6m). These deposits are consistent with an estuarine environment and was likely subject to fluctuations as has been seen at Sheas Creek.

4.2 Hydrology

The study area is located on the banks of the Mill Stream, on the foreshore of Botany Bay. The Mill Stream and foreshore have been subject to significant historic modification, however historic mapping from 1853 (Figure 7) indicates that the study area is located near the mouth of the Mill Stream. The hydrology of the study area would also have been subject to pre-contact variation, with evidence from Shea's Creek indicating significant variation in water levels in Botany Bay throughout the Holocene.

4.3 Landforms

The study area is located within the foreshore landform, Gale and Wales (2022), identified the area as being Holocene Swamp (Figure 6), however archaeological investigations at Sheas Creek indicate that the environment has been subject to significant fluctuation during the Holocene (Haworth et al. 2004). The foreshore environment would have provided significant resources for Aboriginal people and has demonstrated potential for Aboriginal sites.

4.4 Historic land disturbance

Historic mapping dating to 1853 indicate the study area on the foreshore near the mouth of the Mill Stream (Figure 7), on land granted to Simeon Lord, a significant figure in early Sydney, no evidence of structures can be seen within the study area. By 1941 when early aerial photographs are available the area surrounding the study area had been developed (Figure 8), however the study area appears to be undeveloped with some indications of standing water. By 1960 several warehouses had constructed (Figure 9), which were subsequently expanded with additional structures over the following decades, images from the 1970s indicate the remaining open area had been concreted (Figure 10).

Figure 4: Soil landscapes

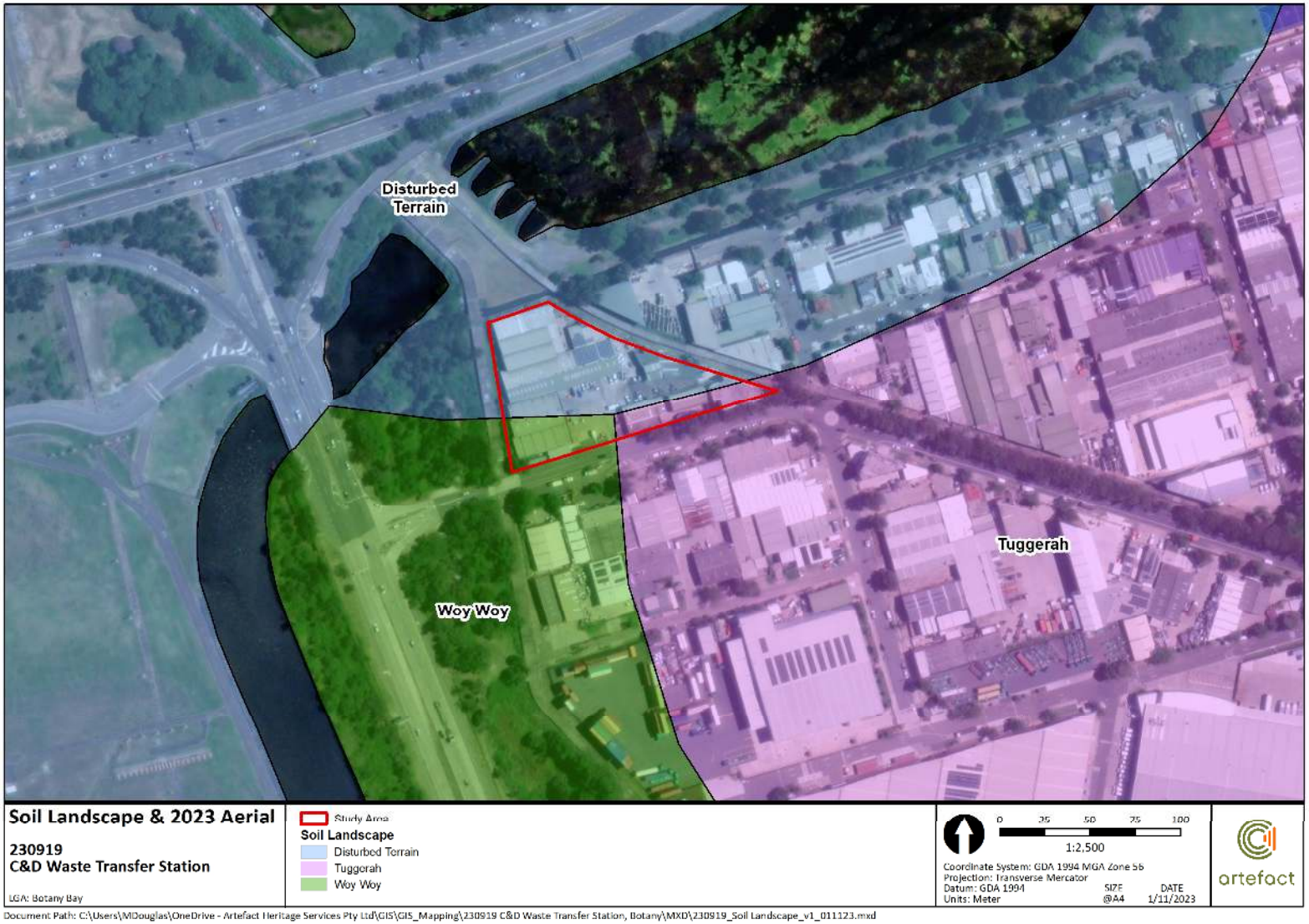


Figure 5: Depth of fill per Detailed Site Investigation (JBS&G 2022)

Figure 6: Holocene landforms (Gale and Wales 2022)

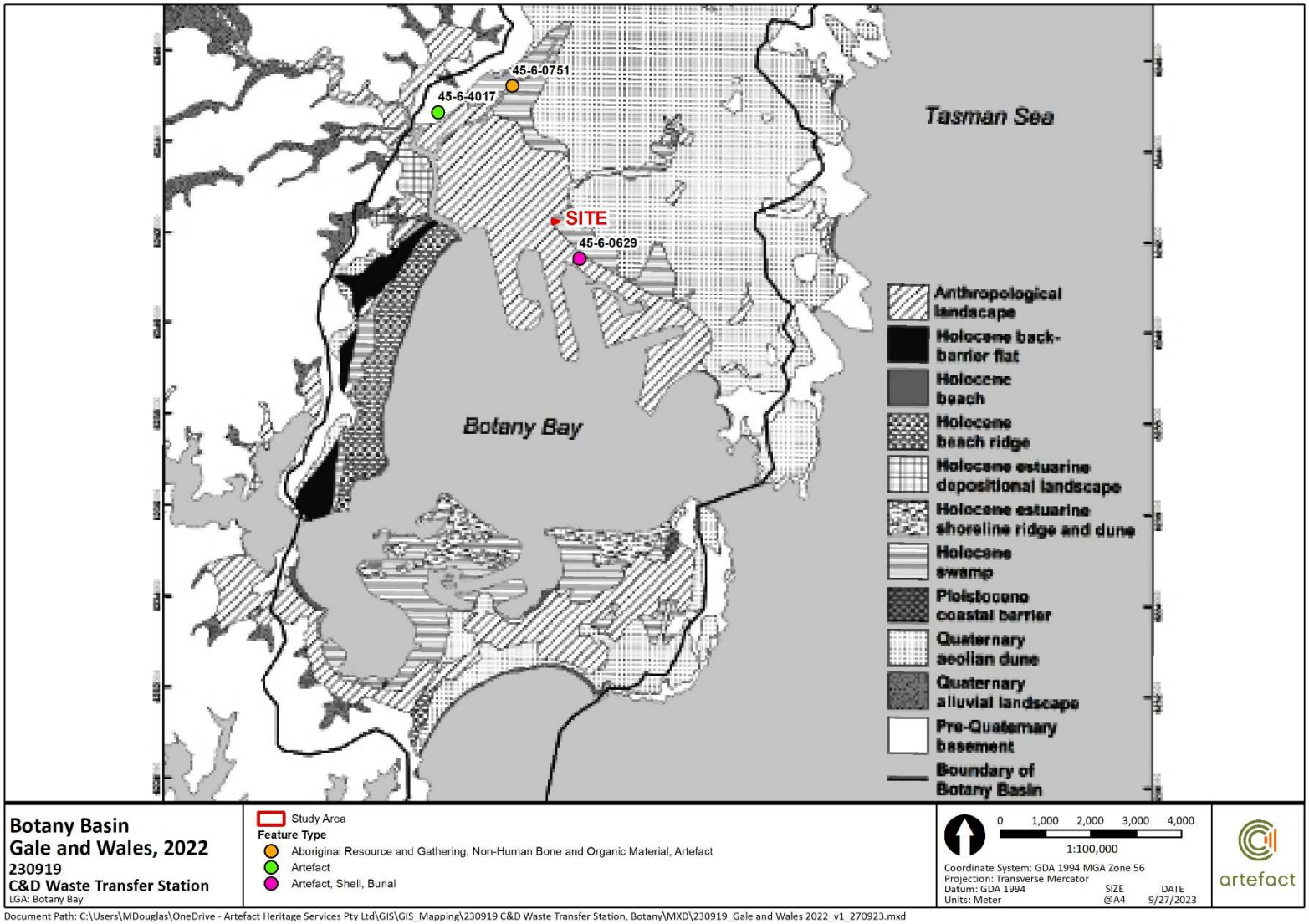


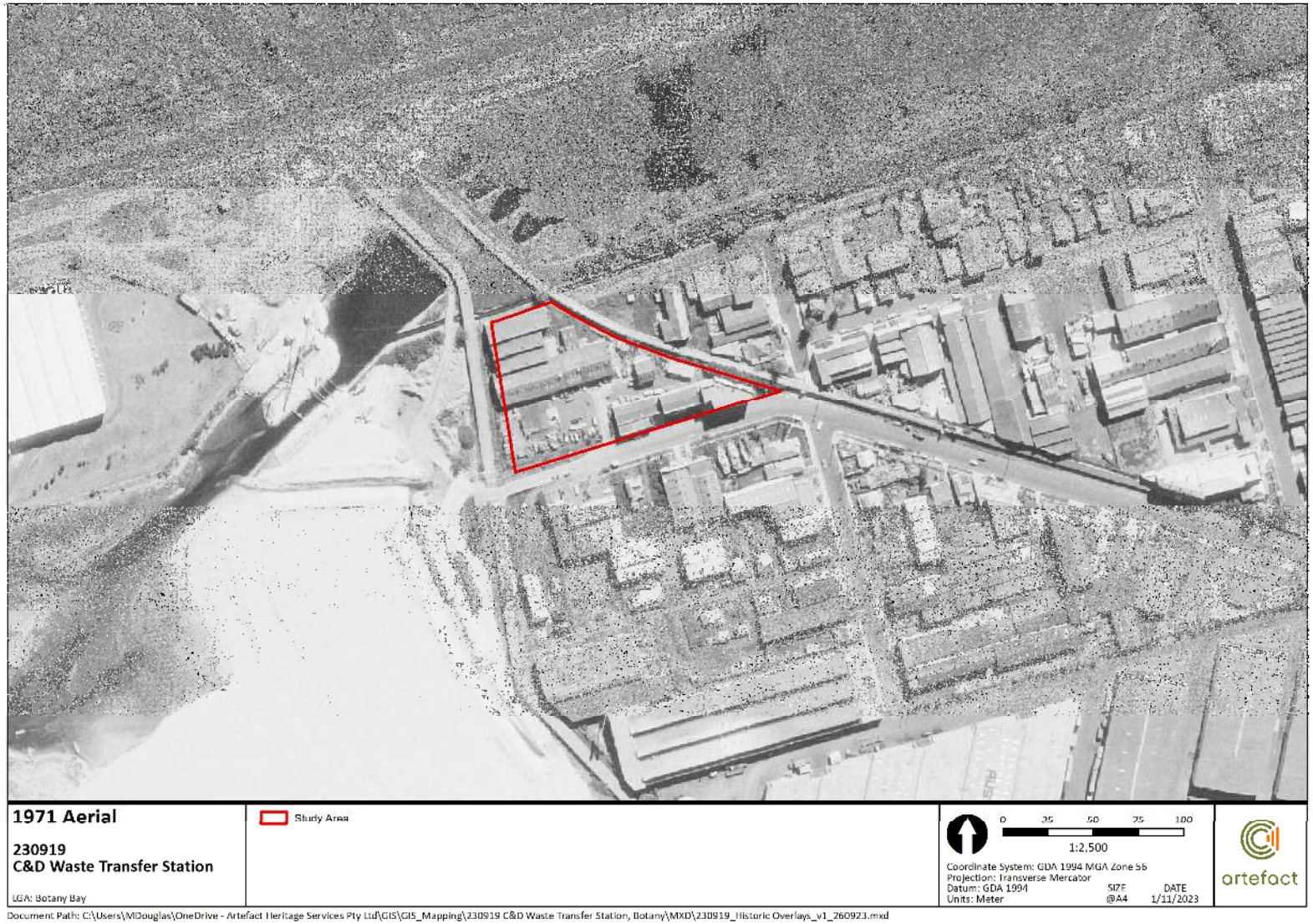
Figure 7: 1853 map of Botany

Document Path: C:\Users\MDouglas\OneDrive - Artefact Heritage Services Pty Ltd\GIS\GIS_Mapping\230919 C&D Waste Transfer Station, Botany\MXD\230919_Historic Overlays_v1_260923.mxd

Figure 8: 1941 Aerial

Figure 9: 1960 Aerial

Figure 10: 1971 Aerial



5.0 SUMMARY AND PREDICTIONS

5.1 Regional and local archaeological character

Aboriginal people lived throughout the wider Sydney region until the arrival of Europeans and continued to occupy the Botany Bay area following the establishment of the colony. Access to marine resources is also significant to Aboriginal people, with shell midden sites being associated with marine and estuarine environments. Other Aboriginal sites in the wider region are associated with the sand dune system and fresh water sources.

Aboriginal archaeological evidence in the local area is closely tied to water, both creek lines and the foreshore. The foreshore has been subject to significant variation in sea level during the Holocene, with individual locations having evidence for a range of environmental conditions such as at Sheas Creek. While the Aboriginal potential of the Botany Sands is largely limited to the upper deposits, former swamps have potential at much greater depth, with the Dugong remains at Sheas Creek found between 1.7m-2.6m. Aboriginal occupation of the local area continued after colonisation with the Botany Bay area becoming a focal point for surviving Aboriginal communities, potential for contact period archaeology cannot be dismissed.

5.2 Predictive model

Based on the background research the following predictive statement can be made:

- Due to historic disturbance Aboriginal objects are unlikely to be present on the ground surface
- Background research indicates that no natural vegetation remains and therefore it is unlikely that culturally marked trees will be present
- Historic disturbance is likely to be limited to the upper layers (approximately 0.5-1m) of the soil profile and deposits with the potential to contain Aboriginal objects may be present below these disturbed layers

6.0 METHODOLOGY

6.1 Aims

The aims of archaeological survey were to:

- test the predictive model by ground truthing the findings of the desktop assessment
- identify and record all Aboriginal objects visible within the study area
- identify and define areas of PAD (as defined by the predictive model)
- gather enough information to assess scientific values of identified Aboriginal objects

6.2 Constraints and limitations

The study area was heavily built up, with multiple large factory buildings and a large number of parked vehicles, this limited visibility and access to parts of the study area.

6.3 Survey personnel

The site survey was undertaken on 31 October 2023 by Gareth Holes (Senior Heritage Consultant, Artefact Heritage), Kelly Barton (Aboriginal Cultural Heritage Officer, Artefact Heritage) and Steven Ella, (Site Officer, LA Perouse LALC).

6.4 Sample strategy

The study area was surveyed as one survey unit. A full coverage survey was undertaken of the external parts of the study area. No access to the inside of the existing buildings was available.

6.5 Survey procedure

The survey was conducted on foot, with photographic recording of the landscape conducted using scales where necessary. One member of the team carried a non-differential GPS to recorded the location of any sites identified during the survey.

6.6 Site recording procedure

An Aboriginal site is generally defined as an Aboriginal object or place. An Aboriginal object is the material evidence of Aboriginal land use, such as stone tools, scarred trees or rock art. Some sites, or Aboriginal places, can also be intangible and although they might not be visible, these places have cultural significance to Aboriginal people.

The Heritage NSW guidelines state in regard to site definition that one or more of the following criteria must be used when recording material traces of Aboriginal land use:

- The spatial extent of the visible objects, or direct evidence of their location.
- Obvious physical boundaries where present, e.g. mound site and middens (if visibility is good), a ceremonial ground.
- Identification by the Aboriginal community on the basis of cultural information.

For the purposes of this study an Aboriginal site would be defined by recording the spatial extent of visible traces or the direct evidence of their location.

Where areas of PAD were identified towards the margins of each survey unit, effort was made by the survey team to delineate each area of potential beyond the survey unit. If it is likely that these PADs continue beyond that point, the survey team must justify that the distance is adequate to provide an accurate representation of the PAD with regard to future planning and design for the project.

7.0 RESULTS

7.1 Description of survey unit

Only a single landform was identified (disturbed ground) with no evidence of intact natural landforms visible on the surface (Figure 11, Figure 12 & Figure 13). The majority of the study area was covered by factory buildings and a concrete carpark, small exposures were seen along the edge of the study adjacent to the fence line, with imported gravel fill (Figure 14). Indications of multiple subsurface services including gas were seen indicating that moderate subsurface disturbance (Figure 15 & Figure 16). No evidence of the natural landform, no natural deposits and no Aboriginal objects were seen during the survey. However, in accordance with the predictive model potential exists for Aboriginal objects to be present within the buried sands seen in the geotechnical results, as such an area of PAD was identified based on the direct evidence of the location of the sensitive sands in accordance with the site recording procedure (Section 6.6), the boundary of the PAD has been limited to the study area as geotechnical investigation did not extend beyond this boundary therefore no evidence of the buried sands was seen. During the survey Steven Ella (La Perouse LALC) expressed the recommendation that inspection of the study area take place after the demolition of the current buildings has been completed, to determine if any of the natural sand deposits can be observed.

Figure 11: General view across study area, view to north east

Figure 12: General view across study area, view to south

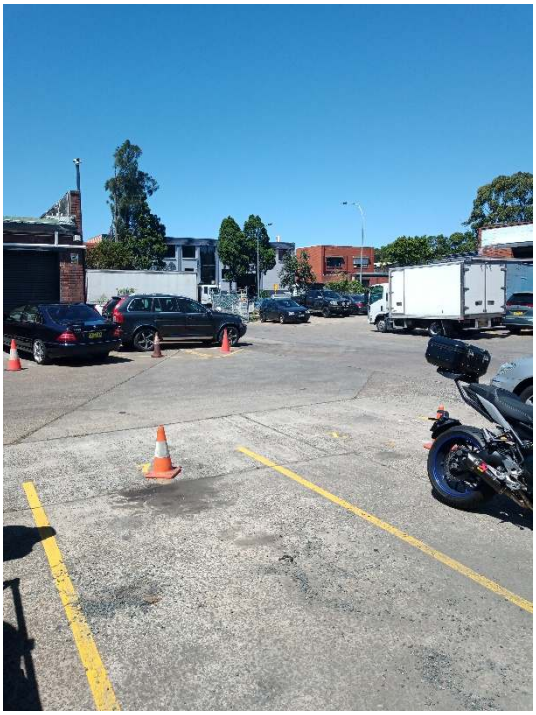


Figure 13: General view across study area, view to east

Figure 14: Exposure adjacent to fence line, view to south

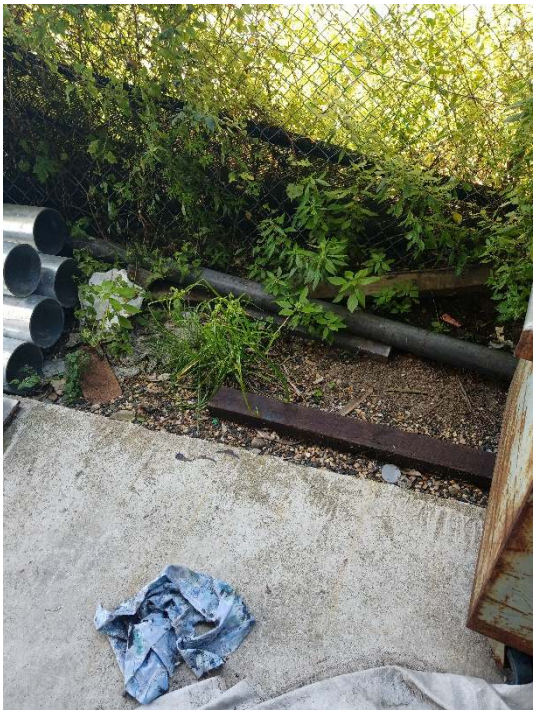


Figure 15: Services on southern boundary of study area, view to north

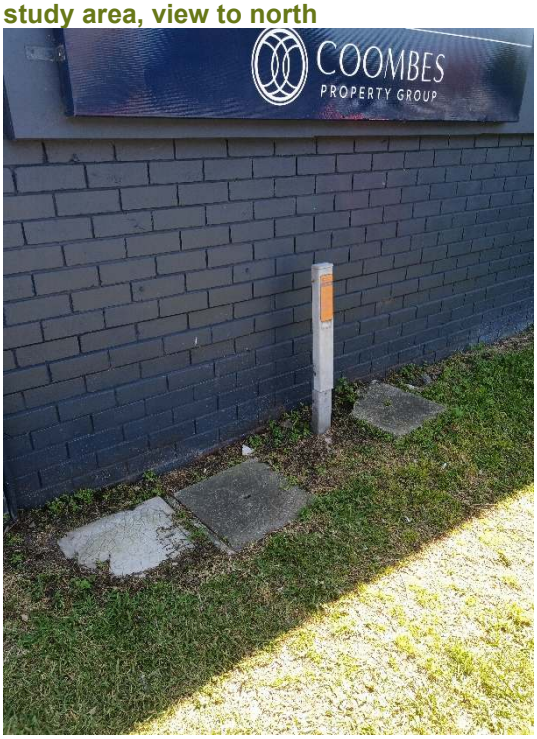
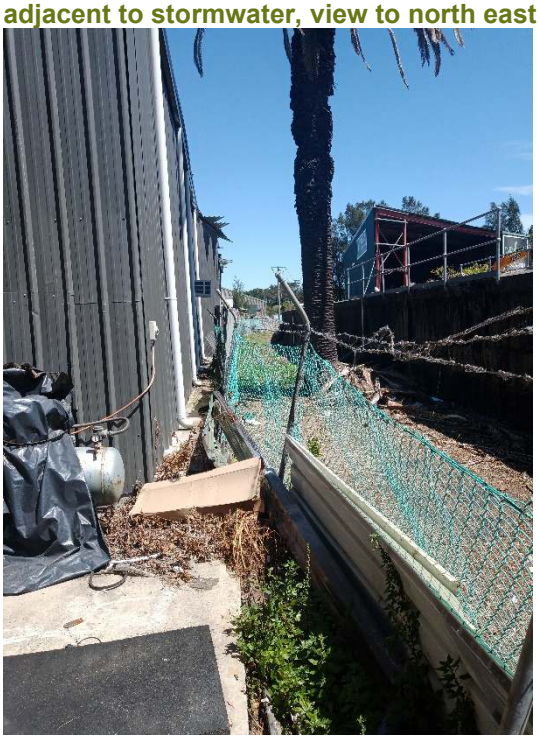


Figure 16: View along northwest boundary adjacent to stormwater, view to north east



7.2 Analysis of survey coverage and effectiveness

The *Code of Practice* (DECCW 2010) specifies that survey coverage should be assessed to the nearest 10%, and provides the following definitions:

Visibility:

> *is the amount of bare ground (or visibility) on the exposures which might reveal artefacts or other archaeological materials. It is important to note that visibility, on its own, is not a reliable indicator of the detectability of buried archaeological material. Things like vegetation, plant or leaf litter, loose sand, stony ground or introduced materials will affect the visibility. Put another way, visibility refers to 'what conceals'*

Exposure:

> *is different to visibility because it estimates the area with a likelihood of revealing buried artefacts or deposits rather than just being an observation of the amount of bare ground. It is the percentage of land for which erosion and exposure was sufficient to reveal archaeological evidence on the surface of the ground. Put another way, exposure refers to 'what reveals'*

Table 2 presents a summary of the level of visibility and exposure at the site – to determine the effective coverage of the landform. While visibility at the site was very poor, estimated at 1%, across the study area, in accordance with the requirement of the Code of Practice visibility has been rounded to the nearest 10% in these cases visibility has been recorded as 0% in Table 2. Landform survey coverage is outlined in Table 3.

Effective survey coverage is outlined in Table 2, and landform survey coverage is outlined in Table 3.

Table 2: Effective survey coverage

Survey Unit	Landform	Survey unit area (m^2)	Visibility (%)	Exposure (%)	Effective Survey Coverage (m^2)	Effective Coverage (%)
1	Disturbed Ground	7425	0	0	0	0

Table 3: Landform survey coverage

Landform	Landform area (m^2)	Area effectively surveyed (m^2)	% of landform surveyed	Number of sites
Disturbed Ground	7425	0	0	1

7.3 Aboriginal sites

A summary of the archaeological survey results is provided in Table 4 below.

Table 4: Archaeological survey results

Site name (AHIMS number)	Feature(s)	Survey unit	Landform
2-4 Hale PAD01 AHIMS ID: pending	PAD	1	Disturbed ground

7.3.1 2-4 Hale PAD01

Site name	2-4 Hale PAD01
AHIMS ID	Pending
Site type	PAD
Length	Redacted for public display
Width	
Zone	56
Easting	Redacted for public display
Northing	
Horizontal accuracy	3 metres
Location method	Non-differential GPS
Landform pattern	Dune field
Landform unit	Flat ground
Land use	Industrial
Vegetation	None
Distance to water	30m
Directions to site	Redacted for public display
Description of features	Subsurface potential for Aboriginal objects
Site interpretation	Surviving natural sands, have potential for Aboriginal objects.
Site condition	Good
Open/closed site	Open
Restrictions	None

A single area of PAD has been identified Redacted for public display within buried sands. Estuarine and dune sands have been identified as having potential to contain Aboriginal objects. These deposits are not visible on the surface and were identified during geotechnical investigations. The upper fill deposits comprise imported modern material, are highly varied in depth and do not contain any potential for Aboriginal objects. The natural sands have been identified below this fill and do contain Aboriginal potential. The natural sands were found at depths of between 0.2m (SB03) and 1.9m (SB07), with depths of between 0.6m and 1m being the most common. These depths likely reflect the extent of subsurface disturbance rather that a reflection of the historic topography.

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8.0 DISCUSSION AND ANALYSIS

Due to historic disturbance Aboriginal objects are unlikely to be present on the ground surface:

The Archaeological survey corroborated this prediction, the ground surface has been heavily disturbed by the construction of the current industrial buildings, the surface of the study area was entirely occupied by a concrete surface and no Aboriginal objects were observed.,

Remnant natural vegetation is unlike to be present within the study area and therefore no culturally modified trees are likely to be present:

The Archaeological survey corroborated this prediction, no remnant natural vegetation was seen.

Historic disturbance is likely to be limited to the upper layers of the soil profile and deposits with the potential to contain Aboriginal objects may be present below these disturbed layers:

This prediction could not be adequately tested through the archaeological survey, geotechnical investigations have demonstrated that the natural sands survive beneath modern fill, potential for Aboriginal objects has been identified within these sands therefore an area of PAD was defined.

As no Aboriginal objects were identified during the survey no new evidence that would trigger a revision of the regional and local character has been found. The results of the site survey broadly supported the predictive model however no evidence of the subsurface conditions was seen. Therefore, this predictive statement could not be tested. An area of PAD was identified within the natural sands located below the modern fill. It was determined that those sands have potential to contain Aboriginal objects.

9.0 SIGNIFICANCE ASSESSMENT

9.1 Significance assessment criteria

In accordance with the Code of Practice, an assessment of the scientific value of an Aboriginal object is required in order to form the basis of its management. The Guide provides the following criteria for the assessment of scientific value:

- Research potential - does the evidence suggest any potential to contribute to an understanding of the area and/or region and/or state's natural and cultural history?
- Representativeness - how much variability (outside and/or inside the subject area) exists, what is already conserved, how much connectivity is there?
- Rarity - is the subject area important in demonstrating a distinctive way of life, custom, process, land-use, function or design no longer practised? Is it in danger of being lost or of exceptional interest?
- Education potential - does the subject area contain teaching sites or sites that might have teaching potential?

It is important to note that heritage significance is a dynamic value.

9.2 Statement of scientific value

2-4 Hale PAD 01

The archaeological integrity and composition of the deposit is unknown. Therefore, the potential of archaeological research and study of the site to address specific research questions is unknown. due to this the overall significance of the site is unknown and further investigation will be required to complete significance assessment.

A summary of the archaeological significance of sites identified is presented in Table 5.

Table 5: Significance assessment

Site name (AHIMS ID)	Research potential	Representativeness	Rarity	Education potential	Overall significance assessment
2-4 Hale PAD 01 (AHIMS ID: Pending)	Unknown	Unknown	Unknown	Unknown	Unknown

10.0 IMPACT ASSESSMENT

10.1 Description of likely impacts

A new waste management facility is proposed for 2-4 Hale Street, Botany for construction and demolition materials (solid waste that does not contain organic matter - known as non-putrescible waste). The proposed works will include:

- 500 – 600mm excavation for slab edge beams / foundations subject to ground conditions
- Assuming no disturbance of the USTs
- Assuming no deep excavation to access deep services
- Assuming no deep excavation for underground water storage for USWD solutions

The finished floor layer is expected to be higher than the current hardstand.

10.2 Potential impacts to Aboriginal heritage

The proposed works include excavation within the boundary of 2-4 Hale PAD 01, the depth of fill covering the PAD is known to be 0.2m – 1.9m, based on the results of the investigation completed by JBS&G (2022). The description of works provided by the proponent states that excavations to a depth of 500 – 600mm will be completed. Therefore, it is likely that the PAD will be directly impacted by the proposed works. Impact will be to a portion of the PAD, resulting in a partial loss of value.

A summary of the impacts is provided in Table 6.

Table 6: Impact assessment

Site name (AHIMS ID)	Type of harm	Degree of harm	Consequence of harm
2-4 Hale PAD 01	Direct	Partial	Partial loss of value

11.0 MANAGEMENT AND MITIGATION MEASURES

11.1 Mitigation Measures

The overall guiding principle for cultural heritage management is that where possible Aboriginal sites should be conserved.

Where unavoidable impacts occur then measures to mitigate and manage impacts are proposed. Mitigation measures primarily concern preserving the heritage values of sites beyond the physical existence of the site. The most common methods involve detailed recording of Aboriginal objects, archaeological test and salvage excavations, artefact analysis and, where appropriate, reburial of Aboriginal objects in a location determined by the RAPs.

Mitigation measures vary depending on the assessment of archaeological significance of a particular Aboriginal site and are based on its research potential, rarity, representatives and educational value. In general, the significance of a site would influence the choice of preferred conservation outcomes and appropriate mitigation measures, usually on the following basis:

- Low archaeological significance – conservation where possible. SSD Conditions of Approval would be required to impact the site before work can commence.
- Moderate archaeological significance – conservation where possible. If conservation was not practicable, further archaeological investigation would be required such as salvage excavations or surface collection in accordance with the SSD Conditions of Approval.
- High archaeological significance – conservation as a priority. Where all other practical alternatives have been discounted mitigation measured such as comprehensive salvage excavations in accordance with the SSD Conditions of Approval would be required.

Sites of unknown scientific value should be conserved where possible. Where conservation is not practical further investigation under the Code of Practice will be required to confirm the presence of Aboriginal objects and gather enough information to assess significance. Test excavation is not a mitigation measure, it is an investigatory action required to gather enough information to inform the development of appropriate mitigation measures.

Works are expected to cause partial direct impacts to 2-4 Hale PAD01, this will cause a partial loss of value. If impacts cannot be avoided test excavation will be required within the area to be impacted to assess the scientific value of the site, the test excavation may be conducted under SEARs to inform mitigation. To address the requirement of the SEARs an ACHAR and associated Aboriginal stakeholder consultation should be completed.

11.2 Management measures

In the first instance conservation of Aboriginal objects should be a priority in line with the NPW Act. The proponent should explore options to avoid harm to the PAD, this may include the use of a fill cap or other methods. If the proposed works can be revised such that impacts are unlikely then the revised works may proceed under appropriate management measures. Management measures may include Archaeological monitoring. If archaeological monitoring determines that the PAD will be impacted then test excavation will be triggered.

If impacts cannot be avoided test excavation will be required to assess the scientific significance of the PAD. It is understood that demolition will require consent therefore test excavation may not be

feasible prior to development consent being granted, therefore test excavation should be a condition of consent and an Aboriginal Cultural Heritage Management Plan (ACHMP) should be prepared to provide post excavation management and mitigation in consultation with the RAPs.

11.3 SEARs requirements

In order to satisfy the conditions of SEARs, as they relate to Aboriginal heritage, an ACHAR would be prepared in accordance with the Guide (OEH 2011) the Consultation Requirements (2010a) and the Code of Practice (2010b). Preparation of an ACHAR would include:

- Concise and plain English summary of the findings of the Archaeological Technical Report, in addition to any other relevant technical reports
- Summary of Aboriginal community consultation
- Cultural Values Assessment
- Description and summary of Aboriginal stakeholder consultation
- Assessment of cultural heritage significance in relation to the identified Aboriginal objects or places
- An assessment of impacts and recommendations for management or mitigation measures
- Evidence that the proponent has considered the findings of this report
- Justification for any harm that harm is unavoidable

11.4 Changes to the project area

Advice provided within this report is based upon the most recent information provided by the proponent at the time of writing. Any changes made to the project should be assessed by an archaeologist in consultation with the RAPs. Any changes that may impact on Aboriginal sites not assessed as part of the project may warrant further investigation and result in changes to the recommended management and mitigation measures.

12.0 CONCLUSION

12.1 Overview of findings

One Aboriginal site has been identified (2-4 Hale PAD 01) and partial direct impacts have been identified, this will result in a partial loss of value.

12.2 Recommendations

It is recommended that:

- An ACHAR be prepared to satisfy the conditions of SEARs for the project (SSD-62855708), as they relate to Aboriginal heritage. The ACHAR must include consultation with RAPs in accordance with the Consultation Requirements
- A site card should be prepared and submitted for 2-4 Hale PAD 01 and submitted to AHIMS
- In the first instance the proponent should explore options to avoid harm to the PAD in line with the NPW Act
- If designs can be revised such that impacts to Aboriginal objects or PADs are unlikely remaining risk may be managed through archaeological monitoring conducted by suitably qualified archaeologists and RAPs
- An Aboriginal Test Excavation Methodology (ATEM) should be prepared and should include procedures for archaeological monitoring
- If impacts are unavoidable, or archaeological monitoring determines that the PAD will be impacted test excavation will be required
- It is understood that demolition will require consent therefore test excavation may not be feasible prior to development consent being granted, therefore test excavation should be a condition of consent and an ACHMP should be prepared to provide post excavation management and mitigation in consultation with the RAPs
- If changes are made to the proposal that will result in in additional impacts within the study area or impacts to areas not assessed by this report, additional Aboriginal heritage assessment will be required.

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14.0 APPENDICES

14.1 Appendix 1 – AHIMS records and results of database searches

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