
Appendix K

Aboriginal cultural and heritage assessment report

Parramatta Over and Adjacent Station Development

Aboriginal Cultural Heritage
Assessment Report

Sydney Metro West

October 2022



Artefact Heritage
ABN 73 144 973 526
Level 4, Building B
35 Saunders Street
Pyrmont NSW 2009
Australia

+61 2 9518 8411
office@artefact.net.au

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Author:	Elizabeth Bonshek
Project manager:	Sandra Wallace
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EXECUTIVE SUMMARY

This Aboriginal Cultural Heritage Assessment Report (ACHAR) supports a Concept State Significant Development Application (Concept SSDA) submitted to the Department of Planning and Environment (DPE) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The Concept SSDA is made under section 4.22 of the EP&A Act.

Sydney Metro is seeking concept approval for an over station development (OSD) and adjacent station development (ASD) on the Parramatta metro station site (referred to as the 'proposed development'). The proposed development will comprise three new commercial office buildings (Buildings A, C, D), and one new residential building (Building B).

The Concept SSDA seeks consent for a building envelope and mixed-use purposes, maximum building height, a maximum gross floor area (GFA), pedestrian and vehicular access, circulation arrangements and associated car parking, and the strategies and design parameters for the future detailed design of the proposed development.

This ACHAR responds specifically to the Secretary's Environmental Assessment Requirements (SEARs). The SEARs (SEARs SSD-35538829) were issued on 22 February 2022 and require an ACHAR be prepared in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010b) for inclusion in the EIS.

The aim of this ACHAR is to identify Aboriginal cultural heritage values within the study area, conduct consultation with Aboriginal stakeholder groups and to assess impacts to Aboriginal heritage that may result from the proposal.

This ACHAR draws upon the work carried out for the Sydney Metro West, Stage 1. Technical Paper 4: Aboriginal Cultural Heritage Assessment Report. Parramatta, Cumberland, Canada Bay, Burwood, and Inner West Local Government Area, April 2020 (henceforth Technical Paper 4).

The study area is located within the suburb of Parramatta in the City of Parramatta, and within the boundaries of the Deerubbin Local Aboriginal Land Council (LALC).

Consultation with registered Aboriginal parties (RAPs) has been completed.

Overview of findings

The following results and recommendations are based on consideration of:

- The requirements of Aboriginal heritage guidelines including:
 - The Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010a) – known as The Code of Practice
 - Guide to investigating and assessing and reporting on Aboriginal Cultural Heritage in New South Wales (OEH 2011) – known as ACHAR guidelines.
 - The Aboriginal Cultural Heritage consultation requirements for proponents 2010 (OEH 2010b)- known as Consultation Guidelines
- The SEARs issued for the proposal (Department of Planning, Industry and Environment) on 22 February 2022.

- Sydney Metro West. Parramatta Station Construction Site. Aboriginal Heritage Report. Report prepared for Sydney Metro. GML Heritage, October 2021.
- The results of Sydney Metro West – Sydney Metro West Stage 1 Technical Paper 4: Aboriginal Cultural Heritage Assessment Report. Parramatta, Cumberland, Canada Bay, Burwood, and Inner West Local Government Areas, November 2020 which included background research and an archaeological survey.

The assessment found that:

- No previously unrecorded Aboriginal sites or objects were identified within the study area during this assessment.
- [REDACTED]
- The proposal has been assessed as having no impact on any Aboriginal archaeological values in the study area because the proposed works will not impact the ground surface.
- Through the consultation process it was established that the RAPs supported the ACHAR and the area held significance for Aboriginal people through their ongoing connection to land.

Recommendations

Based on the results of this assessment and in accordance with Aboriginal heritage guidelines mandated in the SEARs for the proposal, the following recommendations are made:

- As the study area is a proposed development it was found to have no impact on Aboriginal archaeological heritage values and it is recommended that further assessment is not required.
- If changes are made to the proposal that may result in impacts to areas not assessed by this ACHAR, further assessment would be required.
- If Aboriginal objects, or potential objects, are uncovered during the proposed development, all work in the vicinity must cease immediately and The Sydney Metro Unexpected Heritage Finds Procedure followed. A qualified archaeologist should be contacted to assess the find.
- If human remains, or suspected human remains, are found during the proposed development, all work in the vicinity should cease, the site should be secured, and the NSW Police and Heritage NSW should be notified, and The Sydney Metro Unexpected Heritage Finds Procedure and Exhumation Management Procedure should be followed.

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1.0 INTRODUCTION

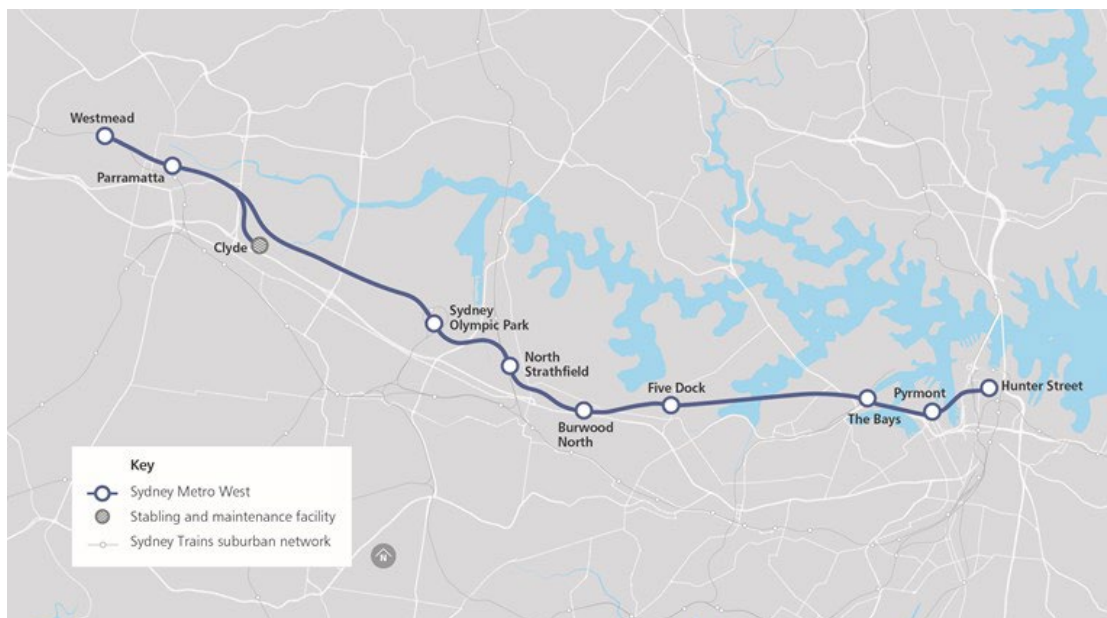
Sydney Metro West

Sydney Metro West will double rail capacity between Greater Parramatta and the Sydney Central Business District (CBD), transforming Sydney for generations to come. The once in a century infrastructure investment will have a target travel time of about 20 minutes between Parramatta and the Sydney CBD, link new communities to rail services and support employment growth and housing supply.

Metro stations have been confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street (Sydney CBD).

Sydney Metro West station locations are shown in Figure 1.

Figure 1. Sydney Metro West station locations.



1.1 Background and planning context

Sydney Metro is seeking to deliver Sydney Olympic Park metro station under a two-part planning approval process. The station infrastructure is to be delivered under a Critical State Significant Infrastructure (CSSI) application subject to provisions under division 5.2 of the Environmental Planning and Assessment Act 1979 (EP&A Act), while the over and adjacent station developments

are to be delivered under a State Significant Development (SSD) subject to the provisions of part 4 of the EP&A Act.

1.1.1 Critical state significant infrastructure

The state significant infrastructure (SSI) planning approval process for the Sydney Metro West metro line, including delivery of station infrastructure, has been broken down into a number of planning application stages, comprising the following:

- Concept and Stage 1 CSSI Approval (SSI-10038) – All major civil construction works between demolition of existing buildings (approved 11 March 2021).
- Stage 2 CSSI Application (SSI-19238057) – All major civil construction works between The Bays and Hunter Street Station (under assessment).
- Stage 3 CSSI Application (SSI-22765520) – Tunnel fit-out, construction of stations, ancillary facilities and station precincts between Westmead and Hunter Street Station, and operation and maintenance of the Sydney Metro West line (under assessment).
- Westmead and The Bays including station excavation, tunnelling and State significant development application

The SSD will be undertaken as a staged development with the subject Concept State Significant Development Application (Concept SSDA) being consistent with the meaning under section 4.22 of the EP&A Act and seeking conceptual approval for a building envelope, land uses, maximum building heights, a maximum gross floor area, pedestrian and vehicle access, vertical circulation arrangements and associated car parking. A subsequent Detailed SSD/s is to be prepared by a future development partner which will seek consent for detailed design and construction of the development.

1.2 Purpose and scope of the report

Artefact Heritage has been engaged to prepare an ACHAR to meet the requirements of the SEARs. This report considers the impacts of the proposed development on Aboriginal cultural heritage and potential archaeological resources within the study area and includes:

- Assessment of the Aboriginal cultural heritage values of the study area and identification of any specific areas of cultural significance
- Assessment of archaeological potential for the study area
- Aboriginal stakeholder consultation

The ACHAR has been undertaken in accordance with the following guidelines:

- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales 2010 (Department of Environment Climate Change & Water [DECCW] 2010a)
- Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (Office of Environment & Heritage 2011)
- Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW) 2010b
- The Burra Charter 2013 (Australia ICOMOS 2013).

1.3 Secretary's Environmental Assessment Requirements

The SEARs for this proposal were awarded on 22 February 2022 (SSD-35538829). The SEARs require that an ACHAR be undertaken following the appropriate guidelines:

Provide an Aboriginal Cultural Heritage Assessment Report prepared in accordance with relevant guidelines, identifying, describing and assessing any impacts for any Aboriginal cultural heritage values on the site.

The requirements for the SEARs are addressed within this document at the following locations (Table 1).

Table 1. Secretary's Environmental Assessment Requirements

Item	Secretary's Environmental Assessment Requirements	Where addressed in this report
1	Provide an Aboriginal Cultural Heritage Assessment Report prepared in accordance with relevant guidelines	This document
2	Identify and describe the Aboriginal values on the site	Sections 6, 7 and 8
3	Assess the impact of the proposal on the Aboriginal values of the site.	Sections 8, 9 and 10
4	Consultation with Aboriginal people	Section 4

1.4 Project background

Sydney Metro (the proponent) has engaged Artefact to undertake an Aboriginal Cultural Heritage Assessment Report (ACHAR) to support its Concept State Significant Development Application (SSDA) for a building envelope above Parramatta Station for which an Over Station Development (OSD) is proposed. The proposal, Parramatta Metro – Over and Adjacent Station Development, will be assessed under part 4.1 of the *Environmental Planning and Assessment Act 1979*. The Secretary's Environmental Assessment Requirements (SEARs SSD-35538829) were issued on 22 February 2022 and require an ACHAR be prepared in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010) for inclusion in the EIS.

The aim of this ACHAR is to identify Aboriginal cultural heritage values within the study area, conduct consultation with Aboriginal stakeholder groups and to assess impacts to Aboriginal heritage that may result from the proposal.

This ACHAR draws upon the work carried out for the Sydney Metro West, Stage 1. Technical Paper 4: Aboriginal Cultural Heritage Assessment Report. Parramatta, Cumberland, Canada Bay, Burwood, and Inner West Local Government Area, April 2020 (henceforth Stage 1 Technical Paper 4) which represents part of the larger planning process underway to develop new rail links between the Sydney CBD and the western suburbs terminating at Westmead.

Stage 1 Technical Paper 4 is an assessment of major civil construction work between Parramatta and Burwood. It focused on surface and subsurface impacts along the proposed route to assess the

impact on Aboriginal heritage values at sites proposed for new stations as well as the proposed route of tunnel construction and associated installation of infrastructure. The report includes demolition, utility supply and excavation of stations proposed for Parramatta Station and Sydney Olympic Park Station.

Stage 1 Technical Paper 4 was undertaken with full consultation with Aboriginal Community Stakeholders in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW 2010b) and 60 Registered Aboriginal Parties (RAPs) were consulted.

This ACHAR focuses on the proposed Parramatta OSD and draws upon the work presented in Stage 1 Technical Paper 4, which investigated and assessed the potential impacts on Aboriginal Cultural Heritage values at the site as a result of the Stage 1 work. Stage 1 Technical Paper 4 was carried out with full consultation process with RAPs. No additional ground impacts are proposed as part of the OSD.

In addition, because Stage 1 Technical Paper 4 carried out, and completed all stages of the consultation process, this ACHAR draws upon the Registered Aboriginal Parties (RAP) list established in Stage 1. Stage 1 Technical Paper 4 included a Significance Assessment (Section 9). Elements from the Significance Assessment (Stage 1 Technical Report 4) are summarised here as the RAP comments are pertinent to the study area, Parramatta metro station site which is the specific subject of this ACHAR. This ACHAR will conduct a Significance Assessment and open opportunity for further comments.

1.4.1 Significance Values: Results of the Stage 1 Technical Paper 4.

Consultation has shown that the study area is part of a wider cultural landscape of high cultural significance to many of the RAPs.

The area holds substantial historical significance as part of the landscape associated with many early interactions between Aboriginal people and European explorers and settlers. This connection is maintained through reference to former Aboriginal campsites and pathways which are utilised as Sydney's current access routes as well as the continued connection to historic events and people such as the Parramatta Native feasts, Parramatta Native Institution, Pemulwuy, Bennelong and Maria Locke.

While there is no evidence to identify specific people, events or memories within the construction site, the substantial historic connection to the wider area is considered to have resulted in a high level of historic significance.

The consultation carried out in association with the Stage 1 Technical Paper 4 demonstrated that the study area held high significance for individual people in terms of social movements, aspects of the landscape, and Australian institutions. The following themes were identified:

People associated the study area with connections to ancestral people as well as interactions with early settlers including resistance to them:

- Pemulwuy & Tedbury. Pemulwuy was a prominent Bedjigal warrior who became the leader of a resistance movement across the Cumberland Plain. Tedbury was Pemulwuy's son who continued his resistance campaign following his father's death
- Bennelong. An influential Wangal man who acted as an envoy between the colonial administration and the Sydney Aboriginal community

- Maria Lock. A member of the Boorooberongal admitted to the Parramatta Native Institute on 28 December 1814. Her marriage to Robert Lock was the first officially sanctioned marriage between a convict and an Aboriginal woman.
- Native Feasts. A meeting between Governor Macquarie and the local Aboriginal people which occurred regularly until 1835.
- Connections to the ancestors of many Aboriginal families now living in New South Wales

The importance of land, culture and place

- The Parramatta Sand Body. This geological feature provides a tangible cultural link to the past environment of Parramatta and pre-colonial use of the site. These Pleistocene deposits provide the opportunity to investigate change in use of Aboriginal objects over time
- Parramatta Park. Contains several scarred trees and believed to be a major camping place for the Burramatta
- Parramatta Road. Originally a Wangal walking track
- Darug people. The connection of the Darug people to landscapes and landforms which contain information, connection and evidence of lifestyle of past Aboriginal people

Connection to place

- The location of towns and transport routes, including the existing train line, follow the locations of former Aboriginal camping locations and travel routes

Symbols of struggle

- Native Institute, Parramatta. This Institutional was established by Governor Macquarie following the recommendation of William Shelley. The Native Institute oversaw the removal of Aboriginal children from their parents under the intention that the children should study there.

2.0 THE SITE AND PROPOSAL

2.1 Site location and description

The subject application is in the Parramatta CBD, in the City of Parramatta Local Government Area (LGA). It is within the city block bounded by George Street, Church Street, Smith Street, and Macquarie Street.

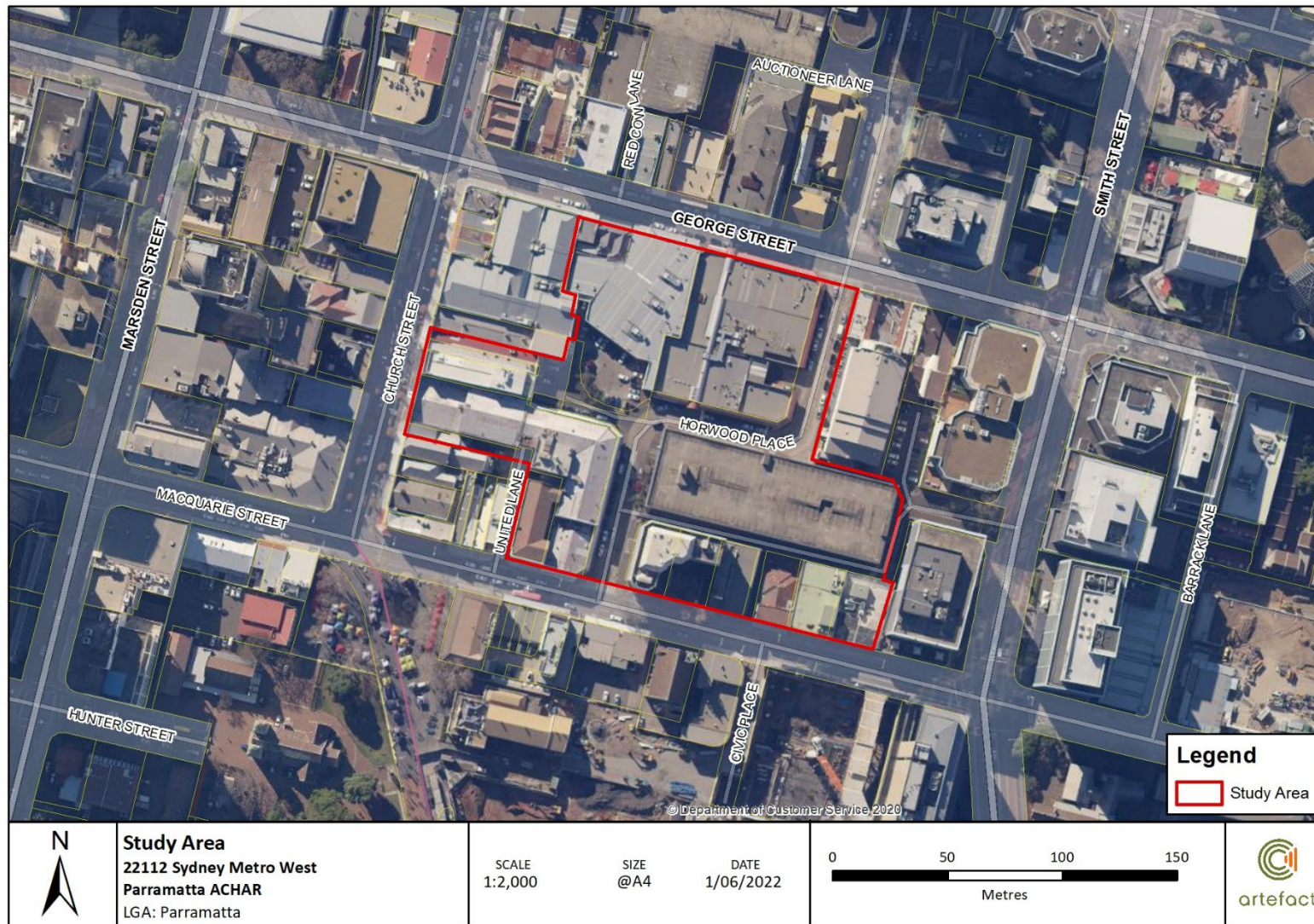
The site presents a 164m long frontage to Macquarie Street, 125m frontage to George Street, 48m frontage to Church Street, and 15.5m frontage to Smith Street (in the form of Macquarie Lane).

The Parramatta metro station would be located across Horwood Place in Parramatta. The site currently contains medium density commercial structures, public roads (Horwood Place and Macquarie Place), rear access carparking for commercial properties and a public multistorey carpark (City Centre carpark).

All existing structures, except two heritage listed buildings, would be removed from the site as part of Stage 1 in order to clear the area for implementation of the building envelope. Two sandstone heritage listed buildings will be retained, located at 41 – 59 George Street and 'Kia Ora' at 62 – 64 Macquarie Street.

The study area (Figure 2) is located within the block bounded by George Street, Church Street, Macquarie Street and Smith Street, Parramatta.

Figure 2. Map of the study area



As described in Table 2 the site comprises fourteen (14) different allotments of varying sizes. It is irregular in shape, with a total area of approximately 24,899m².

Table 2. Site legal description

Street address	Legal description
41-59 George Street	Lot 10 in DP858392
45A George Street	Lot 2 in DP701456
61B George Street	Lot 1 in DP607181
71 George Street	Lot 100 in DP607789
220 Church Street	Lot 1 in DP1041242
222 Church Street	Lot 1 in DP702291
232 Church Street	Lot 1 in DP651992
236 Church Street	Lot 1 in DP128437
238 Church Street	Lot 2 in DP591454
48 Macquarie Street	Lot B in DP394050
58-60 Macquarie Street	Lot 1 in DP399104
62-64 Macquarie Street	Lot AY in DP400258
68 Macquarie Street	Lot 1 in DP711982
70 Macquarie Street	Lot E DP 402952
72 Macquarie Street	Lot 3 in DP218510
74 Macquarie Street	Lot H in DP405846

2.2 Overview of this proposal

The Concept SSDA will seek consent for four building envelopes as detailed Table 3 and Figure 3.

Table 3. Parramatta metro station proposed development overview

Concept Plan	Approximate Numerical Overview
Building A	
Commercial GFA	75,200m ²
Retail GFA	3,500m ²
Height	38 storeys (RL 172.7m)
Building B	
Residential GFA	18,900m ²
Retail GFA	1,100m ²
Height	33 storeys (RL 130.0m)
Building C	
Commercial GFA	35,700m ²
Retail GFA	250m ²
Height	26 storeys (RL 135.5m)
Building D	
Commercial GFA	52,350m ²
Retail GFA	3,000m ²
Height	24 storeys (RL 127.4m)
Combined	
Site Area	25,498m ²

Figure 3. Preliminary illustration of the proposed development envelopes looking northeast

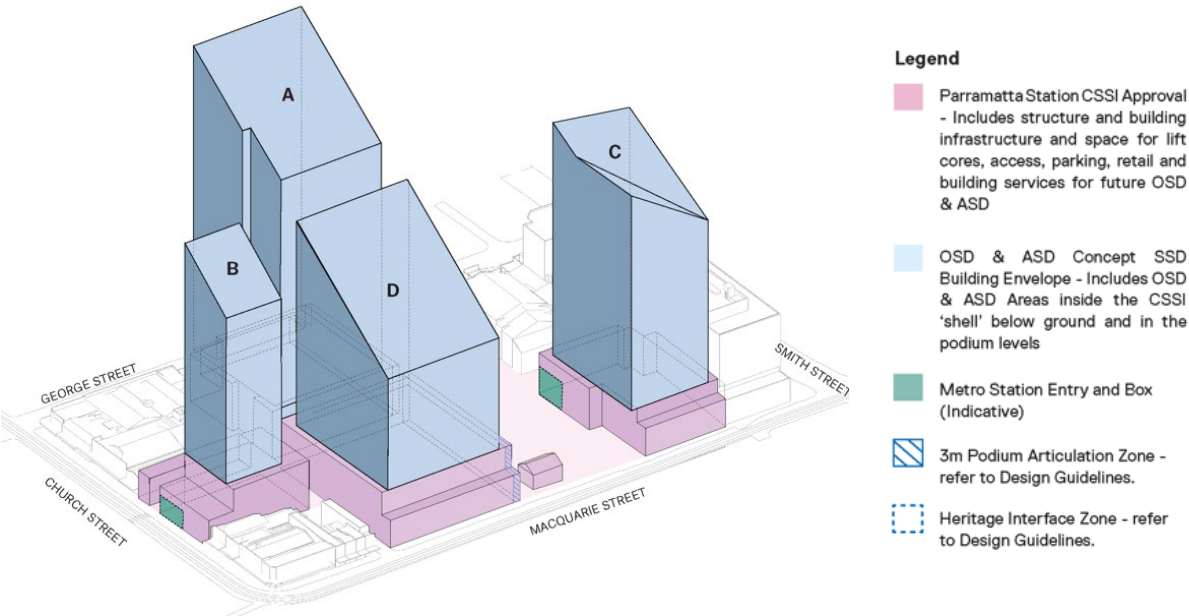
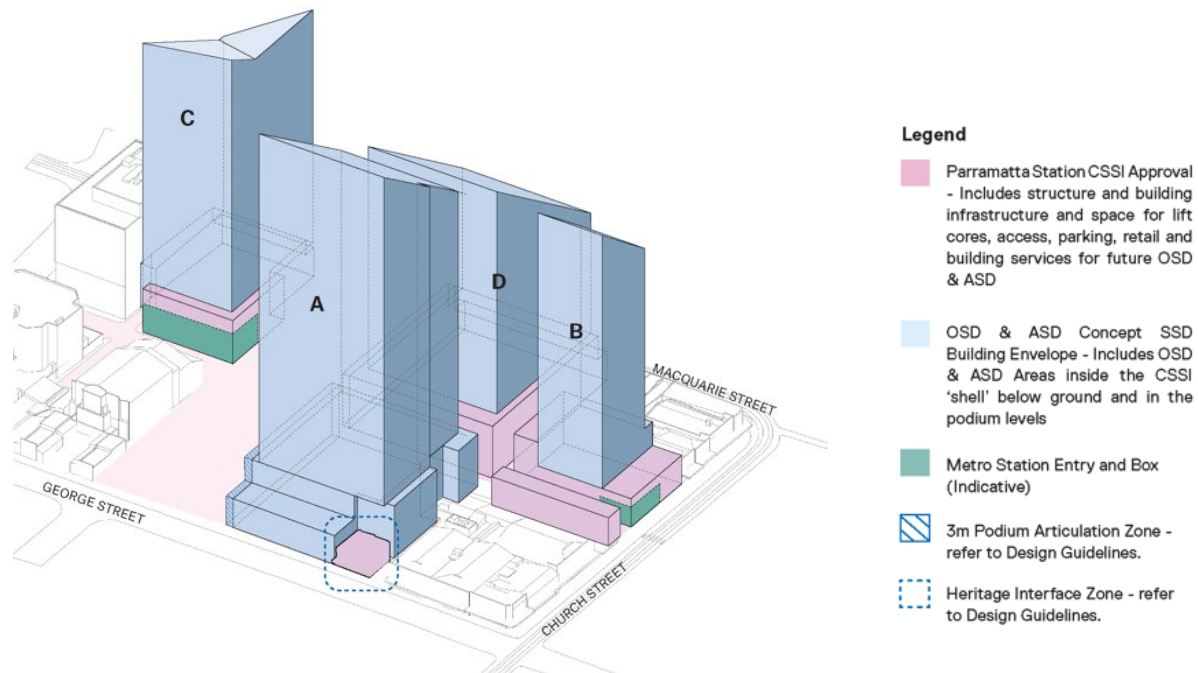


Figure 4. Preliminary illustration of the proposed development envelopes looking southwest



3.0 LEGISLATIVE CONTEXT

3.1 Introduction

There are several pieces of legislation that are relevant to the assessment of Aboriginal cultural heritage for the proposal. This chapter provides a summary of these Acts and the potential implications for the proposal.

3.2 NSW National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act) provides statutory protection to all Aboriginal places and objects. An Aboriginal Place is declared by the Minister, under Section 84 of the NPW Act in recognition of its special significance with respect to Aboriginal culture. Under Section 86 of the NPW Act Aboriginal objects and Aboriginal Places are protected. An Aboriginal object is defined in Section 5 as:

any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction and includes Aboriginal remains.

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.

However, as the proposed development will be subject to assessment under Section 4.1 of EP&A Act, Schedule 2 of the Environmental Planning and Assessment Regulation 2021 permits allowing harm to Aboriginal objects.

3.2.1 National Parks and Wildlife Regulation 2019

Under the authority of the NPW Act, the National Parks and Wildlife Regulation 2019 provides regulations for Aboriginal heritage assessment and consultation with registered Aboriginal parties.

Part 5 (Division 2) of the National Parks and Wildlife Regulation sets out the requirements of a due diligence assessment process and provides requirements for more detailed assessment and consultation with registered Aboriginal parties for activities that may result in harm to Aboriginal objects. This includes:

- Clause 60 – consultation process to be carried out before application for Aboriginal heritage impact permit
- Clause 61 – application for Aboriginal heritage impact permit to be accompanied by cultural heritage assessment report.

In order to comply with Clause 60 and 61 of the National Parks and Wildlife Regulation 2019, preparation of an ACHAR and consultation with RAPs must be in accordance with the following guidelines:

- Code of Practice (DECCW 2010a)
- ACHAR guidelines (OEH 2011)
- Consultation guidelines (DECCW 2010b)

The current assessment has been carried out in accordance with the above guidelines in order to meet the SEARs which refer to them.

3.3 NSW Environmental Planning and Assessment Act 1979

The EP&A Act provides planning controls and requirements for environmental assessment in the development approval process. The EP&A Act consists of three main parts of direct relevance to Aboriginal cultural heritage: Part 3 which governs the preparation of planning instruments; Part 4 which relates to development requiring consent; and Part 5 which relates to activity that does not require consent.

The project is subject to assessment and approval by the NSW Minister for Planning and Public Spaces under Part 4 Section Division 4.7 of the EP&A Act, which establishes an assessment and approval regime for SSD.

An EIS supported by the current assessment has been prepared to assess the impacts of the proposal, in accordance with SEARs.

Section 4.12(8) of the EP&A Act provides that environmental planning instruments (such as local environmental plans and SEPPs) do not, with some exceptions, apply to SSD projects. Notwithstanding, the environmental planning instruments that are relevant to the proposal have been considered for consistency, as described below.

3.3.1 Local Environment Plans

Local Environmental Plans (LEPs) are prepared by councils in accordance with the EP&A Act to guide planning decisions for Local Government Areas (LGAs).

The aim of LEPs in relation to heritage is to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings, views, and archaeological sites.

Schedule 5 of each LEP lists items of heritage significance within each LGA. If agreement is reached with the Aboriginal community, items or Aboriginal places of heritage significance are also listed within this schedule.

No Aboriginal places of heritage significance were identified on LEPs within the vicinity the study area.

While the study area falls within the boundaries the Parramatta LGA as a SSD the proposal is not subject to the provisions of the LEP.

3.3.2 Parramatta Development Control Plan 2011

The Parramatta Development Control Plan (Parramatta DCP) 2011 includes Aboriginal heritage sensitivity mapping, with areas designated as either 'high sensitivity' or 'low sensitivity'. The sensitivity mapping is an indicative guide and used by Parramatta Council to identify the level of Aboriginal heritage assessment required in support of a Development Application (DA) or similar. While this proposal is not subject to the requirements of the DCP, the sensitivity mapping is referenced in this ACHAR to inform assessment of Aboriginal heritage sensitivity within the Parramatta LGA.

3.4 NSW Aboriginal Land Rights Act 1983

The *Aboriginal Land Rights Act* 1983 is administered by the NSW Department of Human Services - Aboriginal Affairs. This Act established Aboriginal Land Councils (at State and local levels). These bodies have a statutory obligation under the Act to:

- Take action to protect the culture and heritage of Aboriginal persons in the council's area, subject to any other law
- Promote awareness in the community of the culture and heritage of Aboriginal persons in the council's area.

The study area is located within the Deerubbin LALC boundaries.

3.5 NSW Native Title Act 1994

The *Native Title Act* 1994 was introduced to work in conjunction with the Commonwealth Native Title Act. Native Title claims, registers and Indigenous Land Use Agreements are administered under the Act.

The main objects of the Native Title Act 1993 are:

- To provide for the recognition and protection of native title; and,
- To establish ways in which future dealings affecting native title may proceed, and to set standards for those dealings; and
- To establish a mechanism for determining claim to native title; and,
- To provide for, or permit, the validation of past acts, and intermediate period acts, invalidated because of the existence of native title.

A search of the Native Title Vision by Elizabeth Bonshek on 30 May 2022 did not identify any Native Title claims in or around the study area.

3.6 Commonwealth 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 and the Commonwealth Heritage List.

The *Australian Heritage Council Act 2003* establishes a new heritage advisory body – the Australian Heritage Council – to the Minister for the Environment and Energy and retains the Register of the National Estate.

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. The new framework includes:

- A new National Heritage List of places of national heritage significance
- A Commonwealth Heritage List of heritage places owned or managed by the Commonwealth
- The creation of the Australian Heritage Council, an independent expert body to advise the Minister on the listing and protection of heritage places
- Continued management of the non-statutory Register of the National Estate.

3.6.1 National Heritage List

The National Heritage List is a list of places with outstanding heritage value to our nation, including places overseas. So important are the heritage values of these places that they are protected under the EPBC Act. This means that a person cannot take an action that has will have, or is likely to have, a significant impact on the national heritage values of a national heritage place without the approval of the Australian Government Minister for the Environment.

There are no items listed on the National Heritage List located within the study area for this assessment.

3.6.2 Commonwealth Heritage List

The Commonwealth Heritage List is a list of places managed or owned by the Australian Government. The Commonwealth Heritage List includes natural, Indigenous and historic heritage places which the Minister is satisfied have one or more Commonwealth Heritage values. There are no items listed on the Commonwealth Heritage List located within the study area for this assessment.

4.0 ABORIGINAL COMMUNITY CONSULTATION

As a result of the consultation process one RAP raised the need for connecting with Country to be undertaken as part of this proposal.

Although the physical remains are not there the intangible aspects should be considered. Connecting to country is much more than art and interpretation, it's about caring for country spiritually, physically and allowing mother earth to be healthy and full life.

Phil Khan, Kamilaroi-Yankuntjatjara Working Group commented:

Sydney Metro West has established a Connecting with Country Working Group. This has been established in accordance with the Government Architect NSW Connect with Country Framework. This is a separate process to the Aboriginal cultural heritage assessment process undertaken as part of this ACHAR.

4.1 Aboriginal consultation

Aboriginal community consultation has been conducted in accordance with the Consultation Requirements.

A consultation log is being maintained which details all correspondence with the registered Aboriginal parties for the project.

Consultation has been completed.

4.2 Identification of stakeholders and registrations of interest

The consultation process undertaken to support the ACHAR Sydney Metro West Stage 1 Technical Paper 4. Parramatta, Cumberland, Canada Bay, Burwood, and Inner West Local Government Areas (Artefact 2020) has been extended for this proposal. The list of Registered Aboriginal Parties (RAPs) established for 2020 report is being used in this ACHAR.

A total of 60 stakeholders registered their interest in the ACHAR Sydney Metro West Stage 1 Technical Paper 4. Parramatta, Cumberland, Canada Bay, Burwood, and Inner West Local Government Areas and are listed in Table 2.

Documentation of the consultation process is provided in the Appendix.

Table 4. Groups or individuals registered as RAPs.

Contacts

4.3 Review of assessment methodology

A copy of the ACHAR methodology for the project was sent to the Aboriginal stakeholders on 16 June 2022, with a 28-day period for review and comment. The document included details of the proposal and a summary of the proposed ACHAR assessment methodology.

A summary of comments received from four (4) RAPS is provided in Table 5.

Table 5: Summary of Aboriginal stakeholder methodology review comments

Person/ RAP group	Comment
	" I have read the assessment methodology ACHAR for the above project, I endorse the recommendations made. Kind regards"
	"I have read the project information, ACHAR, and methodology for the above project, and I agree with the recommendations made".
	I have reviewed the document and support the Information and Methodology.
	"We would like to agree to your methodology and we look forward to further consultation [sic] on this project."
	Summary of full comment: The area is highly significant because Aboriginal people have occupied, cared for and walked the land for thousands of years. Aboriginal people have abided by lore, kinship and customs, and created thriving environments; water is important and Aboriginal people have followed waterways tens of thousands of years and are connected through them.

4.4 Review of draft Aboriginal Cultural Heritage Assessment Report

On 5 August 2022, the draft Aboriginal Cultural Heritage Assessment Report was emailed to the RAPs for comment (28 days review period).

There was one response to the draft Aboriginal Heritage Assessment which was supportive of the report's recommendations. The response is included in full in the Appendix.

Figure 5. Summary of RAP comments on the draft ACHAR

Person/ RAP group	Comment	Response
	<p>"The study areas is close by to many water ways run near by the study areas. These water ways would have been utilised and the surrounding area full of flora and fauna allowing Aboriginal people to thrive. Mother earth cares and provides for us and in return we care for her. We would like to see the project regenerated flora and fauna where possible, allow room for interpretation and connecting to county in an culturally appropriate way.</p> <p>Although the physical remains are not there the intangible aspects should be considered. Connecting to country is much more then art and interpretation, it's about caring for county spiritually, physically and allowing mother earth to be heathy and full life. Aboriginal people in fact all people have a responsibly; philosophy, law and religion, home, county family, kinship, spirt, soul and psyche, as [redacted] said.</p> <p>We agree to your recommendations, and we support your ACHA We would like to be involved in furthering consultation in regard to the project".</p>	<p>Sydney Metro has piloted the Government Architect Office's Connect with Country Draft Framework. It is suggested this framework is referred to during the design development for OSD.</p>

5.0 ENVIRONMENTAL CONTEXT

5.1 Geology and soils

The study area is located within the Sydney Basin, a large depositional geological feature that spans from Batemans Bay to the south, Newcastle to the north and Lithgow to the west. The underlying geology is Triassic and Quaternary period geological units. The study area is located on primarily on Blacktown soilscape with the north-eastern portion straddling the Birrong soilscape (Figure 6. The study area in the surrounding soil landscape). The south-east portion of the study area overlaps the Parramatta Sand Body (see below).

5.2 Landforms and hydrology

The major watercourse associated with the study area is the Parramatta River. The Parramatta River extends eastwards from North Parramatta to the confluence with Lane Cove River between Balmain and Greenwich. The area east of the confluence of Parramatta River and Lane Cove River is Sydney Harbour. A number of first and second order watercourses flow into Parramatta River. Due to the tidally influenced nature of Parramatta River and Sydney Harbour, the mouth of each watercourse generally consists of tidally influenced flats that were likely to have been extensive areas of mangrove. Many of these watercourses have been canalised and the tidal flats in-filled as areas of reclamation. Other minor watercourses adjacent to the study have been in-filled and/or canalised. These watercourses are often unnamed.

The study area is located across a flat landform context within the Parramatta CBD and approximately 290 metres to the south of the Parramatta River. Clay Cliff Creek is located approximately 465 metres to the south-east (Figure 7). Clay Cliff Creek is a freshwater watercourse in the Parramatta CBD area, and a tributary of Parramatta River.

5.2.1 The Parramatta Sand Body

Portions of the Parramatta CBD are underlain by a significant geological feature, the Parramatta Sand Body. The Parramatta Sand Body is a significant archaeological resource with evidence of Aboriginal activities dating from the Holocene and Pleistocene epochs (Jo McDonald 2005). The sand body is also relatively deep, increasing the possibility of portions of the sand body surviving beneath phases of historical development. The extent of the Parramatta Sand Body is shown in Figure 8.

Figure 6. The study area in the surrounding soil landscape

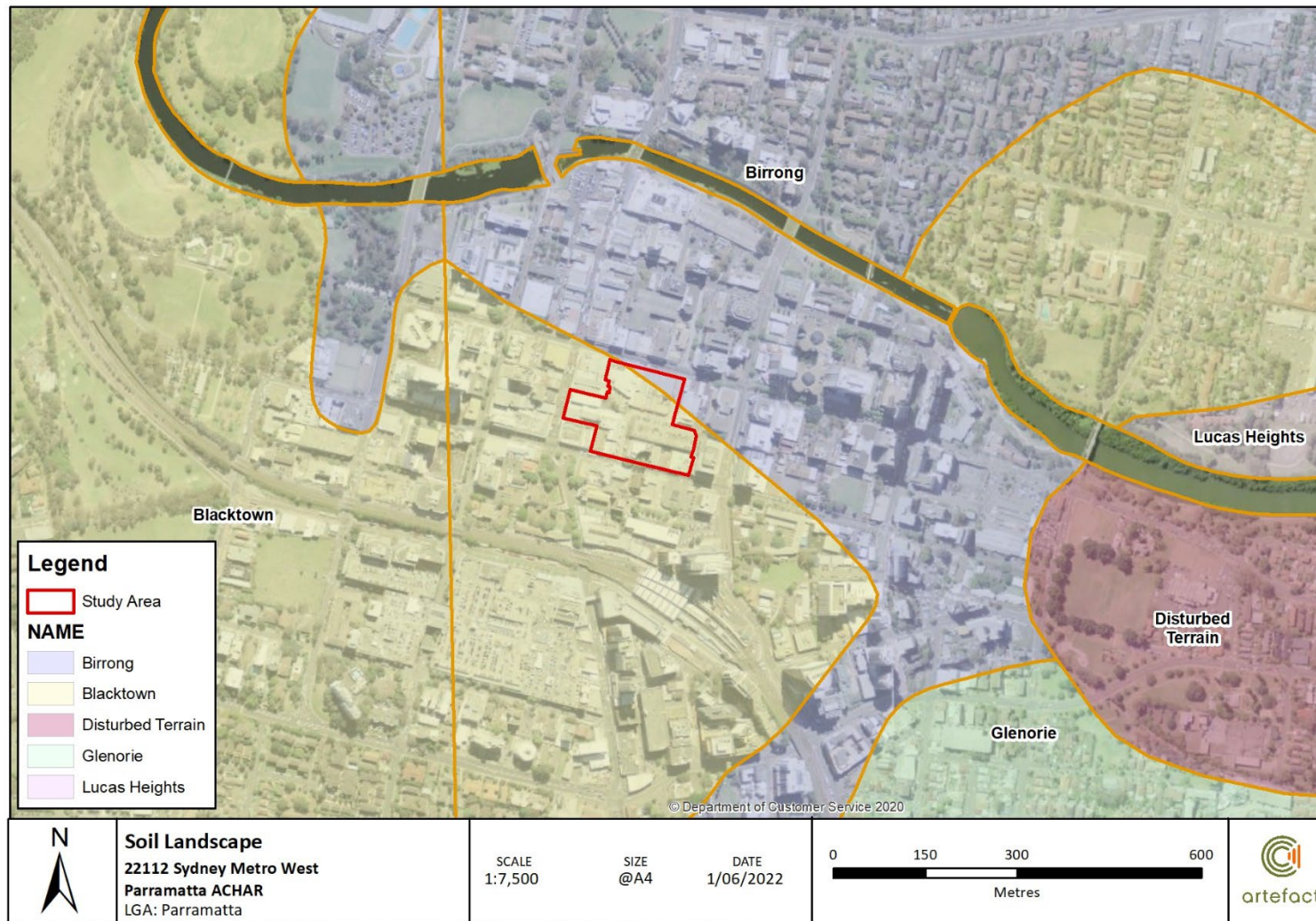


Figure 7. Location of the study area in relation to Parramatta River and Clay Cliff Creek.

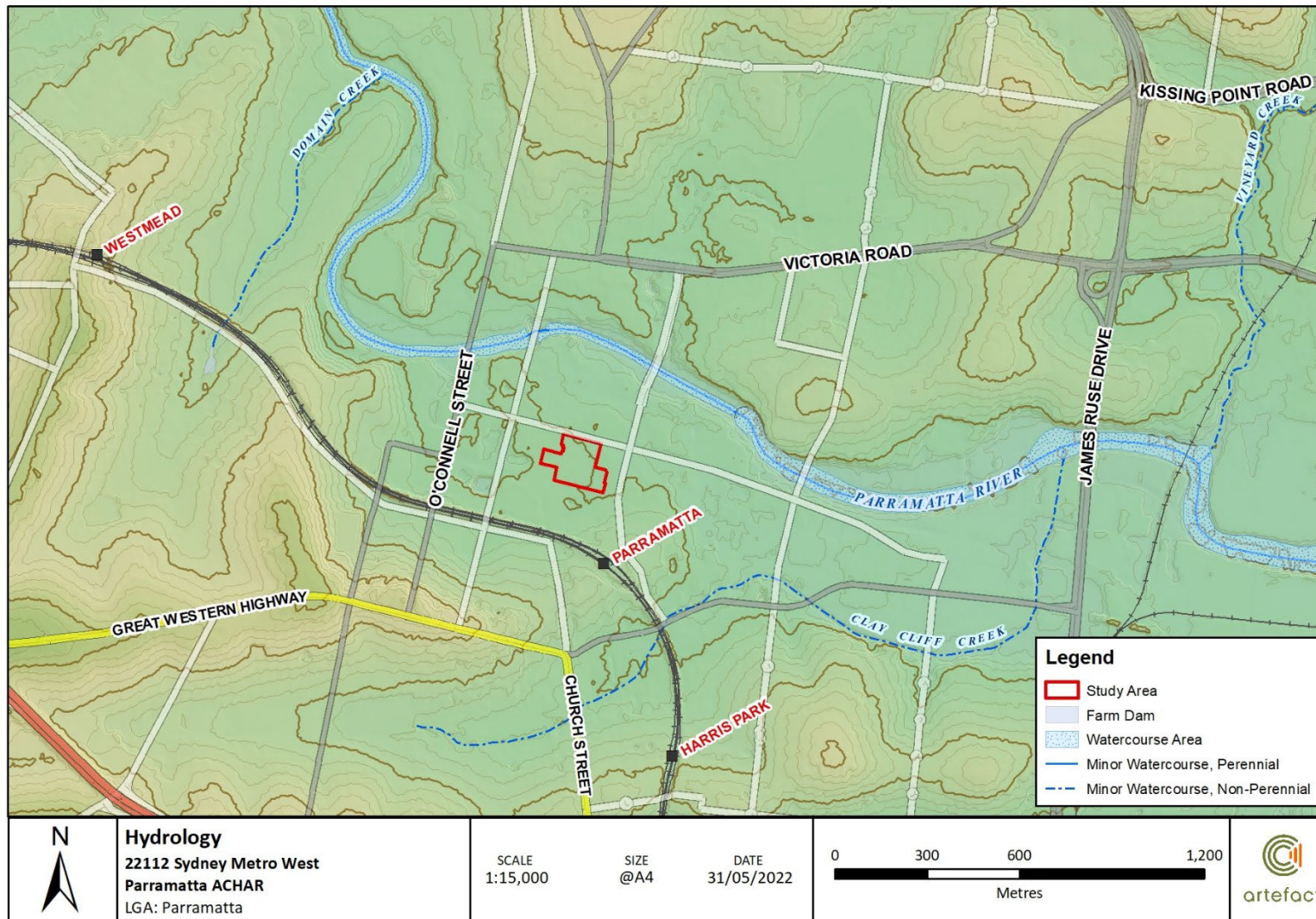


Figure 8. Mapped location of Parramatta Sand Body



A physical description of the Parramatta Sand Body from the State Heritage Register (Heritage NSW 2019) listing for the Ancient Aboriginal and Early Colonial Landscape item at Robin Thomas Reserve is outlined below (SHR # 01863):

The geomorphic origin of the sand is still unclear but the present interpretation is that the sand body was deposited by the Parramatta River on a terrace 4 to 6 metres above normal water level, on either side of the river between Charles and Alfred Streets and in the eastern margin of Parramatta Park. The sand body was deposited as a terrace (abandoned floodplain) over time during floods.

The bulk of the sand body forms a levee located on the south side (right bank) of Parramatta River just above the 1:100 average recurrence interval flood level. The levee is thought to extend from Church Street to Arthur Street and south from the river to the eastern end of Macquarie Street along Hassall Street from Harris Street and on the north side of Oak Street to about Arthur Street where it must interface with the clay alluvium of Clay Cliff Creek.

The Sand Body has a well developed but varied soil profile. Topsoil materials are generally disturbed by European activities. Where the subsoils are intact they typically consist of yellow orange or yellow brown sandy clay with an earthy (porous) fabric that becomes paler and slightly mottled with depth.

The upper parts of the soil profile are usually heavily mixed, especially by cicada larvae. In places the sand is cut by deposits of mottled or gleyed clay that were probably deposited in swamps or waterholes on the terrace surface. The reasonably defined levee, 50 to 100 centimetres high, along the terrace edge between Charles and Alfred Streets, comprises cleaner and very slightly coarser sand than the sand found around the margins of the levee.

The profile of the sand suggests that the main body of sand is of late Pleistocene age and recent thermoluminescence dates obtained from an excavation undertaken at 140 Macquarie Street by Comber Consultants Pty Ltd in 2010, have shown that the top of the undisturbed sand (below the level of Aboriginal occupation) is between 50,000 to 58,000 years old. Deeper sand could be much older and may relate to a period of a higher sea level about 120,000 years ago.

Much of the original sand body is likely to have been destroyed by the construction of modern buildings but patches of the sand body are preserved beneath the foundations of some CBD buildings and on vacant land. The least disturbed section of the main body of the sand occurs as a 50-60 metre wide belt along the southern side of the George Street between Harris Street and Purchase Street. The subject listing includes the section of the levee between Harris Street and 153 George Street, Harris Park.

An assessment of the nature and distribution of the 'Parramatta Terrace Sand' prepared by Peter Mitchell for Parramatta City Council indicates the Parramatta Sand Body may overlap with the eastern portion of the study area (Groundtruth 2008). The remainder of the study area is situated across a slightly raised area described by Mitchell (Groundtruth 2008, 11-12) as:

'...an area of high ground (about 10m ASL) appears to be underlain by another body of alluvium that is a mixture of clay and sand that is probably older than the main sand body and may even be of Tertiary age and comparable to the know Tertiary clay at Rosehill'

Mitchell notes that the precise interface between the sand body and the sandy clay body remains uncertain (Groundtruth 2008, 12). The sandy clay body is also described as likely to contain Aboriginal objects, although not in the same density as the surrounding sand body (Groundtruth 2008, 12). Mitchell recommended that the potential sandy clay body should be archaeologically managed in the same method as the surrounding sand body (Groundtruth 2008, 12).

The location of the study area in relation to the Parramatta Sand Body is shown in Figure 9.

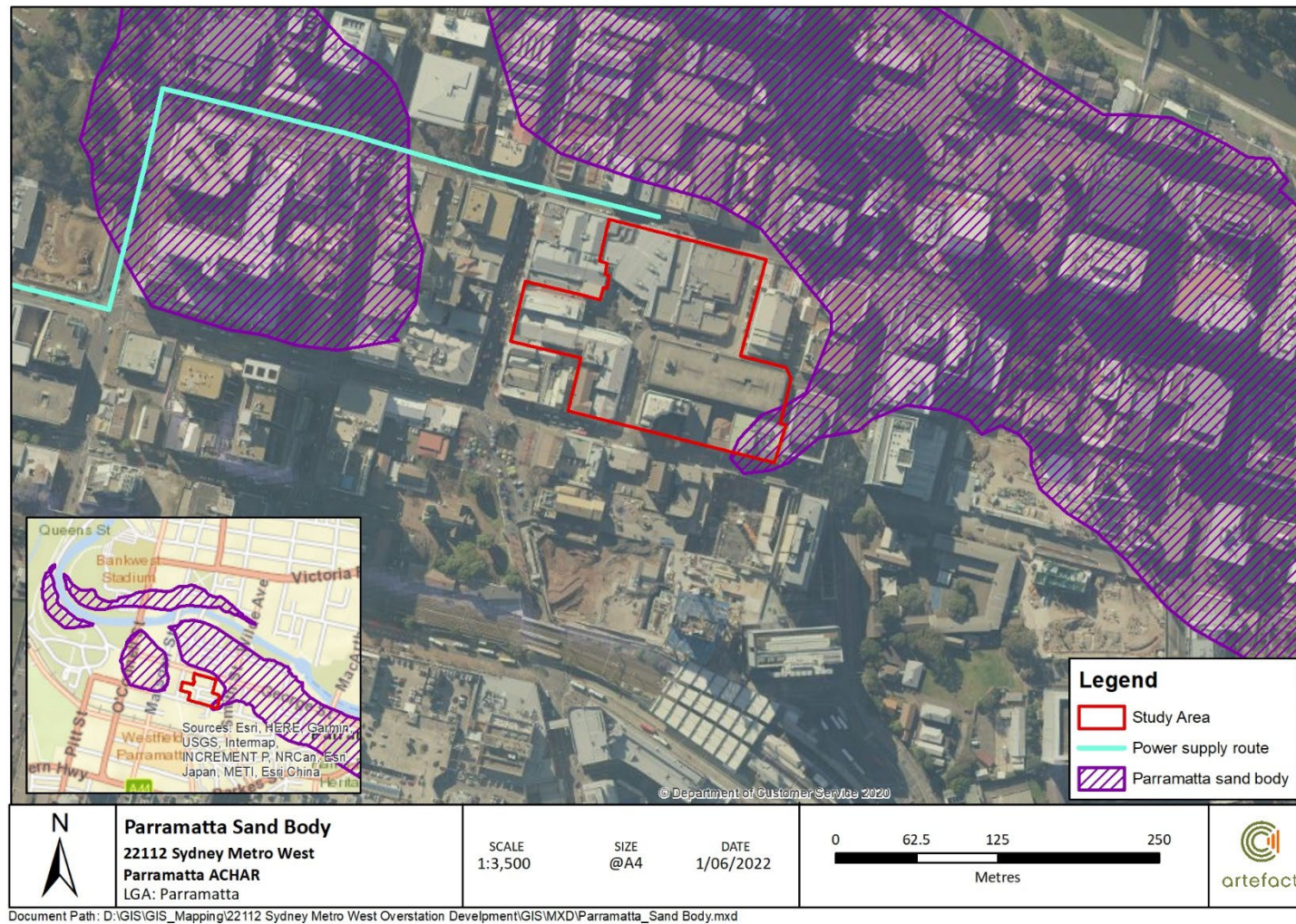
5.3 Vegetation

Before clearing, the area would have consisted tall open-forest (wet sclerophyll forest) and open-woodland (dry sclerophyll forest). There are traces of the original wet sclerophyll forest containing Sydney blue gum *Eucalyptus saligna* and blackbutt *E. pilularis* area. The original woodland and open-forest in drier areas to the west were dominated by forest red gum *E. tereticornis*, narrow-leaved ironbark *E. crebra* and grey box *E. moluccana*. This has been almost completely cleared. At Duffys Forest there is an open-forest dominated by ash *E. sieberi* with a dry sclerophyll shrub understorey (ESpade 2022a).

5.4 European history and land use

Extensive commercial development has occurred across the study area, which is intersected by Horwood Place and Macquarie Lane. The study area fronts a portion of George Street to the north, Macquarie Street to the south, Church Street to the west, and Macquarie Lane to the east. A review of the historical development specific to the study area and its archaeological potential area is presented by GML (2021). The review includes both historical and Aboriginal heritage values. The report's assessment has been incorporated into an integrated methodology for historical and Aboriginal archaeology of the site. A detailed analysis of the historical period and the evidence of interaction with Aboriginal people is presented covering 1788 to 2021 (GML 2021, 31-33). The review demonstrates the early interactions with Aboriginal people evident in Aboriginal objects manufactured in glass, ceramics and flint during the earliest period of settlement in Parramatta. The analysis has developed a survey of the location of 5 zones where possible Aboriginal archaeology might be found (GML 2021, 33-34) see below.

Figure 9. The study area in relation to the Parramatta Sand Body.



6.0 ARCHAEOLOGICAL AND ETHNOGRAPHIC CONTEXT

6.1 Ethnographic and historical evidence

Prior to the appropriation of their land by Europeans, Aboriginal people lived in small family or clan groups that were associated with particular territories or places. It seems that territorial boundaries were fairly fluid, although details are not known. The language group spoken across Sydney was known as Darug (Dharruk – alternate spelling). This term was used for the first time in 1900, as before the 1800s language groups or dialects were not discussed in the literature (Matthews and Everitt 1900; Attenbrow 2010, 31). The Darug language group is thought to have been spoken in the area south of Port Jackson, north of Botany Bay, and west to Parramatta (Attenbrow 2010, 34).

The eastern portion of the study was potentially located near the boundary between the Cadigal and the Wangal clans as described by Governor Philip and reproduced in Attenbrow (2010, 22):

From the entrance of the harbour, along the south shore, to the cove adjoining this settlement the district is called Cadi, and the tribe Cadigal; the women, Cadigalleon. The south side of the harbour from the above mentioned cove to Rose Hill, which the natives call Parramatta, the district is called Wann, and the tribe Wanngal.

In modern geographical terms, Governor Phillip stated that the Cadigal lands extend from the entrance of Sydney Harbour, eastwards along the south harbour shore, to Sydney Cove, which is 2.5 kilometres west of the study area. King stated that the district of the Wangal extended from Long Cove to Parramatta (Attenbrow 2010, 22).

Alternatively, Attenbrow also quotes Philip Gidley King who stated the Cadigal lands cover the south side of Port Jackson, extending eastwards from South Head to Long Cove (Iron Cove) which is 2.5 kilometres east of the study area. Phillip stated that the Wangal lands extend along the south side of the harbour shore from Sydney Cove to Parramatta.

Figure 10. Aboriginal activities on the shore of Port Jackson in 1824. Source: Peron and Freycinet 1824



The southern shore of the Parramatta River between Balmain and Parramatta was traditionally home to the Wangal people. John Hunter encountered the Wangal in 1788 at the current Breakfast Point (Canada Bay Heritage Society 2021). The diary of Lieutenant William Bradley, RN noted (Canada Bay Heritage Society 2021):

At daylight having a guard of marines proceeded to the upper part of the harbour again, passing several natives in the caves as we went up and on the shore near the place we left beads and some other things, who followed us along the rocks calling to us. We landed to cook our breakfast on the opposite shore to them. We made signs for them to come over and waved green boughs. Soon after seven of them came over in two canoes and landed near our boats. They left their spears in the canoes and came to us. We tied beads, etc., about them and left them our fire to dress mussels which they went about as soon as we put off.

Parramatta was a focal point for Aboriginal occupation as the natural landscape was rich in resources. In 1788, Governor Arthur Phillip reported that bark huts, fire places, collected fern root and shells, hunted animals for bones and the fur of a 'flying squirrel' or possum were seen at a campsite at Parramatta (then Rose Hill) (Attenbrow 2010).²⁰ On another instance (Stockdale 1789) he also noted that:

...these parts are frequented by the natives... undeniably proved by the temporary huts which were seen in several places. Near one of these huts, the bones of kangaroo were found...

The traditional land of the Barramatagal people was appropriated by colonists who claimed areas for settlement and agriculture. Natural resources such as water and timber were exploited by colonists, at the expense of the Barramatagal people. The introduction of diseases such as smallpox also

devastated the local population. In 1789, over half of the Aboriginal population in the Sydney region are believed to have died of smallpox, which had spread across the Cumberland Plain and over the Blue Mountains (Butlin 1983).

The relationships between colonists and the Barramatagal people were mixed. There are instances where conflict arose, in particular as the settlement expanded and numerous incidents of theft were reported (Collins 1798, 77; 178). There are also examples of amicable interactions such as when soldiers at Parramatta exchanged their rations of salted meat for fish (Collins 1798, 139).

In January 1815, Governor Lachlan Macquarie opened the Native Institution at Parramatta, which aimed to prepare Aboriginal children for a British life. The children learnt Christian religion, reading, writing and arithmetic. The boys were also taught agricultural principles and practices, while the girls were taught needlework. The children demonstrated their new skills at the Annual Feast (Attenbrow 2010, 84).

This annual 'Native Feast' was held by Governor Macquarie behind St Johns Church to encourage Aboriginal people to leave their children at the school. The first feast took place on 28 December 1816 and was attended by 179 Aboriginal people. Attendance rose each year, in 1818 reaching about 300, which included people who had travelled from beyond the Blue Mountains (Attenbrow 2010, 22). It was tradition that those who came from the west camped near Clay Cliff Creek for the duration of their stay (Kass et al 1996, 105). At the annual feast, Governor Macquarie presented an engraved brass breastplate to 'chiefs', individuals who were not necessarily recognised as leaders in their own communities but who the Governor felt deserved this honour.

Aboriginal people continued and continue to live in Parramatta although historical records of their culture and customs are scarce after the Native Institution was closed in 1823 and the annual feast came to an end in 1835.

6.2 Archaeological evidence

Aboriginal people have lived in the Sydney area for more than 36,000 years. The oldest dated site in the greater Sydney region is Cranebrook Terrace which was dated at approximately 41,700 years Before Present (BP) with an error range of 5,000 years (Attenbrow 2010, 18; Karskens 2020). Evidence of Aboriginal occupation has been found dated to 50-60,000 BP at Lake Mungo in NSW, so it is likely that Aboriginal people have lived in the Sydney region for even longer than indicated by the oldest recorded dates we have at present. The archaeological material record provides evidence of this long occupation, but also provides evidence of a dynamic culture that has changed through time.

The existing archaeological record is limited to certain materials and objects that were able to withstand degradation and decay. As a result, the most common type of Aboriginal objects remaining in the archaeological record are stone artefacts. Archaeological analyses of these artefacts in their contexts have provided the basis for the interpretation of change in material culture over time. Technologies used for making tools changed, along with preference of raw material. Different types of tools appeared at certain times, for example ground stone hatchets are first observed in the archaeological record around 4,000 BP in the Sydney region (Attenbrow 2010). It is argued that these changes in material culture were an indication of changes in social organisation and behaviour.

After 8,500 BP silcrete was more dominant as a raw material, and bifacial flaking became the most common technique for tool manufacture. From about 4,000 BP to 1,000 BP backed artefacts appear more frequently. Tool manufacture techniques become more varied as bipolar flaking increases. It has been argued that from 1,400 to 1,000 years before contact there is evidence of a decline in tool manufacture. This reduction may be the result of decreased tool making, an increase in the use of organic materials, changes in the way tools were made, or changes in what types of tools were

preferred (McDonald 2006). The reduction in evidence coincides with the reduction in frequency of backed blades as a percentage of the assemblage.

Further detail on the archaeological record in the surrounds of the study area will be provided in Section 6.4 below.

6.3 Registered Aboriginal sites

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

An extensive search of the Aboriginal Heritage Information System (AHIMS) database was conducted on 30 May 2022). The aim of the AHIMS site register search was to identify Aboriginal sites registered within, or in the vicinity of, the study area. The search was undertaken using the following parameters:

GDA 1994 MGA 56	[REDACTED]
Number of sites	[REDACTED]
AHIMS Search ID	[REDACTED]

The search found 114 registered sites (Figure 11). Only one site was located within the study area [REDACTED]

The AHIMS database records sites using a list of twenty standard site types, 13 of which were found within the basic search (OEH 2012):

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

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.

Figure 11. Study area in relation to sites found in the extensive search.

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The frequency and percentage of site features in the extensive AHIMS search is presented in Table 6.

[illegible]

'Artefact' and 'potential archaeological deposit' are the most frequent site types recorded within the AHIMS extensive search areas.

One recorded Aboriginal site, [REDACTED], is located within the Parramatta OSD study area (Figure 12). That site is discussed further below.



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[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]

6.4 Previous archaeological investigations

Numerous archaeological investigations have been undertaken within the Parramatta CBD area. Parramatta Square, on the southern side of Macquarie Street and adjacent to the proposed Parramatta metro station construction site, has been the site of archaeological test excavation in 2004 (Jo McDonald 2004a), excavation at 1 Smith Street at the south-east corner of Parramatta Square in 2004 (Jo McDonald 2004b), recent excavation at 153 Macquarie Street ([REDACTED]), and recent excavation in the western portion of Parramatta Square.

Limited archaeological test excavation at Civic Place (now Parramatta Square) in 2004 identified intact archaeological deposit beneath highly disturbed layers. The test excavation (Jo McDonald 2004b) identified a low density and wide distribution of stone artefacts across that investigation area. Following completion of the test excavation program, Jo McDonald Cultural Heritage Management (2004b) generally identified moderate to high archaeological potential across the remainder of Parramatta Square and recommended further archaeological investigation must occur across that area prior to future construction projects in that area. The implications for the Parramatta metro station construction site were that all proposed works in the area should consider the possibility of identifying archaeological deposit beneath layers of disturbance.

Excavation of 79 archaeological test pits at 1 Smith Street in 2004 retrieved a total of 198 artefacts, representing a generally low artefact density. Although high levels of disturbance were identified across the 1 Smith Street site, Jo McDonald Cultural Heritage Management (2004a) indicates the results demonstrate the potential for retrieval of Aboriginal objects from other sites in Parramatta CBD that have been subject to a high level of disturbance.

Archaeological excavation was undertaken by Cultural Resource Management at Bicentennial Square in 2016 (Cultural Resources Management 2016). That investigation area was on the southern side of Macquarie Street and approximately 50 metres south of the Parramatta metro station construction site. The purpose of the excavation was to investigate the site for potential contact archaeology associated with the Parramatta Native Institute's annual 'feast' between 1814 and the 1830s. The excavation identified an A horizon silty clay loam context that had been truncated by 500 millimetres, and disturbance to the archaeological record from wall construction trenches dating to the early

1800s. The excavation results do not mention the Parramatta Sand Body, and no evidence of contact archaeology was identified.

The results of recent archaeological excavation within Parramatta Square were not available when this draft report was prepared. This includes archaeological excavation at [REDACTED] ([REDACTED]), and recent archaeological excavation within the western portion of Parramatta Square.

Previous archaeological investigations demonstrate that the former natural ground surface in the Parramatta metro station construction site may remain *in situ*, with varying degrees of truncation and mixing from historical activities. Artefact density is likely to vary across the area. Mitchell's analysis of the Parramatta Sand Body indicates that the majority of the Parramatta metro station construction site is likely to consist of the Pleistocene or Tertiary alluvial clay and sand, with an uncertain interface in the eastern portion of the site to the Pleistocene terrace sands of the Parramatta Sand Body. There is also potential for contact archaeology.

A summary of the locations and findings of relevant previous archaeological investigations has been divided in geographic sections based on the construction site locations, as outlined in Table 7.

GML Heritage (2021) produced an archaeological report specific to the study area to supplement Artefact's Stage 1 Technical Paper 4. It provides a detailed analysis, of both historic and Aboriginal heritage potential, of the Parramatta Metro Station site. The report provides a predictive model for the study area and is being used as a foundation for management of the Aboriginal archaeological values of the site during station construction. The report included consultation with the Registered Aboriginal Parties for the Metro project.

The report concluded that despite current mapping of the PSB, geotechnical data supported the absence of PSB inside the study area and a strong association with Holocene alluvium, with the possibility of a separate alluvial soil in the southeast corner. Fill of up to 0.5m was present across the study area, below which there may be intact historical surfaces and remnant A1 and A2 horizons (GML page 30).

By combining the geotechnical data, their analysis of the historical period and soil landscapes, GML produced an Aboriginal archaeology zoning plan (Figure 13) which identified 5 areas of Aboriginal archaeological sensitivity, and areas where there is no potential due to deep excavation. The study area was divided in two, by a proposed "line of sensitivity". To the west side of this line, deep alluvium layers over 300mm were found which are associated with a wetland zone of semi-permanent surface water. This area is less likely to hold archaeological potential in relation to area on the eastern side. The latter soils are shallow to deep alluvium of up to 300mm and have been infrequently inundated. Therefore, they are more likely to hold archaeological potential. The 5 zones are not hierarchical but describe varying conditions that might support archaeological sensitivity.

Figure 13. The study area showing GML's five zones of potential archaeological potential.

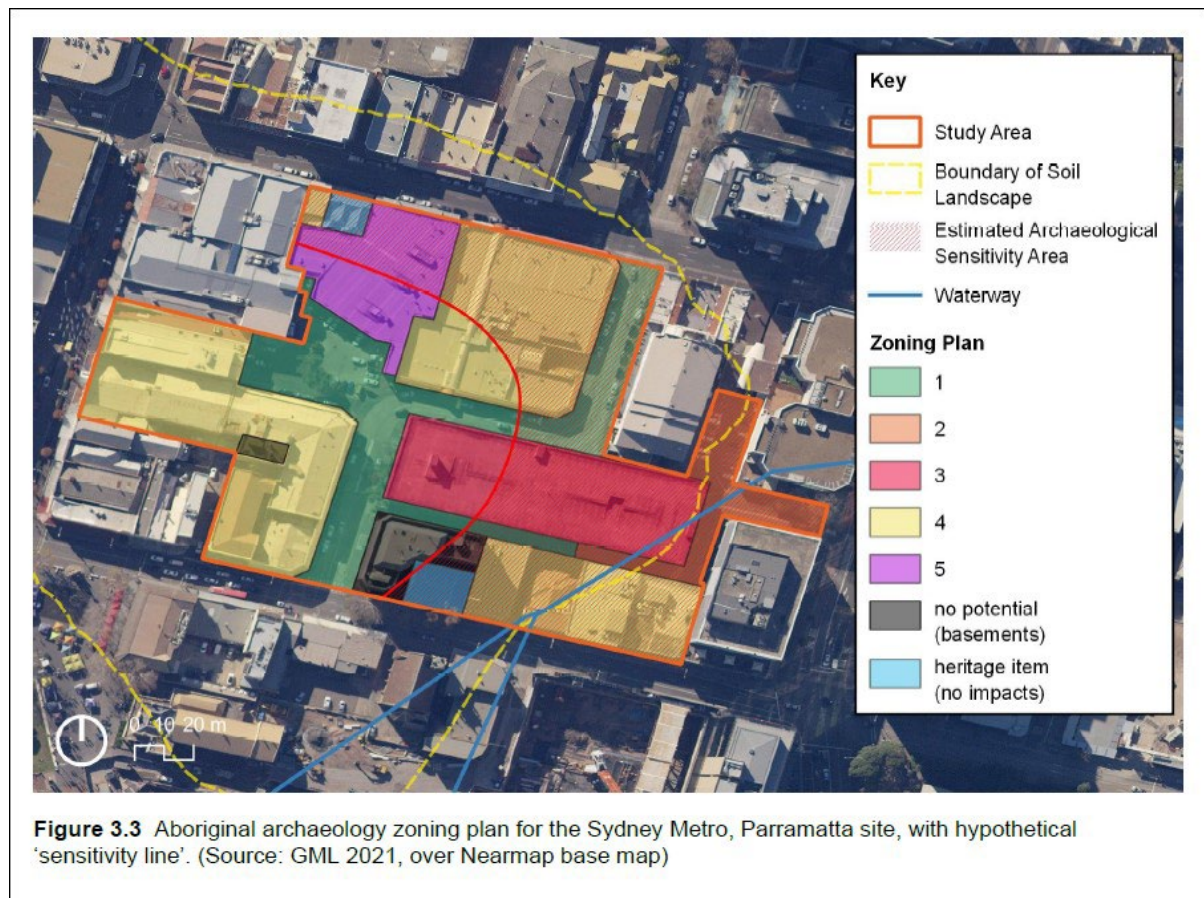


Table 7. Previous archaeological surveys near the study area.

Author, title of study	Summary	Distance from study area
Haglund & Associates, 2007. Parramatta Health Services Area, Parramatta Justice Precinct: Aboriginal Heritage Aspects	Haglund & Associates conducted an archaeological investigation within an area that was heavily disturbed by colonial construction activities. Their study area was located within the Blacktown soil landscape. Over 870 artefacts were excavated, most of which comprised of silcrete and tuff. The artefacts included flakes, cores, anvils and hammerstones and it was determined that the stone tools were processed on site. There was no evidence to suggest that the area was used as a campsite, rather it was used for manufacturing stone artefacts.	230 metres north west of study area
Jo McDonald Cultural Heritage Management, 2005. Archaeological Salvage Excavation of Site RTA-G1 109-113 George Street Parramatta NSW. Report to Landcom	In 2005 Jo McDonald Cultural Heritage Management conducted salvage excavations prior to the construction of high-rise residential buildings and an underground carpark. The site was situated within the Parramatta Sand Body and the excavations uncovered evidence of prehistoric (Pleistocene) and Holocene era occupation. The excavated artefact assemblage comprised 4,775 artefacts, the dominant raw material of which is silcrete, followed by silicified tuff, quartz, and igneous materials. Seventy-five per cent of artefacts were recovered from the first 40 centimetres of the deposit, 16 per cent within the 40 to 60 centimetres, and 8 per cent between 60 and 80 centimetres. The site (RTA-G1) was assessed to be of high archaeological significance. At the time the report was written the site was the oldest site of Aboriginal occupation in Sydney and on the eastern coastline of Australia, with a date of 30,000 years before present. This date represented the maximum basal date for occupation and was taken from a sterile layer beneath the lowest artefacts (Jo McDonald Cultural Heritage Management, 2005: 135).	425 metres east of study area
Jo McDonald Cultural Heritage Management, 2004. Archaeological Test Excavation for Indigenous Sites Civic Place, Parramatta. Report prepared for Casey & Lowe on behalf of Parramatta City Council	Test excavations were undertaken at Civic Place in 2004. Despite a high level of disturbance within the Jo McDonald Cultural Heritage Management study area, areas that had an intact archaeological deposit were uncovered at depth. The site contained a low density of stone artefacts and finds were spread out across the excavated area. It was assumed that this pattern would also be found across areas of the site that had not been excavated. All six test trenches contained Aboriginal artefacts, however Trench 1 was the only test trench to show signs of an intact A1 soil horizon, identified below 70 centimetres of historical disturbance. No trenches contained evidence of the Parramatta Sand Body. Much of the Jo McDonald Cultural Heritage Management study area was found to have moderate to high archaeological potential, often correlating with low levels of disturbance. Jo McDonald Cultural Heritage Management recommended that further archaeological investigations occur under an AHIP.	25 metres south of study area

Author, title of study	Summary	Distance from study area
<p>Jo McDonald Cultural Heritage Management, 2004. Archaeological Test Excavations for Indigenous Sites at 1 Smith Street, Parramatta.</p>	<p>In 2004 JMHCM conducted excavations at 1 Smith Street prior to construction works. The area forms part of the Blacktown Soil landscape, and evidence of a filled in river channel was located during geotechnical investigation, indicated by a clay-sand soil deposit. The Parramatta Sand Body was not evident. Seventy-nine test pits were excavated across the site, forty-nine of which contained artefacts. 198 artefacts were excavated in total, at a low site-density of two artefacts per square metre. Despite a high level of disturbance across the site, areas of intact archaeological deposits were found. It proved that other sites in Parramatta that have been subject to a high level of disturbance also have the potential to contain an intact archaeological deposit.</p>	<p>165 metres south-east of study area</p>
<p>Cultural Resources Management (CRM), 2016. Report of Archaeological Investigation: Church Street Mall Redevelopment Bicentennial Square Parramatta.</p>	<p>A Statement of Heritage Impact prepared by CRM identified the Bicentennial Square study area as having high potential to contain evidence of activities associated with the Native Institute's Annual Feast and archaeological investigation was recommended. Furthermore, the CRM study area is graded as having high sensitivity on the Parramatta Aboriginal Sensitivity Map found in the Parramatta Development Control Plan (DCP) of 2011. The study area featured the Birrong soil type, which included an alluvial floodplain overlaid by podzolic soils. Excavations showed that the A1 horizon (silty clay loam) had been reduced by 0.5 metres, disturbed by wall trenches dating to the early 1800s. Excavations did not occur to a depth that would have reached the B and C horizons, and the Parramatta Sand Body was not encountered. The focus on Aboriginal heritage noted in the archaeological research design was on potential contact archaeology associated with the 'annual feasts' arranged by Governor Macquarie within the Market Place. No Aboriginal objects, including contact archaeology, were identified during the excavation. CRM concluded that this was most likely due to the extensive historic disturbance at the site, as very little soil was found intact.</p>	<p>50 metres south of study area</p>

Author, title of study	Summary	Distance from study area
<p>Peter Mitchell/Groundtruth Consulting, 2008. Nature and Distribution of Parramatta Terrace Sand</p>	<p>This report was prepared for the Parramatta City Council and summarised the nature and spread of the Parramatta Sand Body and analysed the implications for Aboriginal Archaeology. The report formulated a map to estimate the areas in which the Parramatta Sand Body may still be reasonably intact. The most intact and well-defined sand terrace was located along Clay Cliff Creek, between six to 10 metres above the river level. The Parramatta Sand Body is best known along George Street, as this is where most excavations investigating the Parramatta Sand Body have occurred. Moving south from the Parramatta River the sand appears to become finer with more clay apparent. Between Macquarie and Marsden Streets, which are at higher levels of elevation, the terrace appears to be underlain by alluvial clay-sand mixtures older than the main sand body. Mitchell's research suggests that the areas with the most potential to contain intact soils and therefore evidence of Aboriginal occupation <u>were located in</u> Parramatta Park and along the Parramatta River, as these areas contain the Parramatta Sand Body. The Parramatta Sand Body would have been an important and valuable resource, containing fresh water, food resources, shelter, <u>woodlands</u> and sandy soils suitable for campsites and burial. The core of the sand body is located within the Parramatta CBD and modern construction has impacted much of the original sand deposit. However, undisturbed sands are frequently found beneath 19th century buildings, <u>roads</u> and footpaths. The potential for archaeological deposits and artefacts appears to be increased by the presence of the Parramatta Sand Body, however other factors, such as natural landscape forms (eg. levees, ridgelines etc.), the presence of floodplains, and the level of disturbance should also be considered.</p>	<p>Multiple sites within the vicinity of the study area</p>

Author, title of study	Summary	Distance from study area
<p>Peter Mitchell/Groundtruth Consulting, 2011. Sand body auger hole testing in the Parramatta Local Government Area</p>	<p>Groundtruth Consulting was commissioned by the former Department of Planning to analyse the geomorphology and soil beneath several public reserves in Parramatta, focusing on the eastern portion of the Parramatta CBD between the Parramatta River and Clay Cliff Creek. The report analysed the geomorphology of Robin Thomas Reserve, James Ruse Reserve, and Hambledon Cottage Reserve. Of 28 auger holes tested, six encountered sand and four encountered marginal sand. No Aboriginal artefacts or archaeological remains were uncovered in any of the test holes. As the Parramatta Sand Body is considered to have a high level of archaeological potential for Aboriginal remains and the public reserves tested were undisturbed by modern construction works, the sites had experienced considerable backfill and did not contain any archaeological evidence despite being in an area of high potential and low disturbance.</p> <p>A lagoon feature that was previously located at Robin Thomas Reserve and was backfilled sometime post-1943 would have been an important resource for Aboriginal people and if well-drained, would have been a suitable camping spot. Archaeological deposits may be preserved at deeper levels and would require further investigation, and the backfill would be considered to further preserve and protect these deposits.</p>	<p>Multiple sites within the vicinity of the study area</p>
<p>Kelleher Nightingale Consultants (KNC), 2017. Parramatta Light Rail Aboriginal Cultural Assessment Report</p>	<p>KNC prepared an ACHAR to inform the Parramatta Light Rail Environmental Impact Statement. Parts of the KNC study area contained quaternary fluvial deposits associated with the Parramatta Sand Body. The topsoils of the Parramatta Sand Body are generally disturbed by post-colonial activity, however archaeological material within the Parramatta Sand Body can be preserved by later backfill. The initial survey undertaken by KNC identified seven Potential PADs with moderate archaeological potential. An archaeological test excavation was undertaken in April to May 2017. Despite the disturbance across much of the study area, intact soils were identified below modern and historical disturbance and these soils did contain artefactual deposits. Five of the seven PADs were concluded to not be PADs, and three artefacts were excavated from the two PADs. Further test excavation occurred at Robin Thomas Reserve, which located nine artefacts. The report also identified several areas of Aboriginal cultural value, including the ancestral association with the land, the known archaeological deposits within the Parramatta Sand Body, and the cultural connection to the Parramatta River.</p>	<p>Multiple sites within the vicinity of the study area</p>

Author, title of study	Summary	Distance from study area
<p>Haglund & Associates, 2004. Parramatta Children's Court Site</p>	<p>Haglund & <u>Associated</u> carried out test excavations at the Parramatta Children's Court site in 2004. Geotechnical investigations identified alluvial deposits of sand and clay at significant depths of up to 12 metres, surviving beneath historic ground disturbance and fill. Between 40 and 60 centimetres in depth, a low density of artefacts <u>were</u> excavated, and primarily consisted of debitage from artefact manufacture along with fragments of broken or discarded flakes. Some formal stone artefacts were also present. It was suggested that the low density of artefacts was due to "low-level use prior to European arrival" or the <u>close proximity</u> of their site to the Parramatta River, which may have flooded periodically and disturbed sediments, removing artefactual deposits. Several phases of construction at the site had repercussions for the survival of artefacts, and it was suggested that earthworks, particularly excavation and levelling, had been responsible for the removal and redeposit of artefacts from their original contexts. The report suggests that while backfilling can protect intact archaeological soils including the Parramatta Sand Body, excavation of the sand prior to construction can heavily damage much of the soil and therefore its archaeological potential. Due to the age of many of Parramatta's buildings, it can be quite difficult to gauge whether excavation has occurred and to what extent</p>	<p>300 metres west of study area</p>
<p>Austral Archaeology, 2007. Archaeological Salvage Excavations, 95-101 George Street Parramatta. Report to Leighton Properties</p>	<p>Austral Archaeology carried out a salvage excavation at 95-101 George Street in 2007. The area had previously been identified as a PAD due to its location in proximity to the Parramatta River and the likelihood of encountering the Parramatta Sand Body within the study area. The salvage excavation encountered the intact Parramatta Sand <u>Body</u> and 601 artefacts were excavated. These artefacts were predominantly silicified tuff, which represented 50 per cent of the assemblage. Silcrete, chert, quartz, igneous and petrified wood artefacts were also <u>excavated</u> and the most common artefact types were flakes and flake fragments. Retouched artefacts and cores represented only two per cent of the artefacts each. Despite the ground within the study area being heavily disturbed, <u>the majority</u> of the study area was found to be intact and in situ beneath the historic phases of occupation and was undisturbed by modern construction.</p>	<p>300 metres west of study area</p>

Author, title of study	Summary	Distance from study area
<p>Comber Consultants, 2010. Preliminary Excavation Report, 140 Macquarie Street, Parramatta</p>	<p>Comber Consultants excavated a series of 32 test trenches at 140 Macquarie Street, Parramatta in 2010. Two metres of backfill was excavated prior to any excavation from archaeologists, who excavated the test trenches to a depth of 1.2 metres. 55 artefacts were excavated, found in 17 of 32 trenches, most of which were flaked debitage. The Parramatta Sand Body was also identified throughout the western portion of the site, and geomorphology suggested that the area had been swampy in the past. The test excavations were interpreted to show that the area was used by the local Aboriginal people and was utilised for its natural resources, however it was not an appropriate area for camping. More appropriate campsites would be slightly north, closer to the Parramatta River where the Parramatta Sand Body was elevated. Thermoluminescence scans were undertaken to date undisturbed sand levels below the levels of Aboriginal occupation and were dated to between 50,000 to 58,000 years before present.</p> <p>This excavation clearly shows that despite extreme landscape modification, notably backfilling, and many years of construction, intact archaeologically sensitive soils can be present at considerable depths. Whether archaeological deposits including artefacts are present also depends on the natural landform of the study area. As this study area would have naturally been wetlands, it was not suitable for occupation and therefore no artefactual deposits were encountered, despite minimal disturbance and the intact nature of the Parramatta Sand Body.</p>	<p>460 metres west of study area</p>
<p>Archaeological Heritage Management Solutions (AHMS), 2013. 189-191 Macquarie Street Aboriginal Cultural Heritage Assessment Report.</p>	<p>An ACHAR was prepared by AHMS in 2013 after a Due Diligence report by GML (2012) determined that the Parramatta Sand Body likely extended into the AHMS study area. The geology of the site formed part of the Birrong soil landscape, with alluvial floodplains overlying deep yellow podzolic soils to a minimum depth of 250 centimetres. Only the northern part of the AHMS study area contained the Parramatta Sand Body and no Aboriginal artefacts were excavated. The southern portion of the AHMS study area was located on a levee of Clay Cliff Creek and contained a low density of artefacts (four to seven per square metre). It was concluded that the elevated ground of the level would have been a favourable location for Aboriginal people in the region.</p> <p>The results of the excavation show that despite moderate disturbance and development, the archaeologically sensitive Parramatta Sand Body can be preserved and intact. However, while the sands are generally archaeologically sensitive, they do not always contain artefacts, and the absence of the Parramatta Sand Body does not necessarily mean the absence of artefacts or archaeological soils.</p>	<p>440 metres south-east of study area</p>

6.5 Predictive model

The presence of intact Aboriginal archaeological deposits within the study area is largely dependent on the nature and extent of disturbance associated with historical construction activities. Subsurface disturbance such as the removal of top soil and other bulk earthworks would substantially lower the potential for intact archaeological deposits in those areas. This is especially relevant in areas of relatively shallow residual soils, which includes the majority of the study area.

In summary, whilst the study area would have been a site of Aboriginal occupation in the past, the likelihood of evidence of this occupation surviving to the present is influenced by a range of factors. These factors include the durability of the material evidence and subsequent impacts such as bulk earthworks. The large-scale removal and modification of underlying Wianamatta Group geology and associated shallow residual soils within the study area is likely to have significantly impacted or removed many former natural landform contexts and associated archaeological potential in the study area.

Archaeological data has demonstrated the widespread and varying use of the area by Aboriginal people. The study area is located within a broad range of contexts, including areas within close proximity to marine and estuarine resources, fresh water, varying terrestrial subsistence resources, and areas where sandstone platforms and overhangs may have originally occurred.

Previous archaeological investigations of the greater Sydney area in general demonstrate the distribution of recorded Aboriginal sites as reflecting the use of the landscape by Aboriginal people, including movement between resources and activity areas. The distribution of recorded Aboriginal sites in particularly built environments, such as the Parramatta CBD area, is largely limited to areas that have been subject to archaeological excavation and/or not impacted by development.

The distribution of identified and recorded instances of overlapping and higher concentrations of stone artefacts in the region tends to be associated with high order watercourses and creek confluences, whilst lower density and more isolated activity areas in other parts of the landscape represented different and varying activities important to the understanding of overall landscape use (White & McDonald 2010).

The distribution of Aboriginal sites also demonstrates the association of recorded Aboriginal sites with sandstone outcrops similar landforms in the locality of Stage 1. These site types include sandstone platforms where engravings are typically identified, and sandstone overhangs that were utilised for art, subsistence activities and artefact manufacture.

The predictive statements for the study area are as follows:

- The survivability of Aboriginal objects would be largely dependent on the extent and nature of subsequent phases of historical construction activities
- Sub-surface artefact sites tend to consist of lower density isolated occurrences in areas away from major watercourses such as freshwater, marine and estuarine areas
- More frequent and higher concentrations of sub-surface artefact sites are likely to occur in the vicinity of major watercourses such as freshwater, marine and estuarine areas
- Shell midden sites are more likely to be identified in close proximity to marine and estuarine areas. Due to land reclamation in many areas, former marine and estuarine areas may be set-back from contemporary shoreline areas

- Sandstone shelters suitable for archaeological deposit and outcrops suitable for engravings may be preserved in ridge crest and ridge slope landform contexts
- Surviving portions of deeper soil profiles within the study area, such as the Parramatta Sand Body, may provide stratified evidence of occupation.

7.0 SITE SURVEY METHODOLOGY

7.1 Aboriginal site definition

An Aboriginal site is generally defined as an Aboriginal object or place. An Aboriginal object refers to any deposit, object or material evidence (not being a handicraft) relating to Aboriginal habitation of the area that comprises New South Wales (DECCW 2010a). Aboriginal objects may include 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 Code of Practice states, in regard to the definition of a site and its boundary, that one or more of the following criteria must be used when recording material traces of Aboriginal land use:

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

7.2 Archaeological survey methodology

The site inspection only included survey of publicly accessible areas. Private property was not accessed during the survey. Aerial photographs and topographic maps were carried by the survey personnel. A photographic record was kept of all accessible portions of the study area. Photographs were taken to document the existing environment and landform context of each construction site.

7.2.1 Site inspection

A site inspection was undertaken for Stage 1 Technical Paper and is summarised in this report.

The site inspection was undertaken on 23-24 January 2019, 25 March 2019, 26 – 27 June 2019 and 1 July 2019 by Alyce Haast (Senior Heritage Consultant, Artefact Heritage). An additional site inspection was undertaken with Steve Randall (Deerubbin Local Aboriginal Land Council) on 6 November 2019 and Selina Timothy and Cecil Heron (Metropolitan Local Aboriginal Land Council) on 7 November 2019. The aim of the site inspection was to assist in the assessment of archaeological potential for the study area. The survey was conducted on foot.

The study area was located across a built environment between George Street and Macquarie Street. It was situated across flat terrain, with no areas of surface visibility observed.

Figure 14. View south along Horwood Place showing multi-storey car park and existing commercial structures



Figure 15. View south of Civic Arcade on corner of George Street and Horwood Place



Figure 16. View north across Church Street



Figure 17. View east along United Lane



7.2.2 Assessment of archaeological potential

The Parramatta Sand Body has the potential to contain a stratified deposit that documents long term Aboriginal occupation and changes in climatic and other environmental conditions. Jo McDonald Cultural Heritage Management (2005, 36) noted:

“the depth of the sand on the terrace back plain (Parramatta Sand Body), the original deposition of which pre-dates human occupation of the Australian continent...provides an ideal matrix for the preservation of archaeological evidence from the earliest prehistoric occupation of the Sydney region”

The location of Parramatta, adjacent to a permanent watercourse, and with access to a wide range of natural resources, means that archaeological evidence of Aboriginal occupation could be extensive. Jo McDonald Cultural Heritage Management also noted that the likelihood of archaeological material being found is determined by the soil profile, the landform and geomorphology of the area and the extent of previous land use disturbance. The Parramatta metro station construction site is likely to primarily be located across the Pleistocene or Tertiary alluvial clay and sand formation, with the eastern portion of the investigation potentially overlapping with the Parramatta Sand Body. Mitchell's geomorphological assessment of the Parramatta Sand Body and the results of archaeological

excavation in the local area indicate that generally lower artefact densities may be expected across the alluvial clay and sand formation (Groundtruth 2008).

In summary, the results of previous archaeological excavations in the local area within the Parramatta CBD demonstrate that:

- Artefact density will vary, with some areas demonstrating average artefact density as low as 2.5 artefacts per square metre (Jo McDonald 2004b). The artefact density from Jo McDonald Cultural Heritage Managements archaeological testing at Civic Place averaged at 2.6 artefacts per metre squared, with 37 lithic artefacts excavated in total (Jo McDonald 2004a, 19). This correlates with Mitchell's observation that artefacts will be present across the older sandy clay sediments of the Parramatta Sand Body, but in lower densities (Groundtruth 2008).
- Levels of disturbance will vary, with the integrity of the archaeological record dependent upon the nature of historical activities. Historical construction activities may have resulted in total removal of the archaeological record, for example through excavation of basements and deep wall cuts. Activities may have resulted in vertical and horizontal mixing of the archaeological record, for example back-filling a cut with excavated material.
- The nature of encountered natural soils and sediments will vary. According to Mitchell's mapping of the Parramatta Sand Body, the Parramatta metro station construction site is likely to consist mainly of older alluvial clay and sand, with the potential for a transition in the eastern margin of the site to the Pleistocene sands of the Parramatta Sand Body. The interface between the alluvial clay and sand, and the Parramatta Sand Body is uncertain.

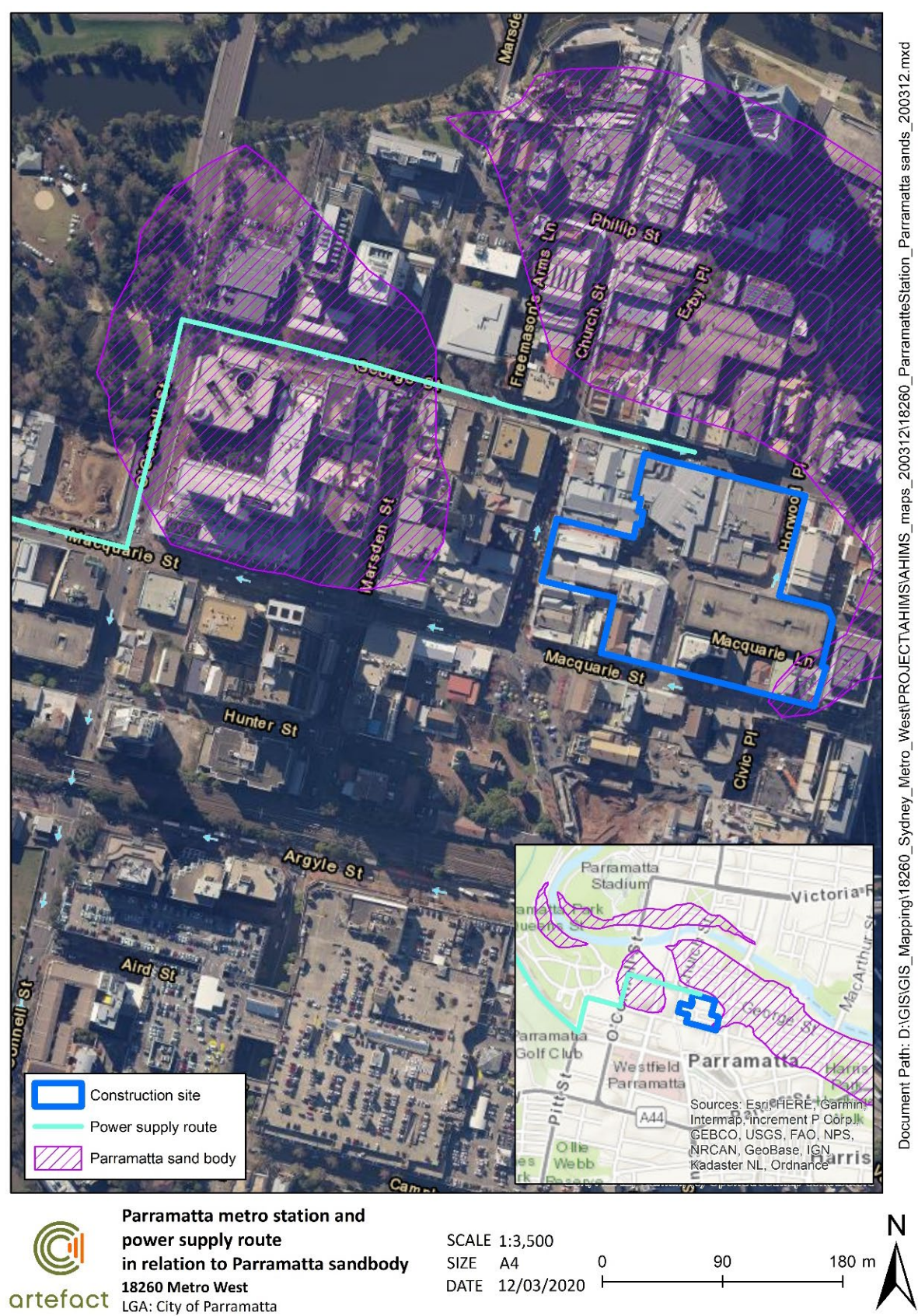
However, there still remains potential for Aboriginal objects and truncated natural ground surface contexts to occur in those areas. The majority of the study area is shown in the Parramatta DCP 2011 as an area of high sensitivity for Aboriginal heritage. The multi-storey car park and 41-59 George Street are shown as areas of low sensitivity, presumably due to potential ground disturbance from construction activities in those areas.

Overall, the archaeological potential of the Parramatta metro station construction site was assessed to be **moderate-high**. GML's provision of zones of potential archaeological sensitivity describes varying levels of potential across the site depending upon location within the site, relationship to the PBS and both historical disturbance and disturbance via flooding. Areas of potential (Figure 13) are defined as places with remnant A1 and/or A2 soil profiles, above basal clay. Clarification of these areas would be achieved through testing work and monitoring of fills. Areas where natural soil profiles are absent or disturbed would not require test excavation.

Figure 18. AHIMS site register search results; Parramatta metro station construction site

Removed for public viewing.

Figure 19: Parramatta metro station construction site in relation to the Parramatta Sand Body



7.2.3 Aims of archaeological survey

The aims of the archaeological survey were to:

- Inspect the perimeter of the site and car park, with focus on the latter as the central location for the proposed works
- Record any surface or potential subsurface Aboriginal sites that have not been recorded in AHIMS
- Identify areas of PAD that may be present in areas that have had no or minimal disturbance
- Engage with Deerubbin LALC regarding the proposed works and the archaeological potential of the study area
- Collect information to ascertain whether further archaeological investigation is required.

7.3 Archaeological survey coverage

The study area is located on land that would have been a gentle slope prior to the construction of the current facility. The perimeter of the study area is located on land that has been disturbed, excavated and levelled. However, the perimeter does provide sight of uncovered soil along edgings and boundaries, although these areas are likely to contain soils that have been transported onto the site.

The perimeter of the study area was examined, both from within the area of the site and also from the outside of the study area, which was easily viewable through an open chain link fence. The surface of the open air and undercover car parks were also investigated. However, all of the study area has been built over or landscaped.

A summary of the survey coverage of all survey units, according to the methodology outlined in the Code of Practice, is provided in Table 8 and Table 9.

Table 8. Effective survey coverage

Survey unit	Landform	Survey unit area (sq. m)	Visibility (%)	Exposure (%)	Effective coverage area (sq. m)	Effective coverage (%)
1	Former slope / open car park and perimeter	1,371	0	0	0	0

Table 9. Landform survey coverage

Landform	Landform area (sq. m)	Area effectively surveyed (sq. m)	% of landform effectively surveyed	Number of sites identified
Gentle slope	24000	0	0	1

Ground surface visibility was zero.

Impact Assessment of construction stage

The Stage 1 Technical Paper 4 found that there was moderate-high potential that an intact former ground surface(s) could be located within the Parramatta metro station construction site. They concluded that the archaeological deposit may consist of the Parramatta Sand Body and associated Pleistocene or Tertiary clay and sand formation. [REDACTED]

[REDACTED] The works at the Parramatta metro station construction site were within an area of moderate-high archaeological potential and significance and were therefore likely to impact Aboriginal objects.

[REDACTED]

Table 10. Archaeological potential determined by The Stage 1 Technical Paper 4.

Construction site	Archaeological potential	Archaeological significance	Type of Harm	Degree of Harm	Consequence of Harm
Parramatta metro station (including [REDACTED])	Moderate – High	Moderate – High	Direct	Total	Total loss of value

Stage 1 Technical Paper 4 resolved to mitigate harm to the archaeological values of the site by recommending the following actions. These actions were to prevent harm and to mitigate damage to the Aboriginal sites:

- Avoid direct impacts to previously recorded Aboriginal sites where possible
- Locate the majority of the Parramatta metro station construction site outside of the known extent of the Parramatta Sand Body, which is known to contain a higher level of archaeological potential.

Following the precautionary principle, the principle of intergenerational equity Technology Paper 4 recommended avoidance of impact on sites and recommended a series of steps should Aboriginal artefacts be discovered accidentally during the construction process: these steps that would trigger test excavation and potential salvage.

The current ACHAR focuses on the above ground construction envelope, not subsurface impacts. Therefore, the impacts on Aboriginal objects and sites in the OSD stage are zero.

8.0 SIGNIFICANCE ASSESSMENT

8.1 Significance assessment methodology

An assessment of the cultural heritage significance of an item or place is required in order to form the basis of its management. *The Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011) provides guidelines for heritage assessment with reference to the *Burra Charter* (Australia ICOMOS 2013). The assessment is made in relation to four values or criteria (Table 11). In relation to each of the criteria, the significance of the subject area should be ranked as high, moderate, or low.

Cultural heritage consists of places or objects, that are of significance to Aboriginal people. Cultural heritage values are the attributes of these places or objects that allow the assessment of levels of cultural significance.

Assessing the cultural significance of a place or object means defining why a place or object is culturally important. It is only when these reasons are defined that measures can be taken to appropriately manage possible impacts on this significance. Assessing cultural significance involves two main steps, identifying the range of values present across the study area and assessing why they are important.

Social/cultural heritage significance should be addressed by the Aboriginal people who have a connection to, or interest in, the site. As part of the consultation process the Aboriginal stakeholders were asked to provide information on the cultural significance of the study area. Information on consultation with Aboriginal stakeholders for the project is provided in Section 9.3.0.

Table 11. Burra Charter Heritage significance criteria

Criterion	Description
Social	The spiritual, traditional, historical or contemporary associations and attachments the place or area has for Aboriginal people. Social or cultural value is how people express their connection with a place and the meaning that place has for them. Does the subject area have strong or special association with the Aboriginal community for social, cultural or spiritual reasons?
Historic	Historic value refers to the associations of a place with a historically important person, event, phase or activity in an Aboriginal community. Is the subject area important to the cultural or natural history of the local area and/or region and/or state?
Scientific	This refers to the importance of a landscape, area, place or object because of its rarity, representativeness and the extent to which it may contribute to further understanding and information. Information about scientific values will be gathered through any archaeological investigation carried out. Does the subject area have potential to yield information that will contribute to an understanding of the cultural or natural history of the local area and/or region and/or state?
Aesthetic	This refers to the sensory, scenic, architectural and creative aspects of the place. It is often linked with the social values. It may consider form, scale, colour, texture and material of the fabric or landscape, and the smell and sounds associated with the place and its use. Is the subject area important in demonstrating aesthetic characteristics in the local area and/or region and/or state?

In addition to the four criteria, Heritage NSW (OEH 2011, 10) requires consideration of the following:

- 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?

8.2 Socio/cultural significance

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

One RAP commented that the area was highly significant to Aboriginal people because Aboriginal people have taken care of the land for thousands of years and are connected to the land through their lore, kinship and customs and connected with each other through waterways. Aboriginal people have a long oral history of knowledge about the land and caring for country.

8.3 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 comment was made on the historical values specific to the study area however continuous connection to land over thousands of years was stated as significant as outlined above in 8.2.

8.4 Scientific significance

Scientific values refer to a site's potential to contribute to our current understanding and information.

While the overall scientific archaeological significance of the ground surface and subsurface was assessed in Stage 1 Technical Paper 4 to be moderate to high, as the current proposal is an OSD site, and as such the proposed building envelope has not scientific significance (see Table 12).

Table 12. Scientific significance assessment

Site Name (AHIMS ID)	Research potential	Representativeness	Rarity	Education potential	Overall significance assessment
No sites	None	None	None	None	None

8.5 Aesthetic significance

Aesthetic values refer to the sensory, scenic, architectural, and creative aspects of the place. These values may be related to the landscape and are often closely associated with social/cultural values.

No comment was made on the aesthetic values specific to the study area although connection to the land is significant and includes intangible values, as outlined above (8.2).

8.6 Statement of significance

The consultation process has been completed.

The study area does not hold any archaeological scientific values.

One RAP responded that the area held socio/cultural significance for Aboriginal people through their ongoing connection to land.

9.0 AVOIDING AND MINIMISING HARM

9.1 Proposed works

The proposed works comprise the concept design for three building. As these are OSD sites, there is no impact on the archaeological values of the Parramatta station construction site.

9.2 Impact assessment methodology

The definition of harm to an object or place under the NPW Act (Section 5) includes any act or omission that 'destroys, defaces or damages the object or place or in relation to an object or ... moves the object from land on which it had been situated.'

Direct harm may occur as a result of activities which disturb the ground surface including site preparation activities, earthworks and ground excavation, and the installation of services and infrastructure.

Indirect harm for Aboriginal heritage refers to impacts that may affect sites or features located immediately beyond or within the area of the proposed works. Indirect harm may include impacts from vibration, increased visitation, or increased erosion, including ancillary project activities (construction and/or operation) that are not located within the study area.

9.3 Aboriginal heritage impact assessment

There are no impacts on archaeological values at the study area.

Table 13. Summary of impacts

Site	Type of harm	Degree of harm	Consequence of harm
Study area	None	None	No loss of value

9.4 Ecologically Sustainable Development principles

In accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales*¹, the principles of ecologically sustainable development have been considered in preparation of this Aboriginal heritage assessment, including options to avoid impacts to Aboriginal cultural heritage, assessment of unavoidable impacts, identification of mitigation and management measures, and taking account of Aboriginal community views. The principles of ecologically sustainable development are detailed in the NSW *Protection of the Environment Administration Act 1991*. Principles of ecologically sustainable development relevant to the assessment of the project as it relates to Aboriginal cultural heritage are considered below.

9.4.1 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

¹ Office of Environment and Heritage 2011

ACHAR demonstrates regard for the integration principle by considering Aboriginal heritage values and impacts to these from the proposal during its 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.

9.4.2 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').

As no archaeological sites were identified in the study area, no further archaeological investigation is recommended.

9.4.3 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 assessed that no further archaeological investigations through test excavations need be conducted. However, see the Unexpected Finds section below.

9.5 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.

As no archaeological finds have been discovered in the study area, the impact of the proposed development has been assessed as having no harm or cumulative impacts to the Aboriginal heritage of the region.

A draft of the ACHAR was provided to RAPS for commentary and feedback

10.0 MANAGEMENT AND MITIGATION MEASURES

10.1 Ongoing consultation with registered Aboriginal parties

Following the Unexpected finds policy below, consultation with Aboriginal parties will continue at completion of the ACHAR and also according to the results of the consultation process which is currently ongoing.

10.2 Unexpected finds

In the event of any unexpected finds of Aboriginal sites, objects, or archaeological deposits being found during construction the Sydney Metro Unexpected Heritage Finds Procedure should be implemented.

The Sydney Metro Unexpected Heritage Finds Procedure requires the following actions:

- Stop work within the affected area, protect the potential archaeological find, and inform Sydney Metro Environment Manager. Contact the Excavation Director or a suitably qualified archaeologist or Aboriginal cultural heritage consultant to assess the potential archaeological find and complete a preliminary assessment and recording of the item. Provide advice
- Formally notify the regulator by letter if required. The regulator is Heritage NSW
- Further archaeological mitigation may be required prior to works recommencing.

If human remains are found:

- If human remains, or suspected human remains, are found in the course of the activity, all work in the vicinity should cease, the site should be secured, and the NSW Police and Heritage NSW should be notified and the Sydney Metro Unexpected Heritage Finds Procedure and Exhumation Management Procedure should be followed.

11.0 CONCLUSIONS AND RECOMMENDATIONS

11.1 Conclusions

The following results and recommendations are based on consideration of:

- The requirements of Aboriginal heritage guidelines including:
 - The Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010a) – known as The Code of Practice
 - Guide to investigating and assessing and reporting on Aboriginal Cultural Heritage in New South Wales (OEH 2011) – known as ACHAR guidelines.
 - The Aboriginal Cultural Heritage consultation requirements for proponents 2010 (OEH 2010b)- known as Consultation Guidelines
- The SEARs issued for the proposal (Department of Planning, Industry and Environment) on 22 February 2022.
- Sydney Metro West. Parramatta Station Construction Site. Aboriginal Heritage Report. Report prepared for Sydney Metro. GML Heritage, October 2021.
- The results of Sydney Metro West – Sydney Metro West Stage 1 Technical Paper 4: Aboriginal Cultural Heritage Assessment Report. Parramatta, Cumberland, Canada Bay, Burwood, and Inner West Local Government Areas, November 2020 which included background research and an archaeological survey.

The assessment found that:

- No previously unrecorded Aboriginal sites or objects were identified within the study area during this assessment.
- [REDACTED]
- The proposal has been assessed as having no impact on any Aboriginal archaeological values in the study area because the proposed works will not impact the ground surface.
- Through the consultation process it was established that the RAPs supported the ACHAR. and the area held significance for Aboriginal people through their ongoing connection to land.

11.2 Recommendations

Based on the results of this assessment and in accordance with Aboriginal heritage guidelines mandated in the SEARs for the proposal, the following recommendations are made:

- As the study area is a proposed development it was found to have no impact on Aboriginal archaeological heritage values and it is recommended that further assessment is not required.

- If changes are made to the proposal that may result in impacts to areas not assessed by this ACHAR further assessment would be required.
- If Aboriginal objects, or potential objects, are uncovered during the proposed development, all work in the vicinity must cease immediately and The Sydney Metro Unexpected Heritage Finds Procedure followed.
- If human remains, or suspected human remains, are found during the proposed development, all work in the vicinity should cease, the site should be secured, and the NSW Police and Heritage NSW should be notified, and The Sydney Metro Unexpected Heritage Finds Procedure and Exhumation Management Procedure should be followed.

12.0 REFERENCES

- AECOM, 2013. Clyde Terminal Conversion Project Environmental Impact Statement. Report to the Shell Company of Australia.
- AECOM, 2018. Viva Energy Clyde Western Area Remediation Project. Appendix K Technical Report: Aboriginal heritage.
- AHMS, 2013. 189-1919 Macquarie Street Aboriginal Cultural Heritage Assessment Report.
- AMBS 2012. Newington Armament Depot & Nature Reserve, Sydney Olympic Park. Report to Tanner Architects Pty Ltd.
- Canada Bay Heritage Society, 2021. 'Aboriginal People of Concord,' *Canada Bay Heritage*. Accessed on 5 July 2022 via: <<https://canadabayheritage.asn.au/blog/2021/09/21/aboriginal-people-of-concord/>>.
- Archaeological & Heritage Management Solutions, 2016. *University of Sydney, NSW Aboriginal Heritage Impact Assessment*. Report to University of Sydney.
- Artefact Heritage, 2020. Sydney Metro West, Stage 1 Technical Paper 4: Aboriginal Cultural Heritage Assessment Report. Parramatta, Cumberland, Canada Bay, Burwood, and Inner West Local Government Areas. Report to Sydney Metro.
- Artefact Heritage, 2013. *Rozelle Rail Yard, Preliminary Aboriginal Heritage Assessment, NSW*. Report to NSW Department of Planning and Infrastructure.
- Artefact Heritage, 2014. *The Bays Precinct Preliminary Aboriginal Heritage Assessment*. Report to Department of Planning and Infrastructure.
- Artefact Heritage, 2016. Stage 3 Works, The Paddocks Precinct, Parramatta Park Aboriginal Cultural Heritage Assessment Report. Report to Parramatta Park Trust.
- Artefact Heritage, 2016. Stage 3 Works, The Paddocks Precinct, Parramatta Park Archaeological Survey Report. Report to Parramatta Park Trust.
- Artefact Heritage, 2017. The Bays Market Rezoning: Aboriginal Cultural Heritage Assessment Report.
- Artefact Heritage, 2017. Toongabbie Station TAP 2 Aboriginal heritage Due Diligence assessment. Report to TfNSW.
- Artefact Heritage, 2018. 1 & 2 Murray Rose Avenue, Sydney Olympic Park: Archaeological Survey Report. Report to Austino Property Group.
- Artefact Heritage, 2018. Clunies Ross Street, Pemulwuy Aboriginal Due Diligence Assessment. Report to LaSalle Investment Management.
- Austral Archaeology, 2007. Archaeological Salvage Excavations, 95-101 George Street, Parramatta. Report to Leighton Properties.
- Australia ICOMOS, 2013. Australia ICOMOS Charter for Places of Cultural Significance. The Burra Charter.
- Australian Archaeological Survey Consultants Pty Ltd (AASC), 1995. *An Archaeological Investigation of Aboriginal Sites at Callan Point and Yurulbin Point*. Report to Leichhardt Council.
- Attenbrow, V. 2010. Sydney's Aboriginal Past: Investigating the archaeological and historical records. Sydney: UNSW Press.

- Heritage NSW, 2019. 'Ancient Aboriginal and Early Colonial Landscape,' *State Heritage Inventory*, accessed on 7 May 2019 via:
<<https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5061073>>.
- Backhouse, J. 1834. *A Narrative of a Visit to the Australian Colonies*. London: Hamilton, Adams and Company.
- Biosis, 2012. 445-473 Wattle Street, Ultimo: Proposed Student Accommodation Development. Report to Urbanest Australia.
- Biosis, 2018. Concord Hospital Redevelopment: Aboriginal Cultural Heritage Due Diligence Assessment. Report to or JOHNSTAFF on behalf of NSW Health Infrastructure.
- Brayshaw, 1997. Olympic Village Site, Newington, Homebush Bay. Aboriginal Archaeology. Report to MIRVAC Village Consortium.
- Butlin, N.G., 1983. *Our Original Aggression: Aboriginal Populations of Southeastern Australia, 1788-1850*. Sydney: Allen & Unwin.
- Comber Consultants, 2009. Sydney Metro Network Stage 2 Aboriginal Cultural Heritage Assessment.
- Comber Consultants, 2011. *Aboriginal Archaeological and Cultural Heritage Assessment – Johnstons Stormwater Canal: Shared Pathway Project*. Prepared for the City of Sydney. Accessed online 3/5/2019 at:
https://meetings.cityofsydney.nsw.gov.au/Data/Corporate,%20Finance,%20Properties%20and%20Tenders%20Committee/20110815/Agenda/110815_cfptc_item17_attachmentd.pdf
- Comber, J. 2010. *Preliminary Excavation Report, 140 Macquarie Street, Parramatta*.
- Cultural Resources Management, 2016. Report of Archaeological Investigation: Church Street Mall
- Cultural Resources Management, 2016. Report of Archaeological Investigation: Church Street Mall Redevelopment Bicentennial Square Parramatta.
- Department of Environment Climate Change & Water (DECCW), 2010a. Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales.
- Department of Environment Climate Change & Water (DECCW), 2010b. Aboriginal Cultural Heritage Consultation Requirements for Proponents.
- Dominic Steele & Martin Carney Archaeological Management and Consulting Group, 1997. *Aboriginal Heritage, Australia Avenue, Fig Tree Circuit, 2000 Olympic Site, Homebush NSW*. Report to The Olympic Co-Ordination Authority.
- ESpade, 2022a. 'Blacktown,' accessed on 5 July 2022 via:
<<https://www.environment.nsw.gov.au/Salis5app/resources/spade/reports/9130bt.pdf>>.
- ESpade, 2022b. 'Birrongo,' accessed on 5 July 2022 via:
<<https://www.environment.nsw.gov.au/Salis5app/resources/spade/reports/9130bg.pdf>>.
- GML Heritage, 2021. Sydney Metro West. Parramatta Station Construction Site. Aboriginal Heritage Report. Report prepared for Sydney Metro.
- Groundtruth Consulting, 2008. *Nature and Distribution of Parramatta Terrace Sand*. Report to Parramatta City Council.
- Groundtruth Consulting, 2011. Sand body auger hole testing in the Parramatta local government area. Report to NSW Department of Planning.

Haglund & Associates, 2005. *Report on Testing for Aboriginal Archaeology, Parramatta Children's Court Site, Parramatta*. Report to Casey & Lowe, on behalf of the NSW Government Architect's Office and the Attorney-General's Office.

Haglund and Associates, 2007. *Parramatta Health Services Area, Parramatta Justice Precinct: Aboriginal Heritage Aspects*. Unpublished report. Report on Investigations completed under Section 87(1) Permit #2160.

Irish, 2004. Aboriginal Archaeological Assessment Report, Newington Armoury Adaptive Re-use and Rail Extension Project, Sydney Olympic Park. Report to the Sydney Olympic Park Authority.

Jacobs, 2020. Sydney Metro West: Technical Paper 10 (Biodiversity Development Assessment Report). Report to Sydney Metro.

Jo McDonald Cultural Heritage Management, 2004a. *Archaeological Test Excavation at 1 Smith Street (Site SSP1) Parramatta, NSW*. Report to Casey & Lowe Pty Ltd on behalf of Sydney Water.

Jo McDonald Cultural Heritage Management, 2004b. *Archaeological Test Excavation for Indigenous Sites: Civic Place, Parramatta*. Report to Casey & Lowe Pty Ltd on behalf of Parramatta City Council.

Jo McDonald Cultural Heritage Management, 2005. Archaeological Salvage Excavation of Site RTA-G1 109-113 George Street Parramatta NSW. Report to Landcom.

Karskens, G. 2020. *People of the River: Lost Worlds of Early Australia*. Crows Nest: Allen & Unwin.

Kelleher Nightingale Consulting, 2013. WestConnex M4 Widening: Aboriginal archaeological survey report.

Kelleher Nightingale Consulting, 2017. Parramatta Light Rail Aboriginal Cultural Assessment Report.

Mary Dallas Consulting Archaeologists, 2000. *Callan Point Aboriginal Heritage Management Plan*. Report to Callan Point Coastcare Project.

Mary Dallas Consulting Archaeologists, 2014. *Parramatta Aboriginal Cultural Heritage Study Review*. Report to Parramatta City Council.

Matthews, R.H., and Everitt, MM. 1900. 'The Organisation, Language and Initiation Ceremonies of the Aborigines of the South-East Coast of NSW,' *Journal and Proceedings of the Royal Society of NSW* 34: 262-281.

Niche, 2011. Aboriginal Cultural Heritage Assessment, Australian Catholic University Campus, Strathfield.

NSW Department of Environment, n.d. 'Disturbed Terrain,' *eSpade*. Accessed online 3/5/2019 at: <https://www.environment.nsw.gov.au/Salis5app/resources/spade/reports/9130xx.pdf>

Office of Environment and Heritage. 2011. *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW*. Office of Environment and Heritage, Department of Premier and Cabinet, Sydney

Office of Environment & Heritage (OEH), 2011. *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage*. Office of Environment and Heritage, Department of Premier and Cabinet, Sydney

RPS 2015. Aboriginal Heritage Impact Assessment, Westmead Hospital Redevelopment Project.
Steele and Czastka, 2003. Archaeological Salvage Excavations at the Quadrant, Broadway. Prepared for Australand Holdings.

Stockdale, 1789. The Voyage of Governor Phillip to Botany Bay
Sydney Metro 2019, Scoping Report, Westmead to The Bays and Sydney CBD

Umwelt, 2017. *Heritage Desktop Assessment Wave Park Group*. Accessed online 2/5/2019 at:
https://majorprojects.accelo.com/public/78632e28be2ad2c6859dfad4bbda099d/ATTACHMENT%2012_%20Heritage%20&%20Archeological%20Assessment,%20Umwelt.pdf

Urbis, 2016. Historic and Aboriginal Archaeological Assessment, 2 Figtree Drive Sydney Olympic Park. Report to Mirvac.

White, E. & McDonald, J. 2010. 'Lithic Artefact Distribution in the Rouse Hill Development Area, Cumberland Plain, New South Wales,' *Australian Archaeology* 70: 29-38.

13.0 APPENDICES

Consultation Log.

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artefact

Artefact Heritage
ABN 73 144 973 526
Level 4, Building B
35 Saunders Street
Pyrmont NSW 2009
Australia
+61 2 9518 8411
office@artefact.net.au
www.artefact.net.au