

# 28-30 Burrows Road, St Peters

Aboriginal Cultural Heritage Assessment  
Report

Prepared for LOGOS Development  
Management Pty Ltd

LGA: City of Sydney

September 2022

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## EXECUTIVE SUMMARY

Artefact has been commissioned by LOGOS Development Management Pty Ltd to prepare this report ahead of the proposed development at Lot 2 of DP 212652 and Lot 15 of DP 32332, known as 28-30 Burrows Road, St Peters, NSW 2044. The proposal will be assessed as a State Significant Development (SSD) (SSD-47601708). As such, this ACHAR assessment is being carried out according to the Secretary's Environmental Assessment Requirements (SEARs) issued for the project on 12 September 2022.

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)
- Project SEARs
- The results of the stakeholder consultation
- Extensive search of the AHIMS database
- In depth background research and assessment following an archaeological survey.

The assessment found that:

- No sites listed on the Aboriginal Heritage Information Management System (AHIMS) were discovered in the study area
- No previously unrecorded Aboriginal sites or objects were identified within the study area during survey
- The study area has been heavily disturbed by historical development activities
- The study area was assessed as having nil to low potential to retain intact archaeological deposits that may contain Aboriginal objects
- The consultation process has found that the nearby Gooly'yari (Cooks) River is of high cultural significance to the Aboriginal community

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 was found to be disturbed and to have a nil-low potential for Aboriginal objects to be located within it, further archaeological assessment is not required.

- Ongoing consultation with RAPs would continue throughout the life of the project, if necessary. For instance, ongoing consultation with RAPs would in the event of any unexpected Aboriginal objects being identified during works
- Unexpected Aboriginal objects remain protected by the *National Parks and Wildlife Act 1974*. If any suspected Aboriginal objects are uncovered in the course of construction activities, all work in the vicinity should cease immediately. A qualified archaeologist should be contacted to assess the find and Heritage NSW and Registered Aboriginal Parties must be notified.
- If human remains, or suspected human remains, are found in the course of construction, all work in the vicinity should cease, the site should be secured, and the NSW Police and Heritage NSW should be notified
- This ACHAR is based upon the project information available in the EIS. Any significant changes to the design that extends outside the current project site will be assessed by an archaeologist in consultation with the RAPs. Any changes that may impact on Aboriginal sites not assessed during the current study may warrant further investigation and result in changes to the recommended management and mitigation measures.

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## 1.0 INTRODUCTION

### 1.1 Project background

Artefact has been commissioned by LOGOS Development Management Pty Ltd to prepare this report ahead of the proposed developments at as Lot 2 of DP 212652 and Lot 15 of DP 32332, known as 28-30 Burrows Road, St Peters, NSW 2044. The proposal will be assessed as an SSD. As such, this ACHAR assessment is being carried out according to the Secretary's Environmental Assessment Requirements (SEARs) issued for the project on 12 September 2022.

### 1.2 Study area

The site is located at 28-30 Burrows Road, St Peters and comprises land known as Lot 2 of DP 212652 and Lot 15 of DP 32332. (Figure 1).

Key features of the site are as follows:

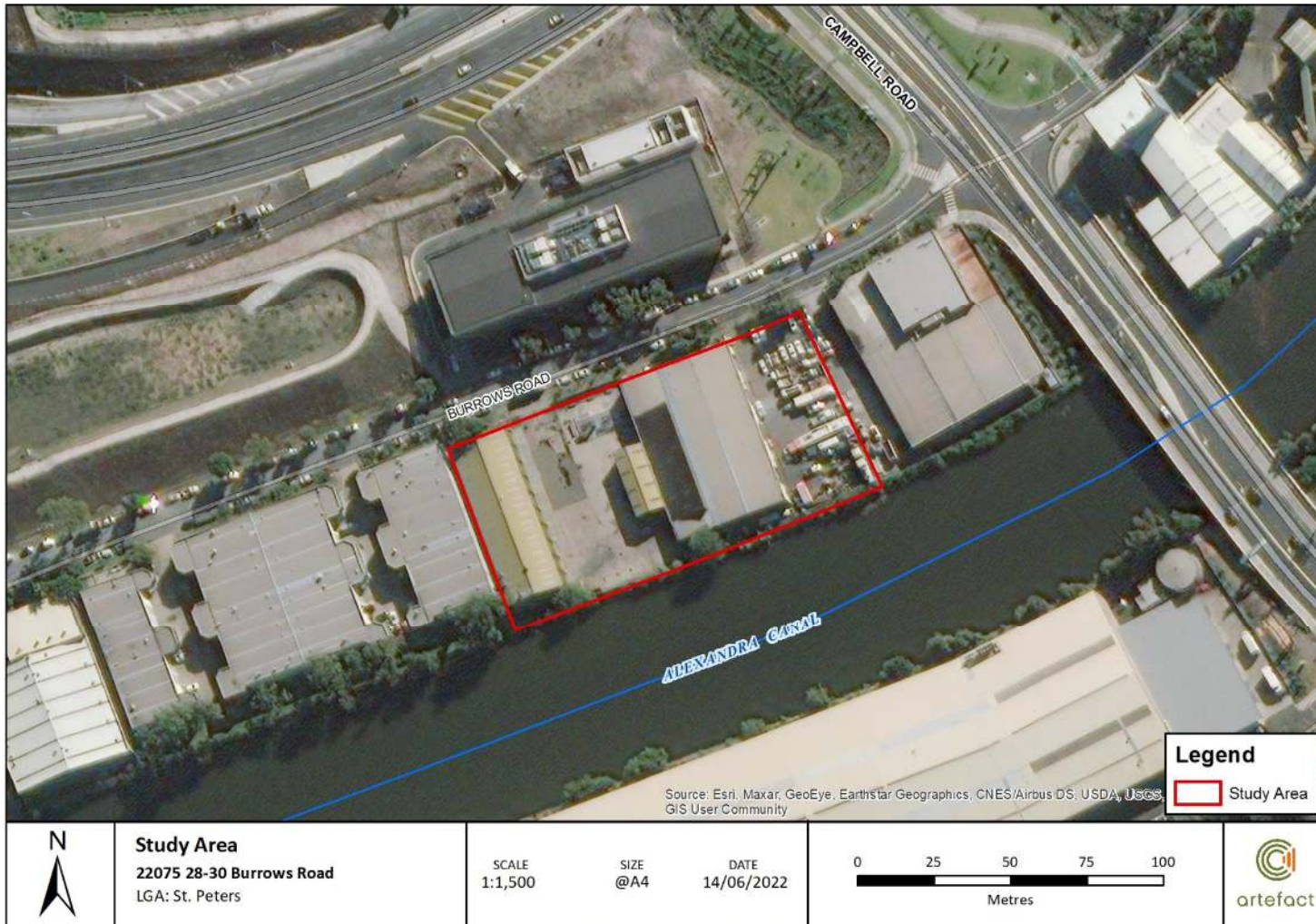
- The site is approximately 7,961sqm and is rectangular in shape. The primary frontage to Burrows Road is approximately 123m in length and the site maintains a depth of approximately 63.5m.
- The site has a fall of 0.51 metres from the northern boundary to the southern boundary. The site is currently occupied by two industrial / warehouse buildings with a large hardstand area for vehicle parking and deliveries. Alexandra Canal runs along the southern boundary of the site. A Site Survey Plan accompanies the application which details the topographic characteristics of the site.
- Limited vegetation is located along both the road frontage and the canal. The proposed development is to include a setback of 10m along the southern boundary to align with the City of Sydney's vision for a pedestrian and cycling network along the water's edge.
- Vehicular access to the site from the local road network is available from Burrows Road which links the site to the WestConnex road network in the north and Sydney Airport to the west.
- Industrial land uses extend along Burrows Road and Euston Road. St Peters railway station is approximately 1.5km from the site. The nearest residential neighbours south of the site are about 300m away and are separated by industrial warehouse buildings and the Alexandra Canal.
- The site is located within the City of Sydney LGA.

Key features of the locality are:

- The site is approximately 6km south-west of the Sydney CBD. It is close to Sydney Airport (1km north) and the Gateway Project which will link the new St Peters Interchange with Sydney Airport domestic and international terminals and Port Botany. A new bridge will be constructed over Canal Road.
- The site is surrounded by a variety of uses, including:

- North: The site has a direct road frontage to Burrows Road, close to the intersection with Campbell Road. Directly opposite the site to the north is the Westconnex Transurban MCC Main Office which comprises car parking facilities for motorists at the St Peters interchange. Sydney Park is further north on the opposite side of Campbell Parade.
- East: The immediately adjoining site to the east comprises industrial development. Campbell Road and Campbell Road Bridge are further east, with additional industrial land uses on the opposite side of Alexandra Canal, including Alexandria and Rosebery. Campbell Road connects the site to the broader Westconnex road network.
- South: The site is bound to the south by Alexandra Canal, a State Significant Heritage Item. Additional industrial land uses are located across the canal to the south, primarily comprising warehouse and distribution centres. Gardeners Road and Bourke Street provide access to Mascot and Eastlakes. Sydney Kingsford Smith Airport is further south.
- West: The immediately adjoining land comprises industrial development. The St Peters WestConnex Interchange is located to the north-west, with the Princes Highway beyond. Further west is low density residential and industrial land uses in the suburb of Sydenham. Sydenham Train Station is approximately 1.5km west of the site, providing services to the Sydney CBD.
- The study area is situated within an established industrial precinct and surrounded by existing industrial and commercial developments to the north, east and west. The Alexandra Canal bounds the study area to the south. The study area is strategically located within proximity to Sydney Airport (situated approximately 1 kilometre to the southwest) and Port Botany (situated approximately 6.6 kilometres to the south-east). The newly completed St Peters WestConnex interchange is situated approximately 200 metres northwest of the study area, providing links to the new M8 tunnel, and future links to M4 / M5 Tunnels and Sydney Gateway.

Figure 1: Study area



### 1.3 Overview of the project

Logos proposes to develop of a flight training centre and associated car-parking facilities at 28-30 Burrows Road. The project will be assessed as a State Significant Development (SSD-47601708).

The proposed facility will enable pilots and flight crews from Qantas and other airlines to undertake periodic training and testing to meet regulatory requirements by simulating both aircraft and emergency procedural environments (Figure 2, Figure 3, Figure 4). The flight training centre will be situated within a three-storey industrial warehouse building and will include:

Flight simulator hall:

- 8 x simulator bays – State of the art full motion flight simulators with visual fidelity, motion and sound. This allows crew to be trained in all aspects of normal and non-normal operations, including instrument approaches and landings in all weather conditions.
- The proposed simulators will complement the flight training facilities in other states.

Emergency procedures component including:

- Cabin evacuation emergency trainer – Full-scale cabin mock-up is used as practical training device. These facilities allow emergency situations to be accurately portrayed and allow pilots and cabin crew to handle emergency situations in both wide and narrow-bodied aircraft.
- Slide descent tower – Enables realistic training of deployment and use of slides to evacuate aircraft for pilots and cabin crew.

Door trainers – Enables realistic training of use of emergency exits to evacuate aircraft for pilots and cabin crew. Ancillary spaces (administration and training areas) including:

- Equipment room – Storage of emergency equipment (oxygen tanks, defibrillators etc.) that supports the training and assessment of cabin crew and pilots of aviation medicine.
- Pilots lounge – Area for pilots to wait prior to simulator sessions
- Meeting rooms and lunch room.
- Reception area.
- Toilets, plant, loading dock
- 34 car-parking spaces

Figure 2. Plan of proposed development area (CAE).

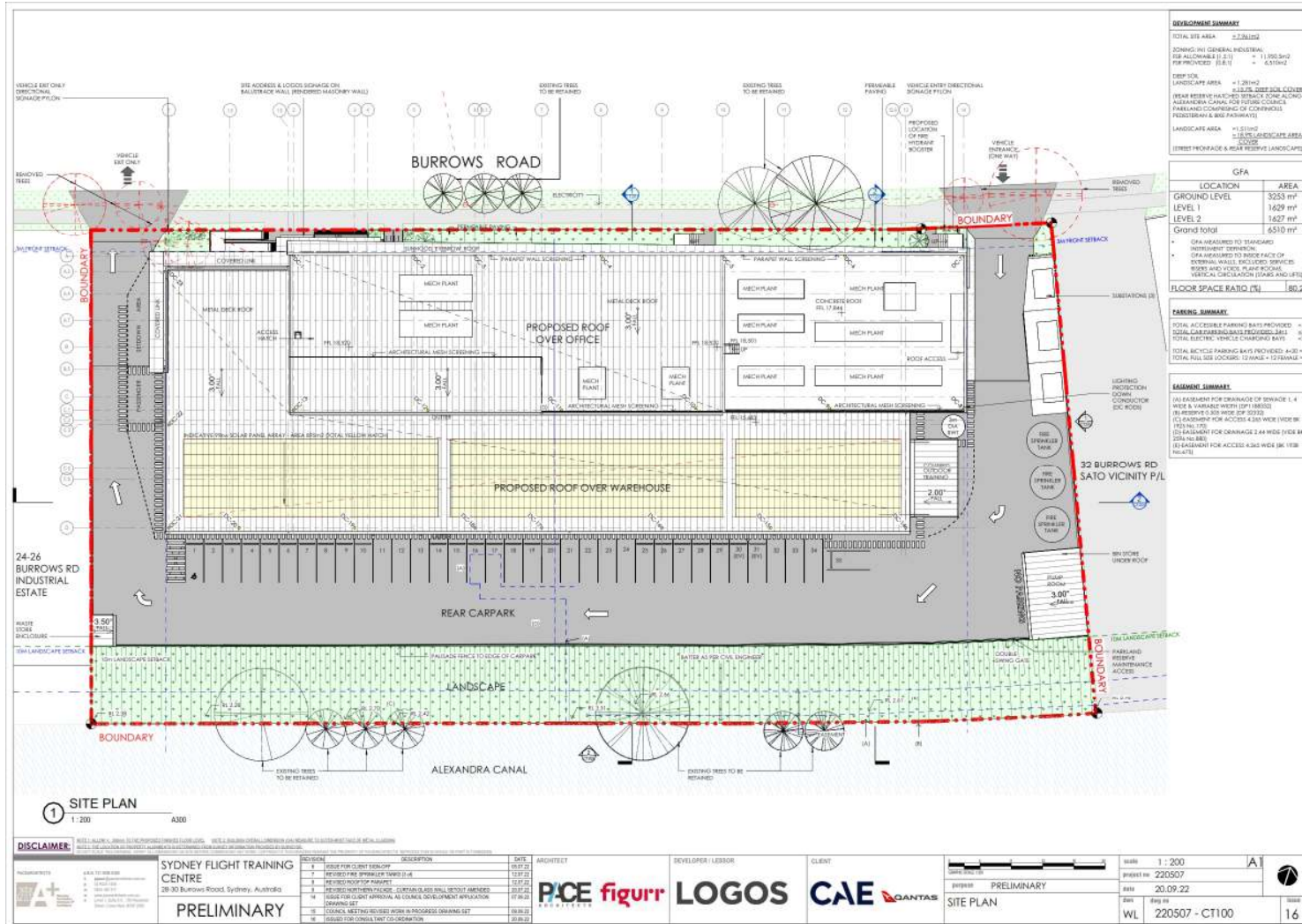




Figure 3: Plan of the proposed development (CAE)

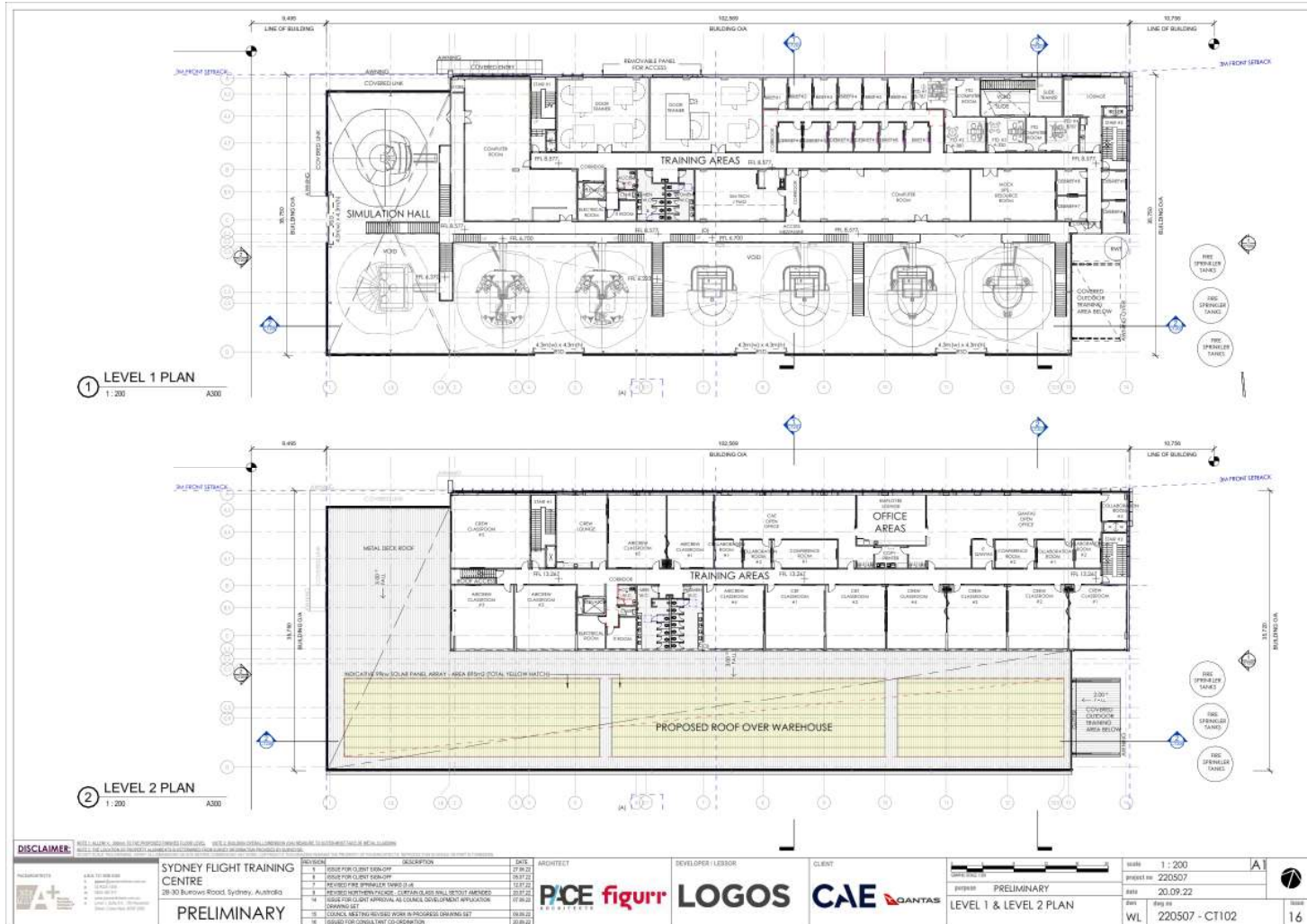
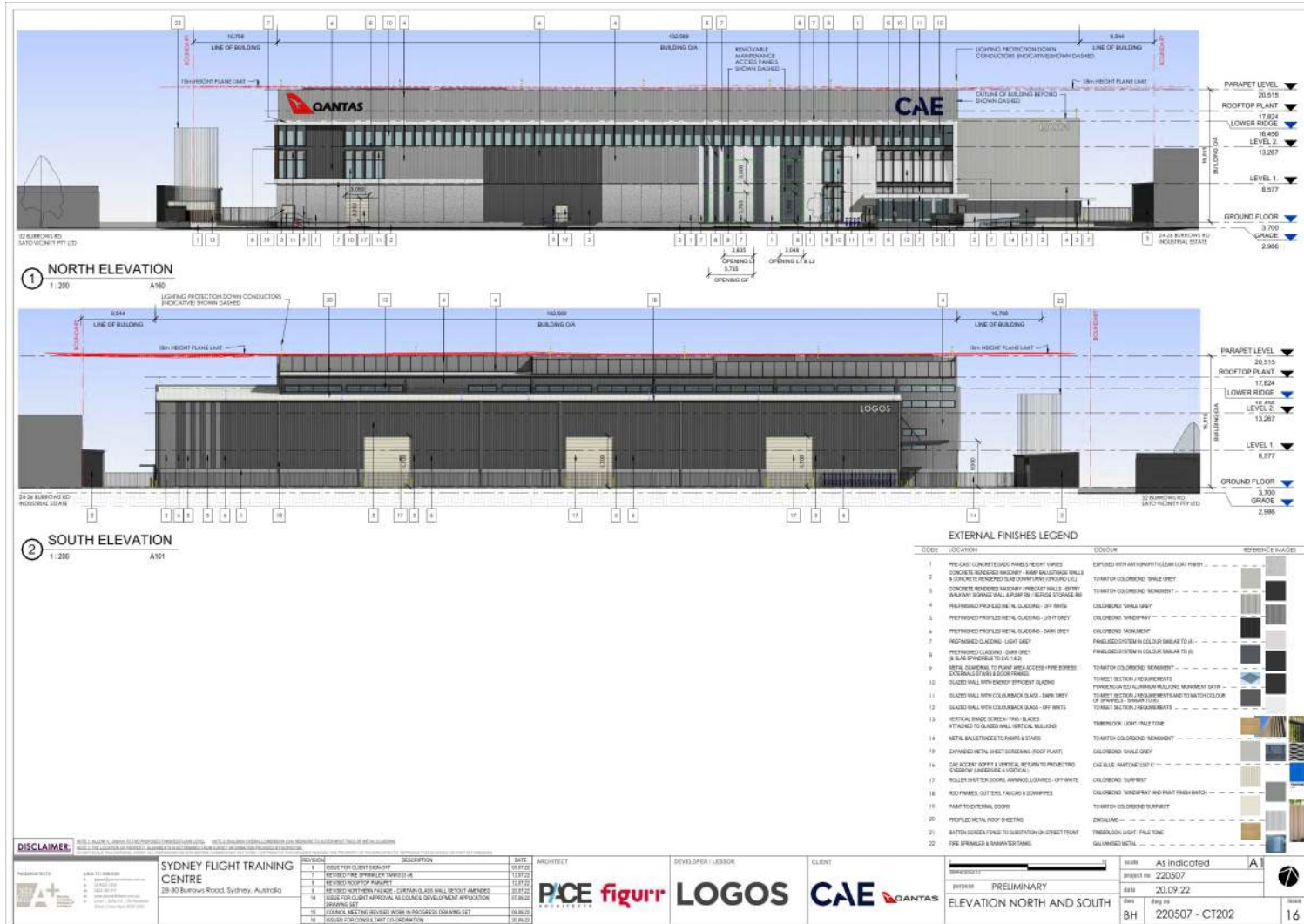


Figure 4: Section of the proposed development (CAE)



## 1.4 Purpose and objectives of the report

Artefact Heritage has been engaged to prepare an ACHAR to meet the requirements of the SEARs for warehouses and distribution centres. This report considers the impacts the proposed construction might have on Aboriginal cultural heritage and the potential archaeological resources within the study area. The report 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
- Preparation of a methodology for archaeological management including test excavation and salvage where required.

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

- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales 2010 (DECCW 2010a)
- Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011)
- Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW 2010b).

## 1.5 Project framework

### 1.5.1 State Significant Developments

The proposal will be assessed as an SSD (SSD-47601708). As such, this ACHAR assessment is being carried out according to the Secretary's Environmental Assessment Requirements (SEARs) issued for the project on 12 September 2022. The SEARs requirements are listed in Table 1.

**Table 1. Secretary's Environmental Requirements**

| Item | Secretary's Environmental Assessment Requirements   | Where addressed in this report |
|------|---|--------------------------------|
| 1.   | Provide an Aboriginal Cultural Heritage Assessment Report (ACHAR) prepared in accordance with relevant guidelines | This report                    |
| 2    | Identify and describe the cultural heritage values of the site  | Sections 5, 6 and 7            |
| 3    | Assess any impacts for any Aboriginal cultural heritage values on the site  | Sections 8 and 9               |

## 1.6 Authorship

This ACHAR has been prepared by Emma Jones (Heritage Consultant, Artefact Heritage) with review and management provided by Sandra Wallace (Managing Director, Artefact Heritage).

## 2.0 STATUTORY REQUIREMENTS

This assessment has been undertaken in the context of several pieces of legislation that relate to Aboriginal heritage and its protection in New South Wales. This chapter provides a summary of this legislation and requirements in relation to the proposal.

### 2.1 National Parks and Wildlife Act 1974

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

Under Section 86 of the NPW Act, Aboriginal objects and places are protected. An Aboriginal object is defined as:

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*'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'.*

---

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. 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.

The protection provided to Aboriginal objects applies irrespective of the level of their significance or issues of land tenure. Aboriginal objects and places are afforded automatic statutory protection in NSW whereby it is an offence to knowingly or unknowingly harm or desecrate and Aboriginal object or Aboriginal Place under Section 86 of the NPW Act.

If it is assessed that Aboriginal objects and/or places exist or are likely to exist within the study area, and may be impacted by the proposed works, further archaeological investigations may be required. The SSD requirements state that attempts to avoid damage must be made. Where damage is unavoidable the ACHAR and EIS must outline mitigation measures.

As the current proposal is being assessed as SSD under Part 4 Division 4.7 of the Environmental Planning & Assessment Act 1979 (EP&A Act), permits issued under the NPW Act are not required for works undertaken in accordance with the SSD Conditions of Approval issued by DPE.

All Aboriginal objects, whether recorded or not, are protected under the NPW Act. From 1 July 2020, Heritage NSW began managing Aboriginal cultural heritage regulatory functions under the NPW Act.

#### 2.1.1 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 (AHIP)
- Clause 61 – application for AHIP 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 for Archaeological Investigation of Aboriginal Objects in New South Wales 2010 (DECCW 2010a)
- Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011)
- Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW 2010b).

Part 4 Division 4.7 Section 4.41 of the EP&A Act 1979, section 5.23 identifies AHIPs under the NPW Act are not required to authorise harm to Aboriginal objects or places from approved SSD. The current assessment has been carried out in accordance with the above guidelines in order to meet the SEARs which refer to them.

## 2.2 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 current proposal is subject to assessment and approval by the NSW Minister for Planning under Part 4 Section Division 4.7 of the EP&A Act, which establishes an assessment and approval regime for SSD.

The EP&A Act requires that environmental impacts are considered prior to land development; this includes impacts on cultural heritage items and places as well as archaeological sites and deposits. 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. The current study area falls within the boundaries of Bathurst Regional Council LGA. Schedule 5 of the City of Sydney LEP 2012 includes a list of items and areas of heritage significance within the City of Sydney LGA.

There are no Aboriginal heritage items listed on the LEP within or near the study area.

## 2.3 NSW Aboriginal Land Rights Act 1983

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

---

(a) take action to protect the culture and heritage of Aboriginal persons in the council's area, subject to any other law, and

(b) promote awareness in the community of the culture and heritage of Aboriginal persons in the council's area.

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The study area is within the boundary of the Metropolitan Local Aboriginal Land Council.

## 2.4 Native Title Act 1994

The *Native Title Act 1994* was introduced to work in conjunction with the Commonwealth *Native Title Act 1993*. Native Title claims, registers and Indigenous Land Use Agreements are administered under the Act.

A request for information concerning any determinations in relation to the study area was made to the National Native Title Tribunal on 8 April 2022.

There are no Native Title claims currently registered in the study area.

## 2.5 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 (NHL) and the Commonwealth Heritage List (CHL).

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

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

Together the above three Acts provide protection for Australia's natural, Indigenous and non-Indigenous heritage. 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 Register of the National Estate.

### 2.5.1 National Heritage List

The National Heritage List (NHL) 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 NHL located within the study area for this assessment.**

### 2.5.2 Commonwealth Heritage List

The Commonwealth Heritage List (CHL) is a list of places managed or owned by the Australian Government.

**There are no items listed on the CHL located within the study area for this assessment.**

### 2.5.3 Register of the National Estate

The RNE is an evolving record of Australia's natural, cultural and Aboriginal heritage places that are worth keeping for the future. The AHC compiles and maintains the RNE under the Australian Heritage Council Act 2003. Places on the RNE that are in Commonwealth areas, or subject to actions by the Australian Government, are protected under the EPBC Act by the same provisions that protect Commonwealth heritage places (see above). Following amendments to the Australian Heritage Council Act 2003, the RNE was frozen on 19 February 2007, meaning no new places can be added, or removed. From 2012 all references to the RNE were removed from the EPBC Act and the AHC Act. The RNE is now maintained on a non-statutory basis as a publicly available archive.

**There are no items listed on the RNE located within the study area for this assessment.**

## 3.0 CONSULTATION

### 3.1 Aboriginal stakeholder consultation

Aboriginal community consultation has been conducted in accordance with the Consultation Requirements (DECCW 2010a). A consultation log has been maintained which details all correspondence with the registered Aboriginal parties for the ACHAR. The consultation log and copies of correspondence are included in the appendices.

#### 3.1.1 Identification of Aboriginal stakeholders and registration of interest

In accordance with step 4.1.2 of the Consultation Requirements, Artefact Heritage corresponded with the following organisations by email on 30 May 2022 requesting the details of Aboriginal people who may hold cultural knowledge relevant to determining the Aboriginal significance of Aboriginal objects and/or places within the local area:

- Heritage NSW
- Native Title Service Corporation (NTSCorp)
- National Native Title Tribunal
- Office of the Registrar, Aboriginal Land Rights Act 1983
- City of Sydney Council
- Metropolitan Local Aboriginal Land Council

In addition to this, and in accordance with Step 4.1.3 of the Consultation Requirements, an advertisement was placed in the Koori Mail on 15 June 2022 inviting the participation of Aboriginal people who may hold cultural knowledge relevant to determining the Aboriginal significance of Aboriginal objects and/or places within the local area.

In accordance with Step 4.1.3 of the Consultation Requirements, on June 28 2022, emails or letters were sent to all Aboriginal persons or organisations identified through advertisement or through responses from agencies contacted as part of Step 4.1.2. In accordance with Step 4.2 the letters provided details about the location and nature of the proposal, as well as an invitation to register as an Aboriginal stakeholder.

As a result of that process 12 organisations registered their interest. 2 groups asked that their details are not disclosed. The remaining 10 groups are listed in Table 2.

**Table 2: Registered Aboriginal parties for the study area**

| Organisation                               | Individual           |
|--|----------------------|
| Metropolitan Local Aboriginal Land Council | ██████████           |
| Didge Ngunawal Clan                        | ████████████████████ |
| Details withheld                           | Details withheld     |
| Kamilaroi-Yankuntjatjara Working Group     | ██████████           |
| Gunjee Wong Cultural Heritage              | ████████████████████ |



| Organisation                               | Individual       |
|--|------------------|
| Wori Woilywa                               | [REDACTED]       |
| Darug Custodian                            | [REDACTED]       |
| Guntawang Aboriginal Resources Inc         | [REDACTED]       |
| Details withheld                           | Details withheld |
| Koori Digs                                 | [REDACTED]       |
| Butucarbin Heritage                        | [REDACTED]       |
| Yurwang Gundana Cultural Heritage Services | [REDACTED]       |

### 3.1.2 Review of ACHA methodology

Stage 2 of the consultation process is to provide RAPs with information about the scope of the proposed project and the proposed cultural heritage assessment process. An ACHAR methodology was prepared which detailed the protocol for the completion of the ACHAR:

- A description of the project and extent of the study area
- An archaeological significance assessment of the study area
- A description of the statutory requirements for the protection of Aboriginal heritage
- An impact assessment for recorded Aboriginal sites and areas of archaeological potential

Provision of measures to avoid, minimise, and if necessary, offset the predicted impacts on Aboriginal heritage values. The proposed ACHAR methodology was sent to the RAPs listed in Table 2 on 12 July 2022. Feedback on this methodology was requested by 9 August 2022. Comments received on the proposed methodology are summarised in Table 3.

**Table 3: Summary of RAP comments on ACHAR methodology.**

| Organisation/ Individual                         | Comment   | Response |
|--|---|----------|
| Gunjeewong Cultural Heritage<br>[REDACTED]       | Gunjeewong is happy with the methodology provided | Noted    |
| Koori Digs<br>[REDACTED]                         | Koori Digs agrees with the methodology            | Noted    |
| Guntawang Aboriginal Resources Inc<br>[REDACTED] | Guntawang agrees with the proposed methodology    | Noted    |

### 3.1.3 Review of draft ACHAR

A draft ACHAR report was sent to the RAPs listed in Table 2 on 11 August 2022. Feedback on this methodology was requested by 8 September 2022. Comments on the draft ACHAR are summarised in Table 4. Full responses are included in the Consultation Log (Appendix 1) and the Consultation Documentation (Appendix 2)

**Table 4: Summary of RAP comments on draft ACHAR.**

| Organisation/ Individual                             | Comment   | Response  |
|--|---|---|
| Koori Digs<br>[REDACTED]                             | Koori digs agrees with the draft ACHAR and doesn't have any comments at this stage  | Noted   |
| Guntawang Aboriginal Resources Inc<br>[REDACTED]     | "Thank you for the information of the Draft ACHAR it is one of the most comprehensive draft reports I have read   | Noted   |
| Justine Coplin<br>[REDACTED]                         | Our country is the traditional land of the Darug people, who speak the Darug language. It is culturally inappropriate for any non-Darug person or group/s to speak on Darug cultural heritage. Darug people are the only people that have the authority to speak for Darug Country and hence should be the only peoples that can and must speak for Darug Country. Recent consultation meetings have revealed that many Aboriginal organisations and individuals do not hold cultural knowledge of the Western Sydney Area. The increasing involvement of such parties in cultural heritage management means that genuine local Aboriginal organisations are unable to properly care for our cultural heritage. Darug Custodian Aboriginal Corporation do not support the recommendations set out in this report. | This ACHAR was completed in accordance with the Consultation Requirements which requires that consultation is complete with all RAPs. |
| [REDACTED]<br>Kamilaroi Yankuntjatjara working Group | "Thank you for your ACHAR, we would like to agree and support your recommendations regarding 28-30 Burrows Rd, St Peters."  | Noted, thank you  |

## 4.0 ENVIRONMENTAL CONTEXT

The environmental context of the study area is to assist in the prediction of:

- The potential of the landscape over time to have accumulated and preserved Aboriginal objects
- The ways Aboriginal people have used the landscape in the past with reference to the presence of resource areas, surfaces for art, other focal points for activities and settlement
- The likely distribution of the material traces of Aboriginal land use based on the above.

### 4.1 Geology and soils

the study area sits within the Botany Basin, a large and distinctive geological feature that measures approximately 170 km squared. Excluding Sydney Airport, which is largely built on reclaimed land, 115 km square of the Botany Basin is dry land, while Botany Bay constitutes the remainder (Artefact 2020).

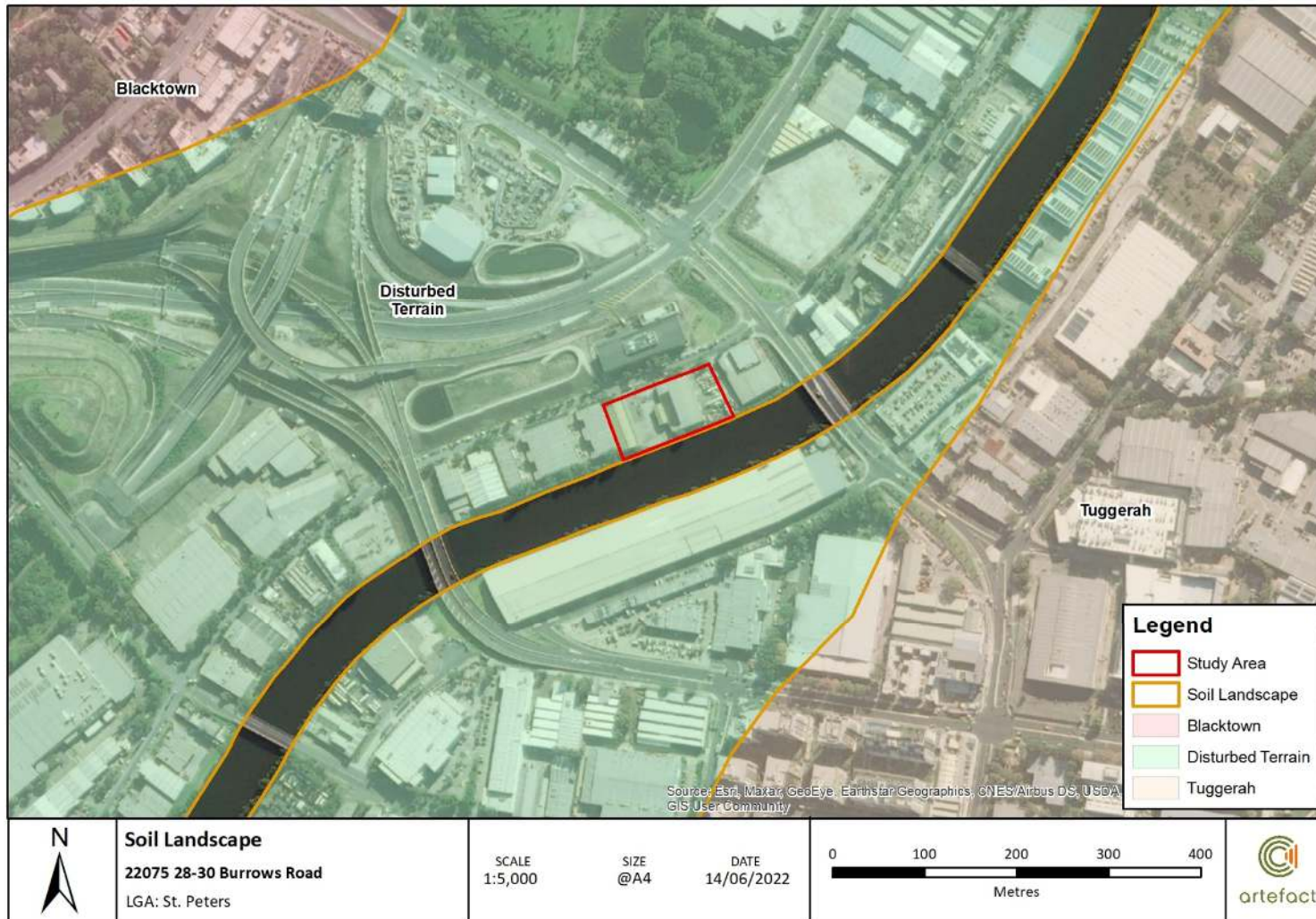
The soils of the study area are classified as “Disturbed Terrain” (ESpade, 2015) (Figure 5). This classification refers to territory that has been disturbed by human activity including excavation and infilling. It is adjacent to the Alexandra Canal which, when constructed at the turn of the twentieth century, altered the natural flow of Sheas Creek which flowed approximately 100m to the south. This realignment included excavation and land reclamation.

While the immediate surrounds are classified as disturbed, the soils of the Botany Basin consist of Tuggerah Soils overlaying the Botany Sand Sheet. This is an archaeologically sensitive layer of the Botany Sands, primarily Holocene (a period which embraces the last 11,700 years of Earth’s history) wind deposited stained grey sands which once comprised ground surface during Aboriginal habitation of the area.

These soils are likely to date no earlier than from 4,000 to 2,000 years ago. These stained grey sands are the top unit (tg1) of the Tuggerah Soil Landscape. This topsoil unit (tg1) is described as a surface of approximately 300 mm of organically grey-stained unconsolidated sand, sitting above bleached sands (tg2) of one to two metres in depth. The grey stained colour of tg1 derives from breakdown of surface vegetation and the presence of charcoal which may be of human or natural causes. Traces of more recently deposited degrading vegetation may be preserved as an overlying thin darker grey layer above the grey archaeologically sensitive tg1 sands (State Government of NSW and Department of Planning and Environment 2009).

The Tuggerah soil units that underlie the bleached tg2 sands can continue to ten metres in depth. They vary in colour and composition largely according to local hydrology and position on landform. These sand units rest on earlier Pleistocene sand (predating the Holocene of up to 11,700 years ago) which in turn rests on Hawkesbury Sandstone or at times Wianammatta shale.

Figure 5. Location of study area within Disturbed Terrain. Note the Tuggerah sand present to the south and east of the study area.



## 4.2 Landforms and hydrology

The study area is situated on relatively flat, levelled terrain. The nearest water way is the Alexandra Canal, which runs abuts the study area to the south (Figure 6). This is an artificial waterway constructed along the path of Sheas Creek, a tributary of the Cooks River. Canal construction and subsequent building in the area has redirected the path of Sheas Creek. The NSW Soil and Land Information does not hold mapping of natural hydrology for this area (Figure 7).

Figure 6: Map showing watercourses in proximity to the study area.

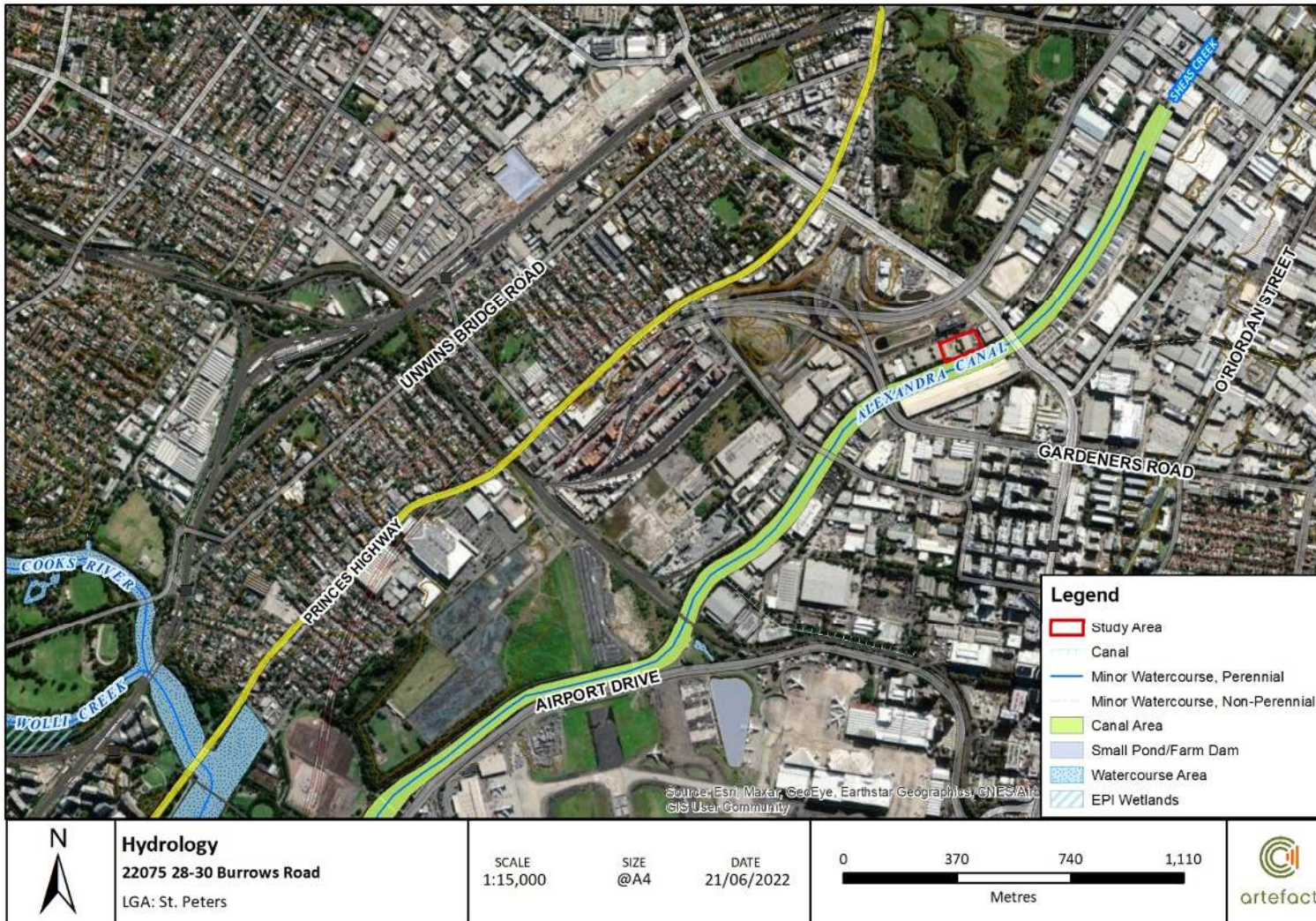
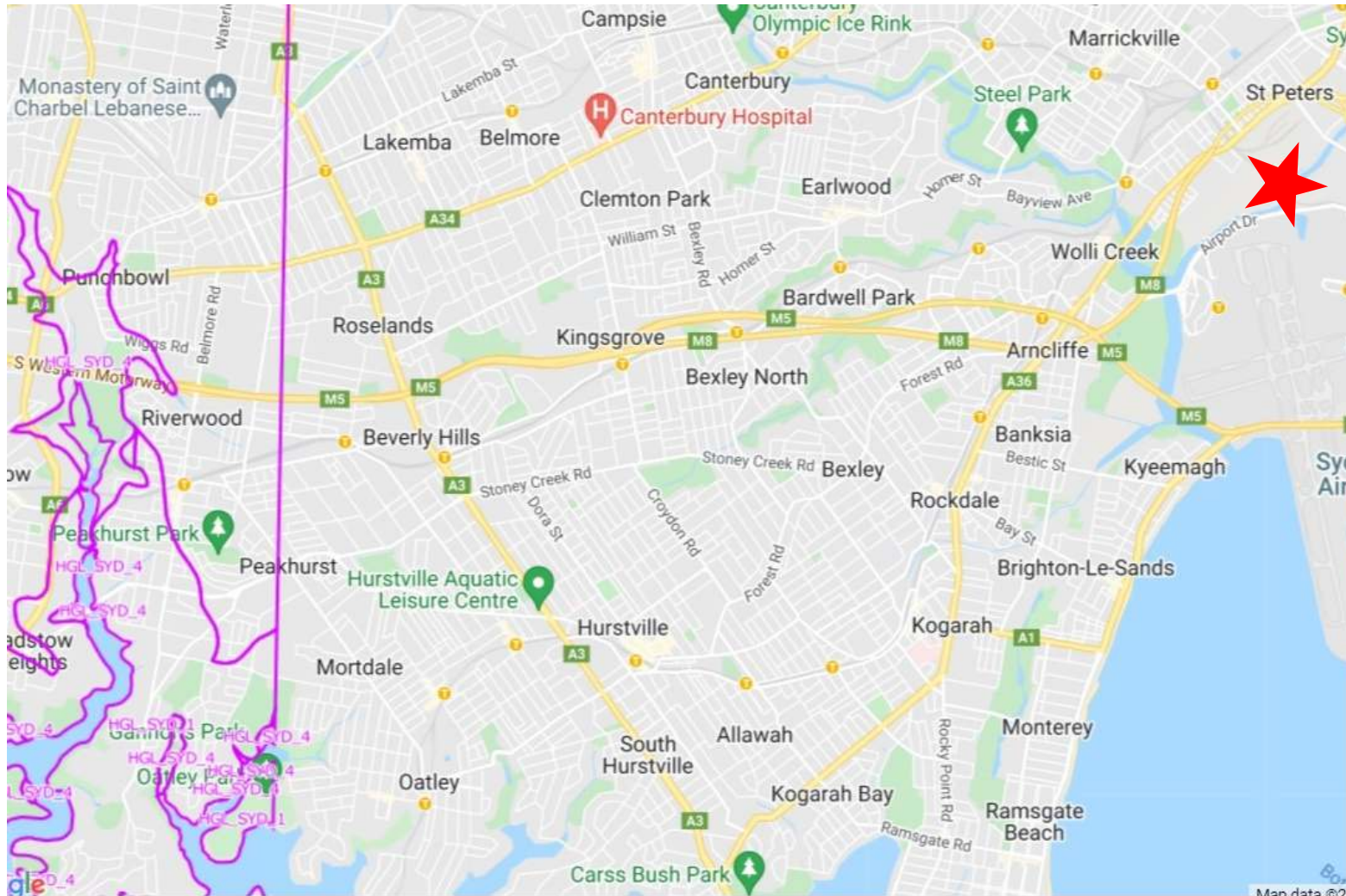


Figure 7. The study area (red cross) is located on the east side of that area with known hydrological flows represented by the purple lines and the study area is represented in red.



### 4.3 Vegetation

It is likely that vegetation around the study area would have comprised a combination of Coastal Dry Sclerophyll Forest and Coastal Heaths (Keith 2004). The Dry Sclerophyll Forest grows on sandstone landscapes in areas below 700 metre elevation, where rainfall average varies from 1,000 to 1,300 millimetres (Keith 2004:146). This vegetation type encompasses a wide range of related forest and woodland communities. The eucalypt canopy includes Sydney Red Gum, Red Bloodwood and Sydney Peppermint, Brown Stringybark, Broadleaved Scribbly Gum and Old Man Banksia (Keith 2004:146). The prominent and diverse Sclerophyll Shrub understory is shorter and more open on ridges than in gullies, while the open ground layer is dominated by Sclerophyll Sedges.

The Coastal Heaths generally comprise a small overstory of sparse Red Bloodwood, Heart-leaved Stringybark and Yellow-top Ash (Keith 2004:179). The low shrubby vegetation comprises a diverse array of sclerophyllous genera and is interspersed with an equally rich complement of sedges and herbs, and a small number of grasses. Various plant species within the area were exploited by Aboriginal people for food and other resources. For example, various species of native lilies with small tuberous roots were collected and eaten (Australian National Botanic Gardens) (Keith 2004). The flower-cones of the Banksia were soaked in water in bark or wooden containers to extract the nectar to make sweet drinks (Australian National Botanic Gardens). The hearts of the Grass Tree stems were eaten and the nectar from the spike flowers was also collected and eaten. They could also be utilised for making tools such as spears, shafts and handles for stone implements, as well as carrying vessels of bark and woven fibre, digging sticks and a variety of other items utilitarian and non-utilitarian. The dry flower-stems of the smaller Grass Tree species were used for spears (Australian National Botanic Gardens) (Keith 2004).

### 4.4 European history and land use

Prior to construction of the Alexandra Canal, and in the early days of British settlement, the Sheas Creek was a part tidal, narrow flowing tributary of the Cooks River. The land descended from the hill at St Peters to the creek (which would have been mosquito infested). Europeans frequented the banks of the creek to gather shell from the middens located there, which they used to make lime essential for making mortar.

The land in St Peters, Newtown and Marrickville was noted as not suitable for agriculture and noted for having shallow water and large swamps (Ringer 2013) and for this reason the colonial administrator's focus for agriculture was focused on Parramatta and the Hawkesbury Rivers. Land use in St Peters, Newtown and Marrickville included kilns for brick making, tanneries, wool washing and chemical manufacturing. The location of the latter was predicated by the Slaughter House Act of 1849 which required all industries involving noxious chemicals be located 1.6km from the city area. The waste matter from these industries was released into Sheas Creek. The brickmaking industry thrived in at Alexandria, Waterloo, Newtown, Marrickville, Tempe as well as St Peters. The study area is adjacent to a former brick works on its western and northern sides. As Sydney's population grew, so did the demand for bricks for terraced housing. Inner city terraces replaced the former small holdings of these areas.

Analysis of a Parish Map dated to 1823-1825 from the Parish of Alexandria show that the study area is situated within the former Waterloo Estate of William Hutchinson (Figure 8). Hutchinson was a convict who arrived in Sydney in 1799. He rose to prominence in Sydney, becoming the Company Director of the Bank of New South Wales in 1829 and later the Company Director of the Mutual Fire Insurance Association in 1840. 1818, Hutchinson established a water powered flour mill along the banks of Sheas Creek. In 1823, a 1,400-acre grant encompassing the land on which he constructed

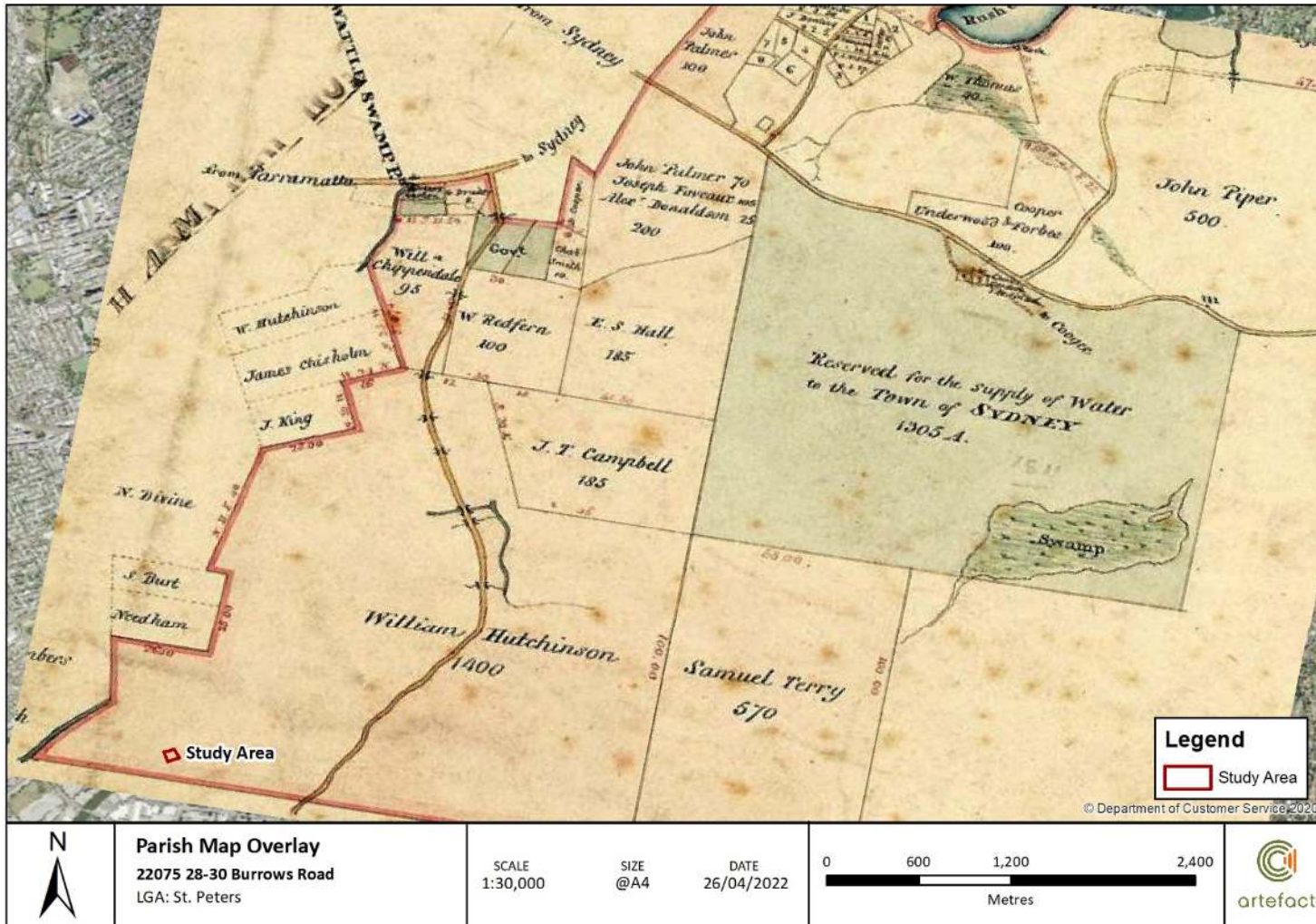


the flour mill was awarded to Hutchinson before it became part of Daniel Cooper's Waterloo holding in 1825 (Dictionary of Sydney, 2006).

The canal was built by the NSW Department of Public Works and was intended to connect Botany Bay to Sydney Harbour and transport coal, blue metal and building materials to the Sydney docks. Building commenced in 1887 at junction of Sheas Creek and the Cooks River and works continued to 1905. In 1896 the finds associated with Shea's Creek Dugong find (AHIMS ID 45-6-9751) were dug up (see below). However, the newly built canal needed constant maintenance: it silted up quickly had to be dredged and repaired. Large craft could not use it because it was too shallow and affected by the tides. The project was not successful for commercial uses. The wharves were demolished, but the storage areas for wool built on the eastern side continued in use.

Analysis of historical aerial imagery tells a similar story of intense industrial land use in and around the study area. In 1951, the study area comprised an industrial lot that appears to have been used for the storage of shipping containers (Figure 9). Between 1951 and 1961, this existing warehouse structure was constructed (Figure 10 10). Between 1978 and 1986, an extension was added to the western side of the main structure (Figure 11).

Figure 8: Parish map from 1823-1825. The approximate location of the study area is outlined in red.



Document Path: D:\GIS\GIS\_Mapping\22075 28\_30 Burrows Road\MXD\Parish Overlay.mxd

Figure 9: Historical aerial imagery from 1951. The approximate location of the study area is outlined in red. (Source: NSSW Spatial Services)

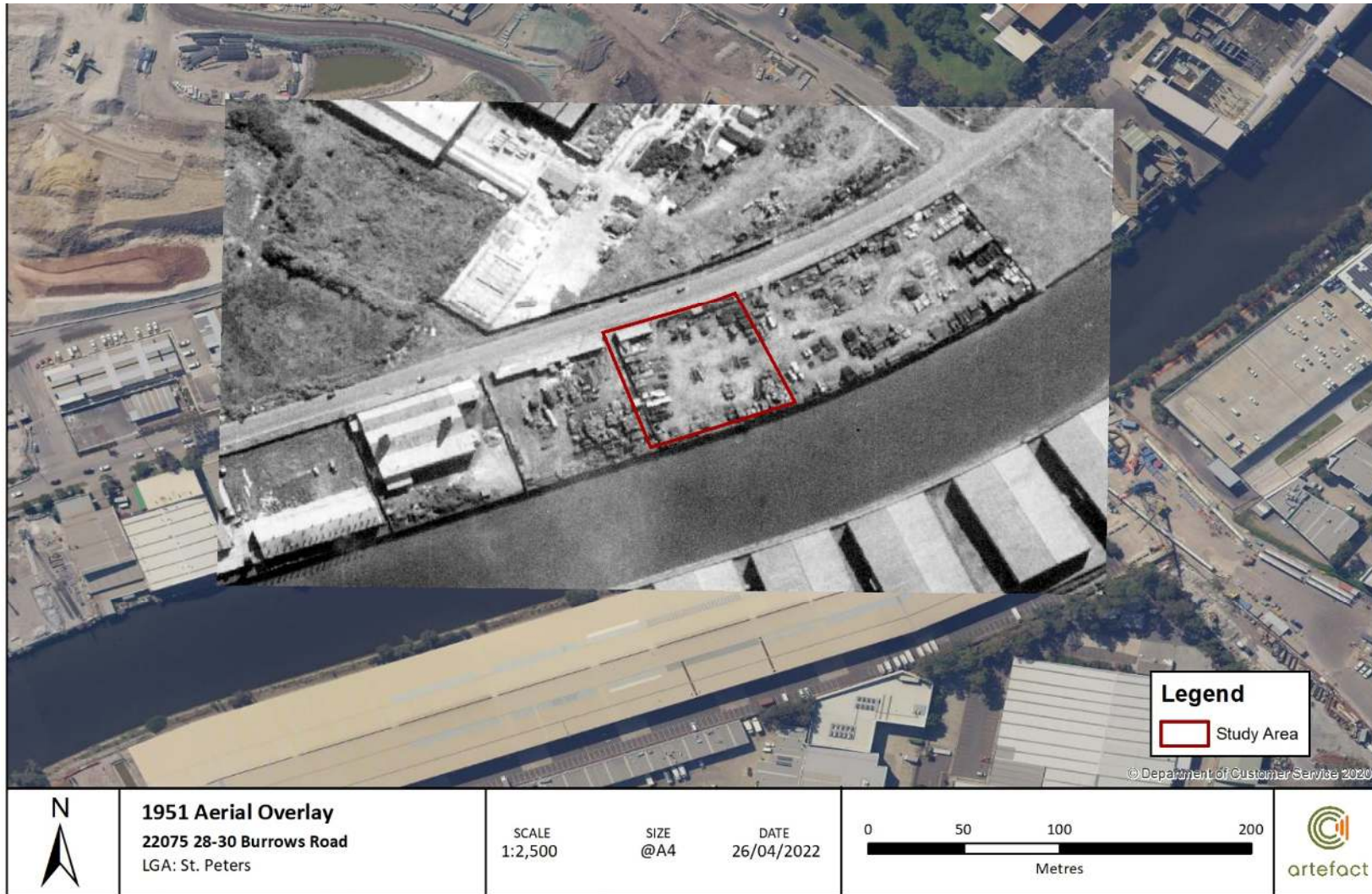


Figure 10: Historical aerial imagery from 1961. The approximate location of the study area is outlined in red. (Source: NSW Spatial Services)

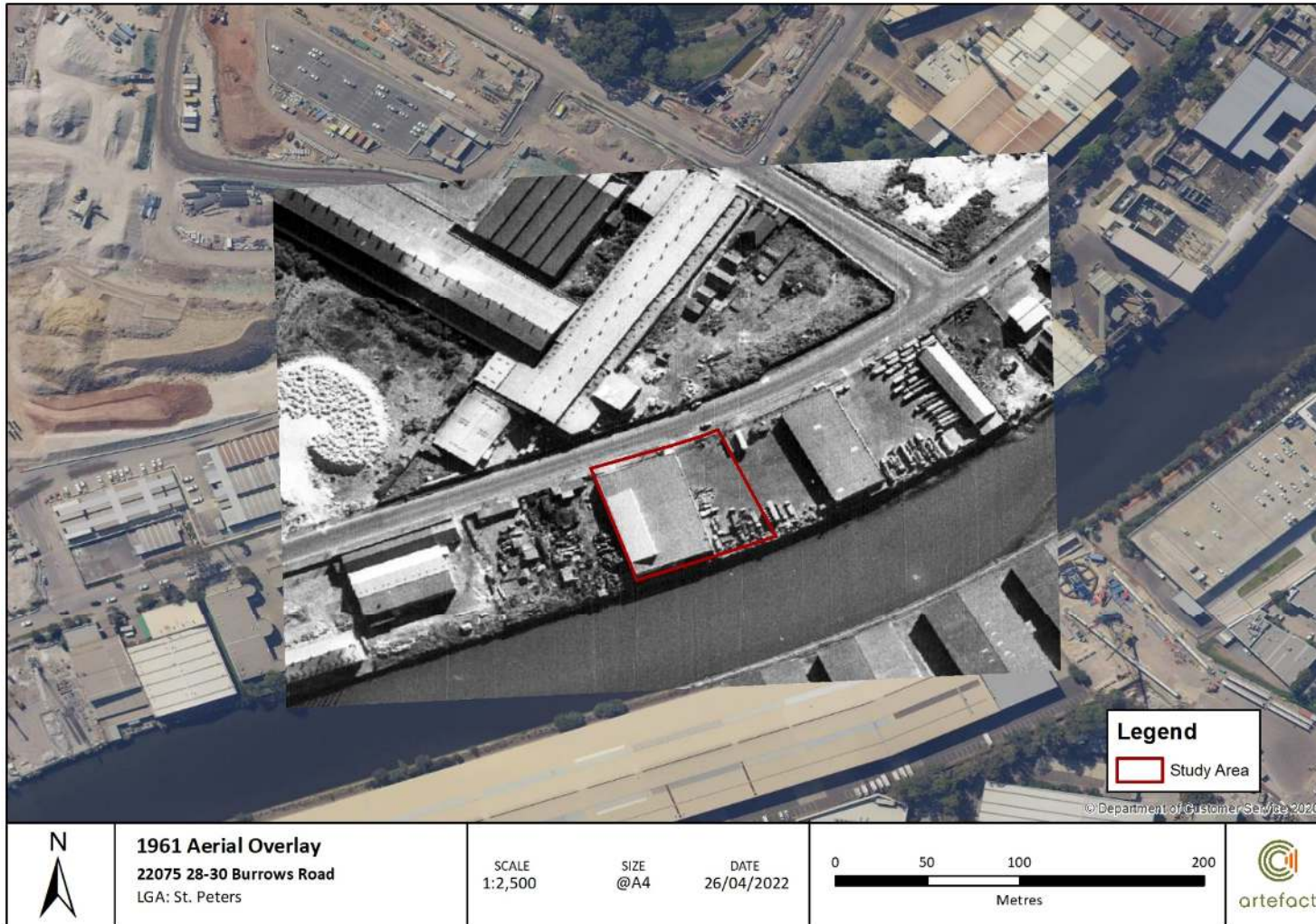
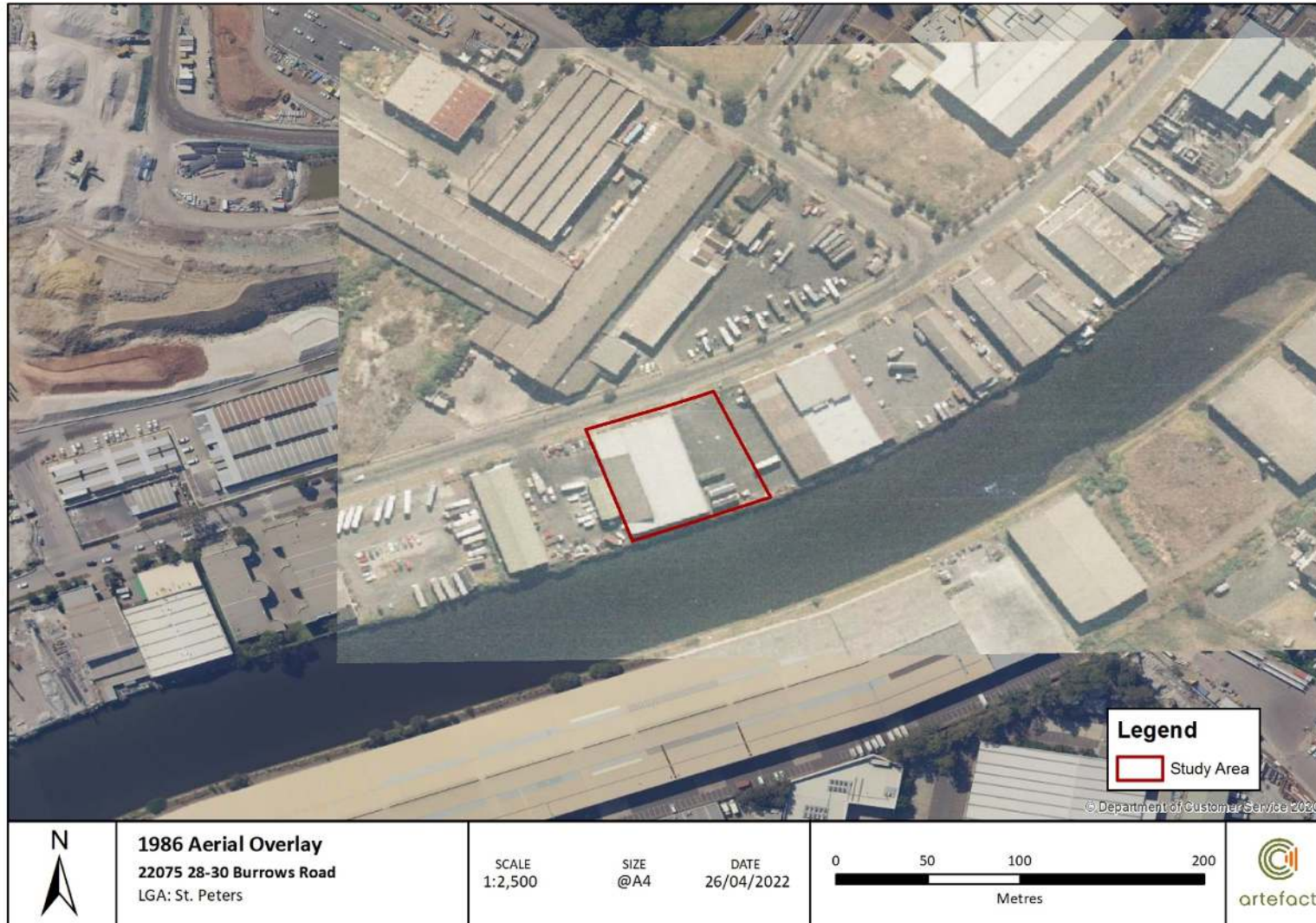


Figure 11: Historical aerial imagery from 1986. The approximate location of the study area is outlined in red. (Source: NSW Spatial Services)



The South Sydney Council developed a refurbishment plan in 1997, aimed as transforming the industrial parts of the area to residential use. A second plan by Sydney Water followed in int 1998, with further input by architecture students from University of New South Wales. By 1999 urban renewal of the area resulted in housing for 25,000 residents and associated retail outlets and recreational plans for the canal. However, by 2008 the area was declared severely contaminated by chemical waste not to be further disturbed (Ringer, 2013).

## 5.0 ABORIGINAL CULTURAL AND ARCHAEOLOGICAL CONTEXT

### 5.1 Ethnographic and historical evidence

Aboriginal people used different landscapes and resource strategies within their clan territories across the Sydney Basin. Different resources were possibly available seasonally, necessitating movement or trade across the landscape (Attenbrow 2010: 78). Aboriginal people hunted kangaroo and wallaby and snared possums and other small animals and birds for food and skins and tool making. For example, kangaroo tail sinews were used as a fastening cord, whilst 'bone points' which would have functioned as awls or piercers are an often-abundant part of the archaeological record (Attenbrow 2010:118). Ethnographic observations of early European settlers noted that Aboriginal people used a variety of animal parts; claws, talons, bone, skin, teeth, shell, fur and feathers for a variety of tools and non-utilitarian functions. Plants were likewise an important source of nutrition for past Aboriginal peoples with numerous plant species utilised for food, manufacture and medicinal purposes (Attenbrow 2010: 41). The broader region of the study area would have held a variety of resources throughout the changing seasons allowing for year-round occupation by traditional Aboriginal groups inhabiting the area. The Cooks River and Botany Bay would have provided valuable fish and shellfish (Attenbrow 2010: 62).

Recent research indicates that Aboriginal narratives can often be correlated with the geological events that they portray, including those in the distant past (McNiven, I and L Russell 2005). Of 21 local Aboriginal narratives collected from around Australia references to events such as flooding bays or previous dry land, as well as stories of volcanic eruptions (especially on the Victorian Volcanic Plain (Nunn, P and N Reid 2016; and Baras 2020) were documented. A Dharawal narrative relating to Botany Bay is one of these, and depicts events that closely match the geological processes of landscape formation described below (Section 5.2).

The Dharawal narrative states that in the past the Kai'eemah (Georges) River joined with the Goolay'yari (Cooks) River and flowed through one of the swamps that was then Botany Bay. One day a great storm arose, and huge waves washed into the Kai'eemah destroying much of the swampland previously used for food gathering. People fled inland. When they returned to the coast they found a changed landscape: a great bay where the swamps and high mountains of sand had been and where the Kai'eemah had met the sea (at Kurnell). The Kai'eemah River and Goolay'yari River no longer joined each other, but ran to the sea separately (Nunn and Reid 2016).

### 5.2 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 and bipolar flaking increases (McDonald 2006). 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.

Aboriginal people have lived in the Sydney area through considerable climatic and landscape changes which have occurred over the past 25,000 years. Dramatic changes occurred in the Botany Basin, where the study area is located. The last 25,000 years has seen the marine and wind borne deposition of approximately 40 metres depth of sands in the Botany Basin. Approximately 30 metres of this sand was deposited in the Pleistocene during the lengthy cold dry phase leading up to the Last Glacial Maximum (LGM between 21-19,000BP) and the overlying 10 metres was deposited largely during the Holocene, increasingly after a sea level drop in 2,000BP. Much of the Botany Basin was periodically inundated up to approximately 4,000 years ago and much of the landform, particularly dunes, in these locations will postdate inundation. The Pleistocene and Holocene sand units are frequently difficult to differentiate from each other, with the top of the Pleistocene sands blending into the overlying Holocene sands (Gale, de Rochefort, Moore and Timms 2018). Some dates have been extracted from organic inclusions in these Pleistocene sands, and these dates range between 10,000 and 42,000BP, weighted towards earlier (pre 21,000BP) dates (Gale, de Rochefort, Moore and Timms 2018). Dates of 5450±40BP and 8880±200BP have been extracted from organic material in swamps on the Holocene sands (Gale, de Rochefort, Moore and Timms 2018). These dates likely reflect the early formation period of these swamps and the dunes that surround them. Dates taken from swale fills of dunes, which post-date the formation of main dune bodies, range from 1,700 years ago to present, reflecting the recent and ongoing wind borne deposition of dune material (Gale, de Rochefort, Moore and Timms 2018). Once local dune sands in the Botany Basin formed and were stabilised by vegetation, a habitation surface of sands stained by vegetation breakdown and human occupation formed. This is the Tuggerah Soils tg1 unit which is characteristically 200 mm to 300 mm depth (Artefact 2020). Aboriginal artefacts found within these layers therefore may be dated up to 25,000 years ago.

The Botany Basin is predominantly sand of considerable depth and referred to as the Botany Sands. The top layers of the Botany Sands are classified as Tuggerah soils (tg). This formation emerged about 25,000 years ago and coincides with the dates of Aboriginal occupation in the Sydney region at around 30,000 years ago.

The last major ice age in Australia is thought to have peaked between 21,000 and 19,000 years Before Present (BP) (within the Pleistocene epoch (2.5 million years to 11,700 years BP). During this period, the climate was cold and dry, and Botany Bay was part of an arid coastal hinterland, infilled with sand sheets and dunes created by the winds redepositing the sands of the Georges and Cooks Rivers. It is thought that the coastline was 130m lower than today. The Georges and Cooks Rivers would have joined to form a single watercourse and flowed towards Botany Bay and deposited large volumes of sediment into the Bay.

At 21,000 years ago, Aboriginal people in the region would have known the Botany Basin as a sandy low lying basin at least six kilometres from the coastline, covered in part by sand dunes which were concentrated towards the east, cut by the faster flowing Georges and Cooks Rivers and interspersed with wetlands, swamps and likely riverine lagoons. Winds here would have blown from the west



towards the coast, a factor Aboriginal people must have considered in building or seeking shelter (Thom, B.G & TSN Oliver 2018). These conditions would have been familiar for thousands of years.

Around 19,000BP, as warmer conditions developed globally, glaciers in Australia are thought to have melted and the coastline would have risen by up to 3 meters a year (Byrne 2017) and wind direction shifted from the west to predominately from the east (Thom et al. 2018). Such changes may have affected Aboriginal subsistence modes and lifestyles in response to diminishing land due to sea level rise; warmer and wetter conditions which in turn would have affected the distribution of flora and fauna in the region; and the distribution of fresh and salt water resources.

During the Holocene, a period in which the rate of climate warming increased from 11,700 BP, the Tuggerah soils formed atop the Botany Sands (Hann, J. 1985). By 7,400 BP sea levels had risen to 1 to 1.5 m above current sea levels and the sandy swampy lowlands in the east of the Botany Basin had flooded as rising seawaters breached the foreshore dunes near the mouth of the joined Cooks and Georges Rivers. The ocean continued to rise, inundating low lying lands to form Botany Bay (Sloss, C. R., Murray-Wallace, C. V., & Jones, B. G. 2007; and Stephen E. Lewis, Craig R. Sloss, Colin V. Murray-Wallace, Colin D. Woodroffe, Scott G. Smithers 2013).

Today elevations in the Botany Basin are currently between 3 m and 45 m Australian Height Datum (AHD), and it is almost certain that following the warming that took place in the Holocene from 11,700BP, there would have been some inundation of low lying areas of the Botany Basin that are currently dry land. The water table in the Botany Basin would have been higher and saltwater would have reached further inland along the estuaries of the Georges and Cooks Rivers than previously or currently, changing the availability of fresh water and of freshwater species. The extent of inundation in the Botany Basin during this period may have been major.

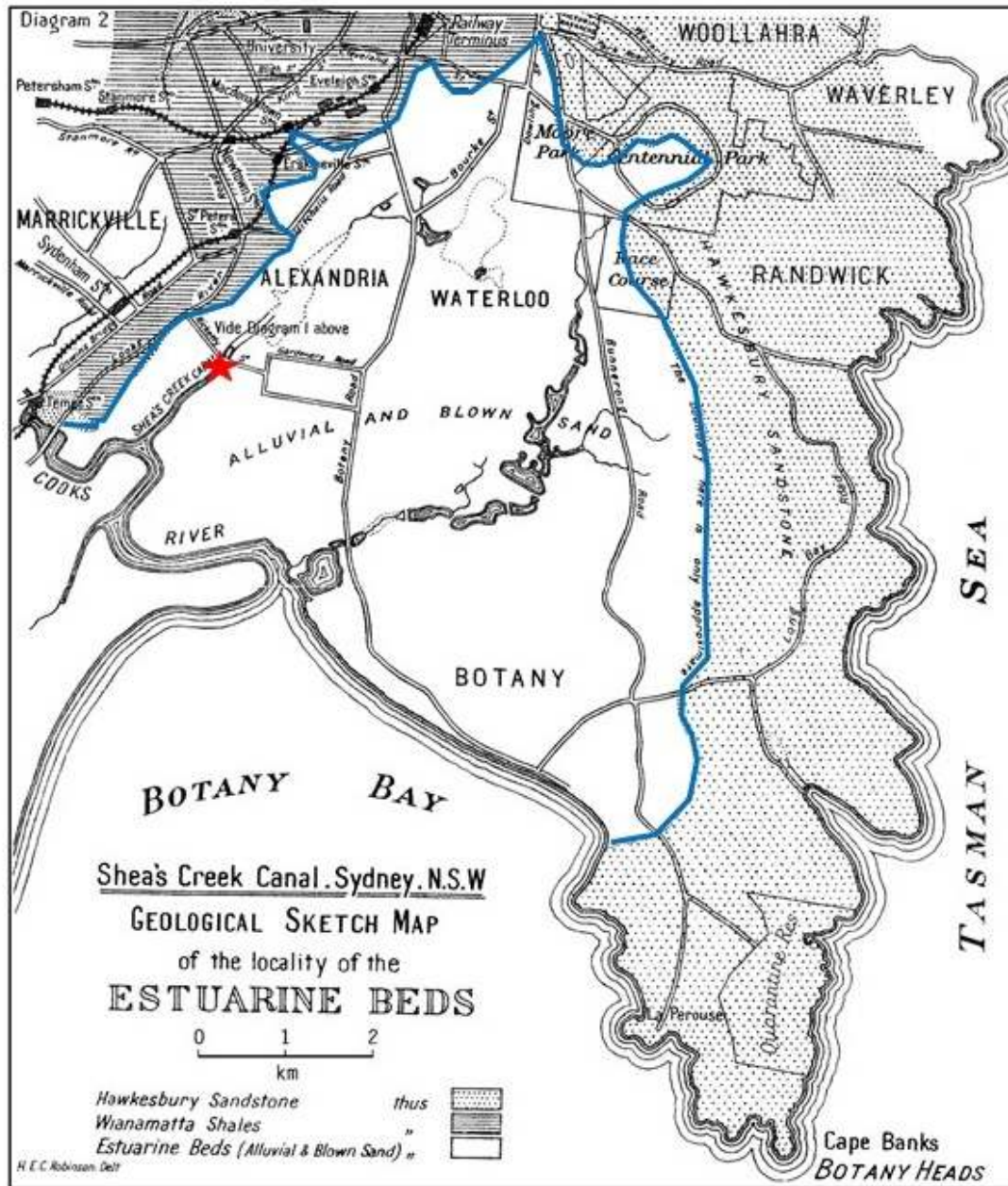
### 5.2.1 [REDACTED]

The [REDACTED] provides evidence that much of the Botany Basin was submerged as recently as 5,500 years ago (Artefact 2020). The finds include dugong bones showing signs of butchery discovered along with stone tools found in 1896 during the excavation of the [REDACTED]. University of Sydney staff further identified submerged woodland and peat lenses within sand beds (Etheridge, R. David T. and J. Grimshaw 1896). The dugong remains were Carbon 14 dated by Haworth et al (2004) to 5520±20BP. Haworth et al (2004) noted that dugong habitat consists of stable, warm marine lagoons of 1 to 5 m depth. If the dugong had been butchered near the shore of such a lagoon, it would support the hypothesis of the inundation of the Botany Basin around 5,500 years ago forming a much larger Botany Bay than is the case today. This proposition supports Etheridge et al's (1896) hypothesis which proposed an expanded shoreline for Botany Bay, indicated by blue in Figure 13, wherein the dugong is represented by a red star (Figure 12).

Etheridge also found peat, shell and wood layers at the dugong site in 1896. Some of the wood recovered in 1896 and additional samples retrieved during works at Sydney Airport have been dated and indicate fluctuating sea levels in Botany Bay suggesting that the location of the coast line varied throughout the period from 8,841±65 BP to approximately 4,000 BP. In which case, the position of the dugong find, indicated in Figure 10, is not anomalous (Haworth et al 2004).

From 4,000 BP cooler and drier conditions dominated and those previously inundated lands shown in Figure 10 dried up to form sand sheets and new dunes developed on top. The sea levels dropped further and by 2,000 BP fell to 1 to 1.5 m (Harrison and Dodson. 1993). The Tuggerah soils that formed on top of the sand sheets now predominate in the Botany Basin and constitute the most recent strata of the Botany Sands and the include the land on which Aboriginal people lived.

Figure 12. Expanded shorelines of Botany Bay (Etheridge 1896) per Haworth 2004. Colour accents added and location of the study area.



### 5.3 Registered Aboriginal sites

The locations and details of Aboriginal sites are considered culturally sensitive information. It is recommended that this information, including the AHIMS data and GIS imagery, is removed from this report if it is to enter the public domain.

The AHIMS search provides archaeological context for the area and identifies whether any previously recorded Aboriginal sites are located within or near the study area. An extensive search of the

Aboriginal Heritage Information System (AHIMS) database was undertaken on 24 April 2022 ([REDACTED]).

An area of approximately 1km was included in the search. The parameters of the search were as follows:

[REDACTED]  
[REDACTED]  
[REDACTED]

There were no AHIMS sites found within the study area. [REDACTED] results were found within 1 kilometre of the study area; however, one site had been deregistered. OEH lists 20 standard site features that can be used to describe a site registered with AHIMS, and more than one feature can be used for each site. The deregistered site had previously been recorded as [REDACTED] and reclassified as “not a site” [REDACTED]

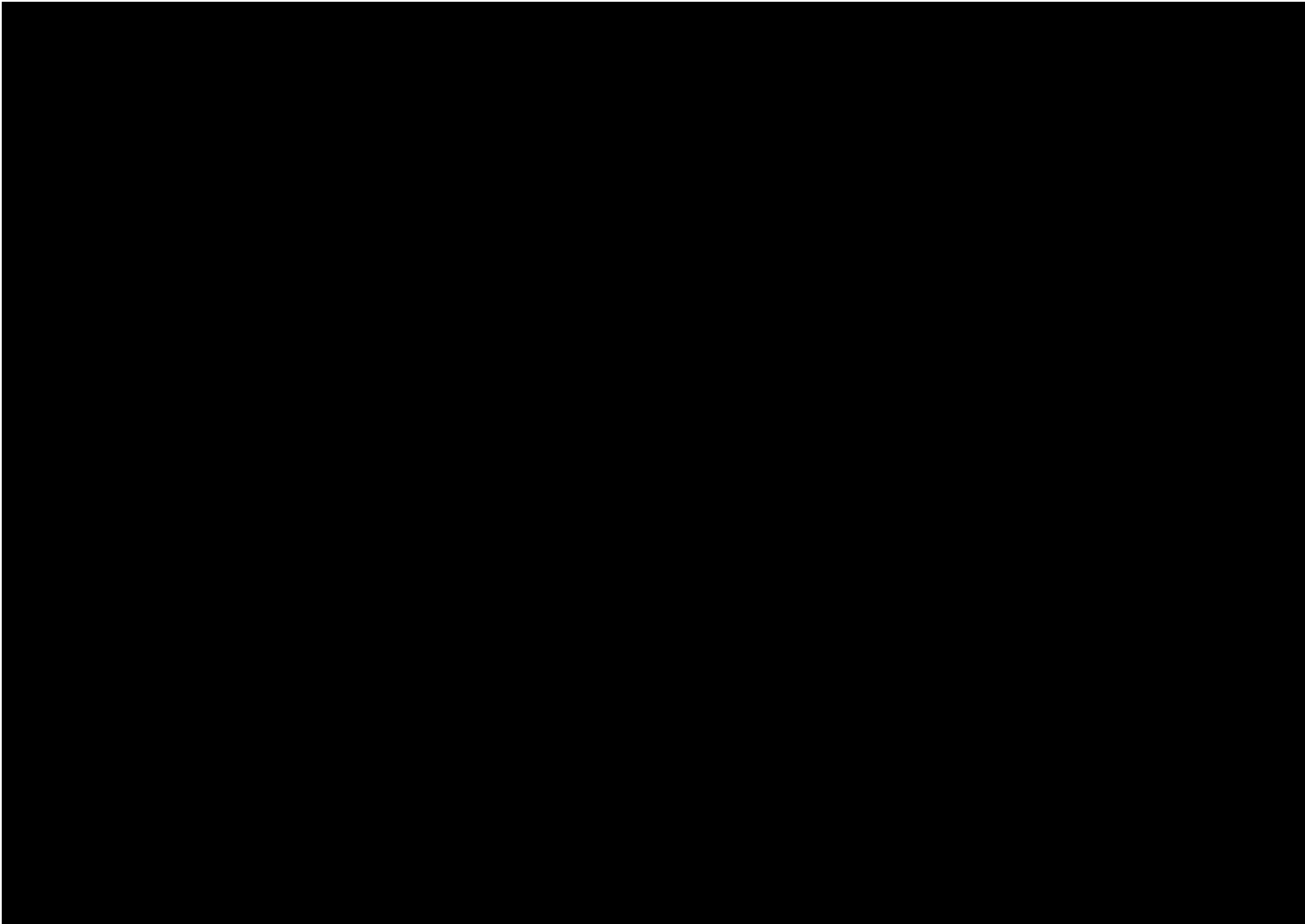
[REDACTED]. The distribution of these is shown in Table 2 and Figure 13.

**Table 5. Frequency of recorded site types**

| Site feature | Frequency  | Per cent (%) |
|--------------|------------|--------------|
| [REDACTED]   | [REDACTED] | [REDACTED]   |
| [REDACTED]   | [REDACTED] | [REDACTED]   |
| [REDACTED]   | [REDACTED] | [REDACTED]   |

The nature and location of the registered sites is a reflection of the past Aboriginal occupation from which they derive, but is also influenced by historical land-use, and the nature and extent of previous archaeological investigations. Although Aboriginal occupation covered the whole of the landscape, the availability of fresh water, and associated resources, was a significant factor in repeated and long-term occupation of specific areas within the landscape. Certain site types, such as culturally modified trees, are particularly vulnerable to destruction through historical occupation, while others, such as stone artefacts, are more resilient.

Figure 13:



## 5.4 Recorded sites within 1000 metres of the study area

### 5.4.1 [REDACTED]

This open disturbed site (discussed above) was discovered in 1896 during the excavation of [REDACTED]. The find is approximately [REDACTED] of the study area. The find comprised the portion of the remains of a dugong (including ribs), which showed marks made by stone tools (one registered as E5571 and deposited at the Australian Museum at the time). These finds represent a Resource and Gathering site, belonging to the end of the Pleistocene period. The items were found 91 to 457cm below high water mark at that time and 137 to 228.6 cm below the surface of the swamp (Site Card). The finds were reported and discussed in Etheridge Jr, Edgeworth David and Grimshaw (1896), Etheridge (1905) and Brown (1945).

### 5.4.2 [REDACTED]

[REDACTED], located approximately [REDACTED], was recorded in 1983 [REDACTED]. It was registered as an open midden, although this determination was later revised (Attenbrow 1984 see below).

The site card records that part of a midden of indeterminate length (surveyed for 30 paces) and width was discovered. The depth of the *in situ* shell measured 10 centimeters. The shell was overlaid by medium grey sandy deposit which also contained European rubbish including fragments of tiles. Approximately 95 to 98% of the shell present was *Anadara trapezia*. The undisturbed area of the site included about 10 whelks, a fragment of latticed platter shell (*codakia rugifera*) mud and rock oyster. The *in situ* layer also included up to 40-50% of articulated *Anadara*. No edible plants were growing in the area. The original environment had been completely destroyed.

Following the site's registration, the shell material was investigated, and a report entitled "St Peter's Brick Pit, Sydney NSW. Investigation of shell material" (Attenbrow, 1984) determined that the site does not represent a midden. The reasons for not interpreting the Brick pit finds as a midden were summarized by Attenbrow as:

- Species of shell fish were present were not recorded as recognised as a food source by Aboriginal people
- Within the group of species known to be consumed by Aboriginal people (especially Sydney cockle (*Andrara trapezia*), those present were considered too small for consumption (and therefore collection) by Aboriginal people
- The absence of charcoal in the site, or any other material of a cultural origin.

It was recommended that the site be removed from the AHIMS register. It was also suggested that the shell may have been introduced in historic period for use in association with the brick pits.

## 5.5 Previous archaeological investigations within the vicinity of the study area

There have been no previous archaeological assessments within the study area. However, numerous projects have been undertaken in the vicinity of the study area, which have revealed Aboriginal sites placed in an arc around the study area with concentrations in the west and north east.

### Artefact Heritage, 2019. Sydney Gateway Road Project

In 2019 Artefact undertook test excavations for the proposed rail route in the eastern suburbs and for road construction planned for the Sydney Airport expansion. The study drew upon earlier work of Kelleher Nightingale Consulting (KNC 2018) which included an Aboriginal Heritage assessment of the 2018 study area. In consultation with the Metropolitan LALC and the La Perouse LALC, KNC identified two areas of investigation (Investigation Area 1 and Investigation Area 2) because these areas showed no visible disturbance to the ground surface. While Artefact (2019) carried out an inspection of these two areas, the remainder of their study area had been assessed as holding nil to low archaeological potential because of extensive disturbance caused by human activity, including excavation resulting in the realignment of the watercourse to form the Alexandria Canal as well as infilling land.

The Sydney Gateway Project searched the AHIMS database over an area of 14 km around its study area and found [REDACTED]. One of these was [REDACTED]. Of these [REDACTED], five of these have been amended and their status reclassified to “not a site” reducing the effective number to [REDACTED]. The most frequently occurring site feature was:

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

The remaining categories, whose frequency of occurrence ranged between 1-3% included:

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

Artefact drew upon an earlier study by Kelleher Nightingale Consulting (KNC 2018) which had conducted an archaeological assessment and identified two areas of potential archaeological values. These were identified as Investigation Area 1 and Investigation Area 2. These areas are located less than 1 km from the study area. Other areas in the Sydney Gateway Road Project study area were assigned nil to low archaeological potential.

Artefact (2019) carried out a site survey of Investigation Area 1 and Investigation Area 2. Investigations included the review of the results of boreholes drillings undertaken in 2015 (Coffey Geotechnics 2015a and Coffey Geotechnics 2015b) which had provided geotechnical and contamination included in KNC's (2018) assessment the previous year: The bore holes were located close to these two areas of investigation.

KNC (2018) sought to identify any remaining intact stratigraphic sequences similar to those described in previous archaeological investigations in the local area, including that of AHIMS ID 45-6-0751 Sheas Creek Dugong uncovered during excavation of the Alexandra Canal (see above). The results concluded:

- The stratigraphic sequence of Borehole 2 suggests intact deposit below approximately one metre of introduced fill. Below the sand and gravel fill, bands of marine/estuarine sands alternate with two distinct layers of shell fragments, underlain by a band of sandy clay in the same approximate position as was described at [REDACTED]. This contrast with other stratigraphic sequences which more commonly demonstrated varying depths of fill over relatively clean marine sands and silty sands with few organic components. Alluvial deposits and occasional residual soils were present below the marine sands (KNC 2018).
- Two hand auger push tubes (GW25s and SG-EH-105) were placed near to Investigation Area 1. Both borehole logs recorded a dense layer of shells beginning at approximately 2.5 metres depth and decreasing in frequency at approximately five metres depth.
- Hand auger push tube SG-BH-147 was placed south of Alexandra Canal, immediately north of Investigation Area 2. The borehole log showed that fill was present to approximately 2 metres, with intact soils located below that to the depth of bedrock at 18 metres.

In summary, soils located most distant to the study area (SG-BH-147) showed 2 m of fill indicating a highly disturbed area. A dense layer of shells was found in two locations (GW25s and SG-EH-105), which indicate that the coastline had once reached this point and contributes further evidence provided by the finds of [REDACTED]. The borehole findings in Burrows Road South area support the findings of disturbed soils in the top 1m of soils, a depth which contains archaeologically sensitive soils.

#### **Val Attenbrow Search Archaeological Enterprises, 1984. St Peters Brick Pit, Sydney NSW Investigation of Shell Material.**

This research has been described above and resulted in the site being reclassified as a shell bed, rather than a shell midden.

#### **Susan McIntyre-Tamwoy, 2003. MetroGrid Project Test Excavation of Buried Shell Bed at [REDACTED] NSW – Preliminary Report**

As part of investigations for proposed underground electricity supplies in the area, McIntyre-Tamwoy conducted archaeological investigations at [REDACTED] of the study area. The sub-surface investigation involved excavation by machine of five pits along the proposed underground service alignment. The excavation identified layers of introduced fill overlying natural swamp deposit and naturally deposited shell beds. The report noted that due to the nature of the silt associated with the shell bed it was assumed that the shell was deposited when that area was underwater. The conclusion of the report is that prior to British settlement, the Fraser Park area was submerged by a low-lying swamp.

**AMBS, 2003. Report on the Salvage Excavation of a Portion of the [REDACTED] NSW (Report to Marrickville Council)**

Archaeological excavation was undertaken within a portion of [REDACTED] and had been heavily disturbed by past sandstone quarrying and the dumping of modern rubbish. Various shellfish species were recorded, with the faunal assemblage dominated by Sydney cockle (*Anadara trapezia*). Three animal bone fragments, six stone artefacts and locally available estuarine shell material were identified. Two radiocarbon dates were obtained from an intact layer of the midden and returned dates of 4328 ± 50 years BP and 3901 ± 53 years BP.

**Jo McDonald Cultural Heritage Management, 2005a. Archaeological testing and Salvage Excavation at [REDACTED], NSW.**

Salvage excavation, was undertaken at [REDACTED] Despite considerable levels of ground disturbance in the area, 389 stone artefacts and an Aboriginal hearth was identified within a sand body (possibly part of earlier Pleistocene aged dune) and subsequently radiocarbon dated to 9,376 ± 61 years BP. Artefact densities were considered generally low, with the exception of one knapping floor with silcrete the dominant material. Due to historic levels of disturbance it was uncertain whether the identified material was part of a continuous scatter or a series of discrete, low density clusters. Nonetheless, it is suggested that the excavated site continues [REDACTED]. Following excavation, the site was destroyed by development.

**Jo McDonald Cultural Heritage Management, 2005b. Archaeological assessment of Aboriginal site [REDACTED], NSW**

An archaeological assessment was prepared by JMCD CHM for [REDACTED] The site consists of a [REDACTED]. The examination of aerial imagery available on Google Earth indicates what appears to be a sandstone overhang at the rear of [REDACTED]. Therefore, there is likely to be an error in the coordinates recorded on the AHIMS site register. [REDACTED] of the current project site.

The surrounding environment of the site was characterised by JMCD CHM as comprising the [REDACTED] prior to 20th century development. The underlying geology is similar to that outside the project site at Sydenham, which consists of Quaternary sediments overlying



Hawkesbury sandstone. The shelter itself is located in an outcrop of Hawkesbury sandstone which originally formed part of an outcrop along a ridge crest landform context.

JMcD CHM assessed the site as demonstrating high archaeological significance at the local and regional level. The site was considered to be rare within the Sydney basin context, especially in association with

Subsurface inspection was recommended to fully assess impacts to the midden. No information is available to suggest that any archaeological investigation was conducted at

**AECOM, 2017. WestConnex New M5, Technical Working Paper: Aboriginal Heritage and AECOM WestConnex New M5 Environmental Impact Statement**

An Aboriginal heritage assessment was conducted by AECOM as part of the M5, WestConnex EIS. The WestConnex assessment area reached from the M5 and King Georges Road intersection in the west and ran eastwards to Sheas Creek, including the study area. The assessment area was located in similar geology and soil landscape.

A number of areas were identified as having archaeological potential, AECOM (2017) identified

The study identified which could contain evidence of past Aboriginal occupation of the area. This assessment was based on the location of previously recorded AHIMS sites and disturbance levels. The study also identified a number of new Aboriginal sites consisting of and outside the current project site.

The predictive statement generated from the assessment area suggested that there was potential for archaeological deposits to occur within areas of the and across. However archaeological potential in areas of the where high erosion had occurred could be limited. AECOM considered it likely that artefact bearing deposits would be present in areas. It was also considered likely that shell midden sites could occur at considerable distances from existing foreshore areas due to past sea level fluctuations.

The study concluded that the in their study area, which overall has suffered substantial disturbance through urban growth. They stated that the area was “unique in the inner city area containing an archaeological resource comprising of” (AECOM 23-8). The Technical Report stated that in contrast to these remnant areas, much of the area has been “grossly” disturbed via reclamation in the past and continued construction works and is unlikely to retain archaeological evidence of past occupation because of the “severity” of disturbance.

The study area does not fall within the identified area of archaeological sensitivity and is located in terrain classified by AECOM as disturbed (2015:23).

## 5.6 Predictive model

The predictive model comprises a series of statements about the nature and distribution of archaeological evidence of Aboriginal land use within the study area. These statements are based on the background information gathered regarding the proximity of the study area to landscape features that likely indicate the existence of Aboriginal objects, previous studies undertaken in and around the study area and a desktop assessment of historic land use and ground disturbance in the study area.

The presence of the following landscape features often suggests the existence of Aboriginal artefacts. These landscape markers include:

- Within 200m of waters, or
- Located within a sand dune system, or
- Located on a ridge top, ridge line or headland, or
- Located within 200m below of above a cliff face, or
- Within 20m of or in a cave, rock shelter or a cave mouth (DCCEW, 2010).

At the same time, it must be noted that archaeological potential is closely related to levels of ground disturbance. Other factors are also considered when assessing archaeological potential, such as whether artefacts were located on the surface, and whether the study area is situated within a sensitive landform unit according to the predictive statements above.

Archaeological assessments of Aboriginal sites have resulted in the development of several predictive trends. AECOMs predictive model for the area has been used to inform the predictive model for this assessment. On the basis of background research of the environment and previous archaeological assessments carried out, AECOM has predicted that:

- Sites in rockshelters, located in areas of significant sandstone outcrops, and may include art, stone artefacts, midden and archaeological deposit
- Shell middens in tidal, estuarine foreshore zones. Shell midden sites might be located at some remove from existing foreshore locations where earlier coastlines had existed
- Scarred trees may occur in remnant bushland
- Stone artefacts in surface and subsurface contexts where the ground has not been subject to significant modification due to development.

Based on the analysis of historical aerial imagery, desktop assessment and consideration of previous archaeological assessments carried out around the study area, the following predictions have been made:

- Areas where high levels of disturbance have taken place will have nil to low archaeological potential
- Areas of archaeological potential are restricted to sections of the study area where less disturbance has taken place
- Shell middens occur in tidal, estuarine and foreshore zones

- Intact sub-surface deposits are likely to be situated in areas where less intensive disturbance has taken place

## 6.0 ARCHAEOLOGICAL SITE SURVEY

### 6.1 Aboriginal site definition

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

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

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

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

PADs are areas where sub-surface stone artefacts and/or other cultural materials are likely to occur (DECCW 2010: 38). These areas may be associated with recorded sites but are often greater in extent, taking in areas around the visible artefacts where there is a potential for further buried artefacts to exist. PADs may also be present where no visible artefacts are located. This may be the case when there is no ground surface visibility, but the area is seen to have a high likelihood of containing subsurface artefacts.

### 6.2 Aims of archaeological survey

The aims of the archaeological survey were to:

- Inspect the ground surface of the study area
- 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
- Collect information to ascertain whether further archaeological investigation is required.

### 6.3 Survey methodology

The archaeological survey of the study area was undertaken in accordance with the Code of Practice on 1 June 2022. The survey was undertaken by Vanessa Wood (Heritage Consultant, Artefact Heritage) and Emma Jones (Heritage Consultant, Artefact Heritage) in conjunction with Metropolitan LALC representative Josh Marr.

The study area, comprising 28-30 Burrows Road, was subject to pedestrian archaeological survey in all external areas of the two properties. The interiors of standing structures were not assessed. All ground exposures were examined for Aboriginal objects.

A handheld GPS was used to track the path of the survey team and record coordinates of any identified Aboriginal sites. The coordinate system projection used for all recording was GDA94 MGA 56. A photographic record was kept during the site inspection and scales were used for photographs where appropriate.

## 6.4 Survey coverage

The study area was surveyed as two survey units. The first unit comprised 30 Burrows Road (Survey Unit 1) while the second unit comprised 28 Burrows Road (Survey Unit 2). The area surveyed excluded the interiors of standing structures within the study area.

Table 6 presents a summary of the level of visibility and exposure in the study area to determine effective survey coverage. Table 7 presents a summary of landform survey coverage.

**Table 6. Effective survey coverage**

| Survey unit | Landform      | Survey unit area (sq. m) | Visibility (%) | Exposure (%) | Effective coverage area (sq. m) | Effective coverage (%) |
|-------------|---------------|--------------------------|----------------|--------------|---------------------------------|------------------------|
| 1           | Levelled flat | 4,070                    | 10             | 10           | 40.7                            | 1                      |
| 2           | Levelled flat | 3,940                    | 30             | 10           | 118.2                           | 3                      |

**Table 7. Landform survey coverage**

| Landform      | Landform area (sq. m) | Area effectively surveyed (sq. m) | % of landform effectively surveyed | Number of sites identified |
|---------------|-----------------------|-----------------------------------|------------------------------------|----------------------------|
| Levelled flat | 8010                  | 80.1                              | 1                                  | 0                          |

## 6.5 Survey results

The study area is located within a highly industrialised landscape that has been subject to intensive historical development. The area assessed comprises 28-30 Burrows Road, a total area of approximately 7,800 sqm.

### 6.5.1 Survey unit 1: 30 Burrows Road

The area assessed is flat and appears to have been built up from Shea's Creek (Alexandra Canal) and subsequently levelled. Surface visibility across the study area is low (<10%) due to standing warehouse structures, parked cars, hard waste and concrete/ bitumen paving (Figure 14, Figure 15). Areas of ground exposure were limited to raised garden beds, cracks in the hardstand and a small exposure between the warehouse footprint and adjacent hardstand. Within these areas of exposure, visibility was on average 10% due to vegetation and leaf litter (Figure 16). Imported gravel and imported soil were observed in these areas of exposure (Figure 17). Along the southern margin of this unit, a landscaped area between

the hardstand and Alexandra Canal was assessed (Figure 18). This area could not be entered due to fencing. Here, visibility was nil due to dense vegetation cover (Figure 19).

Survey unit 1 has been cleared of natural vegetation. Flora in this section of the study area is limited to exotic species within raised garden beds and in the landscaped area adjacent to Alexandra Canal. No mature native trees were observed.

Survey unit 1 is situated within a sensitive landform feature (within 200 metres of Shea's Creek/ Alexandra Canal). Additionally, it is possible that the underlying soils of the study area comprised a sand dune system prior to historical development. Despite the potential sensitivity noted, survey unit one is situated within a highly disturbed industrial landscape. No Aboriginal sites or areas of archaeological sensitivity were identified within the study area.

**Figure 14: Standing warehouse structure, levelled and paved areas within survey unit 1**



**Figure 15: Hard waste and cars within the survey unit**



**Figure 16: Raised garden bed along the northern margin of 28 Burrows Road**



**Figure 17: Area of exposure within cracked hardstand surface**



**Figure 18: Area of exposure between warehouse footprint and adjacent hardstand**

**Figure 19: Landscaped area adjacent to Alexandra Canal**



### 6.5.2 Survey unit 2: 28 Burrows Road

Within survey unit 2, the topography resembles that observed within survey unit 1; the area assessed is flat and appears to have been built up from Shea's Creek (Alexandra Canal) and subsequently levelled.

Within survey unit 2, overall ground visibility was around 30%. Much of this survey unit was covered by warehouse structures and concrete hardstand (Figure 20). A landscaped exposure abutting Burrows Road was observed with good visibility. Leaf litter, mulch and vegetation were present. (Figure 21). Along the western margin of 30 Burrows Road, an area of ground exposure with o ballast and weed cover was observed (Figure 22). Within these areas of exposure, imported soils were observed. No artefacts or items/ areas of potential archaeological sensitivity were identified.

Evidence of sub-surface disturbance was observed across the site as numerous sub-surface services are present adjacent to the warehouse footprint (Figure 23). "I" bars from prior structures were recorded within the exposure along the west of the survey unit (Figure 24). No natural vegetation was present within this survey unit. All vegetation present is young and/or exotic.

Survey unit 2 is situated within a sensitive landform feature (within 200 metres of Shea's Creek/ Alexandra Canal). Additionally, it is possible that the underlying soils of the study area comprised a sand dune system prior to historical development. Despite the potential sensitivity noted, survey unit one is situated within a highly disturbed industrial landscape. No Aboriginal sites or areas of archaeological sensitivity were identified within the study area.

**Figure 20: Low ground visibility due to hardstand and warehouse structure**

**Figure 21: Landscaped exposure along Burrows Road**



**Figure 22: Exposure along the western margin of the study area**



**Figure 23: Evidence of sub-surface disturbance due to service installation**



**Figure 24: "I" bar observed along the western boundary of the study area**



## 6.6 Summary of results

Archaeological potential is closely related to levels of ground disturbance in the area. Other factors are also taken into account, such as whether artefacts were located on the surface, and whether the area is within a sensitive landform unit according to the predictive statements for the area. The potential for discovering artefacts lies in landforms which have been subject to a light to moderate disturbance.



The study area is situated within a sensitive landform feature as it lies less than 200 metres from water. However, Alexandra Canal is a canalised creek that has been subject to extensive disturbance and development. Extensive historical disturbance means that the natural sands and soils of the study area were not recorded though it is likely that prior to disturbance, the study area was situated within the former extent of the Botany Basin before being overlain by the Tuggerah Sand Sheet.

Despite the study area being situated within a sensitive landform feature, extensive disturbance was observed across the entirety of the study area which is likely to have destroyed any intact archaeological deposits. Additionally, no sites, artefacts or areas of sensitivity were identified during inspection.

Therefore, the study area is assessed as being of nil to low archaeological potential.

## 7.0 ANALYSIS AND DISCUSSION

Previous archaeological investigation found that the primary factor in assessing archaeological potential is the degree of prior land-use disturbance of soils. Therefore, areas that have a low level of land-use disturbance should be considered to have archaeological potential because archaeological deposits may survive intact within undisturbed portions of topsoil in such areas. Conversely, areas with a high level of disturbance should be considered to have nil to low potential because any archaeological deposits have either been removed or heavily disturbed (meaning they have little or no archaeological value). The survivability of Aboriginal archaeological deposits depends largely on the extent and nature of phases of historical construction activities. The excavation of basements or car parks substantially lowers the survivability potential of intact archaeological deposit, which result in the removal of any archaeological deposits.

The study area has been subject to extensive disturbance deep enough to have removed any areas of subsurface deposits of Aboriginal objects. It is considered that the survival of intact archaeological deposits in these areas is unlikely.

Ultimately, it is concluded that the site is likely to have had potential for cultural material to occur, but historical and recent disturbances are likely to have completely removed any cultural materials that may have been present.

## 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 8). 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 3.1.

**Table 8. 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.<br>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.<br>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.<br>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? |

| Criterion | Description  |
|-----------|--|
| Aesthetic | <p>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.</p> <p>Is the subject area important in demonstrating aesthetic characteristics in the local area and/or region and/or state?</p> |

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 Social and cultural significance

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

Phil Khan of Kamilaroi Yankuntjatjara Working Group has noted that the nearby Goolay'yari (Cooks) River of which the Alexandra Canal is a modified tributary, stating:

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*The study area is significant as the Cooks River is close by a highly significant waterway from the creation story and utilised by many. The area is known to be a resources rich area abundance of natural flora and fauna, which was been cared for by Aboriginal people for tens of thousands of years and continue to do so today. We would like to agree we your methodology and we look forward to furthering consultation*

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## 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.

The consultation process to date has not identified any historic values relating to the study area.

## 8.4 Scientific significance

Scientific values refer to a site's potential to contribute to our current understanding and information. As there are no Aboriginal objects within the study area and therefore is not of specific scientific significance.

## 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.

The consultation process to date has not identified any aesthetic values relating to the study area.

## 8.6 Statement of significance

At the time this report was prepared, no specific aesthetic or historic values associated with the project site were identified. As no Aboriginal objects or places were identified, the study area possesses low scientific value. Alexandra Canal has been identified as socially and culturally significant to Aboriginal people. Overall, the study area is considered to be of low significance.

## 9.0 IMPACT ASSESSMENT AND HERITAGE MANAGEMENT

### 9.1 Impact assessment methodology

The definition of harm to an object or place under the NPW Act includes any act or omission that 'destroys, defaces or damages the object or place or in relation to an object –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.

### 9.2 Proposed works

The proposed flight training centre will enable pilots and flight crews from Qantas and other airlines to undertake periodic training and testing to meet regulatory requirements by simulating both aircraft and emergency procedural environments. The flight training centre will be situated within a three-storey industrial warehouse building and will include:

Flight simulator hall:

- 8 x simulator bays – State of the art full motion flight simulators with visual fidelity, motion and sound. This allows crew to be trained in all aspects of normal and non-normal operations, including instrument approaches and landings in all weather conditions.
- The proposed simulators will complement the flight training facilities in other states.

Emergency procedures component including:

- Cabin evacuation emergency trainer – Full-scale cabin mock-up is used as practical training device. These facilities allow emergency situations to be accurately portrayed and allow pilots and cabin crew to handle emergency situations in both wide and narrow-bodied aircraft.
- Slide descent tower – Enables realistic training of deployment and use of slides to evacuate aircraft for pilots and cabin crew.
- Door trainers – Enables realistic training of use of emergency exits to evacuate aircraft for pilots and cabin crew.

Ancillary spaces (administration and training areas) including:

- Equipment room – Storage of emergency equipment (oxygen tanks, defibrillators etc.) that supports the training and assessment of cabin crew and pilots of aviation medicine.
- Pilots lounge – Area for pilots to wait prior to simulator sessions
- Meeting rooms and lunch room.
- Reception area.
- Toilets, plant, loading dock

- 34 car-parking spaces

### 9.3 Aboriginal heritage impact assessment

There were no Aboriginal objects identified in the study area during survey, and no sites identified in the AHIMS database. This report has assessed that intact archaeological deposits are not likely to be present below the ground surface. Therefore, the proposal is unlikely to impact any Aboriginal archaeology.

## 9.4 Ecological sustainable development principles

In accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales*, 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 ACHAR demonstrates regard for the integration principle by considering Aboriginal heritage values and impacts to these from the proposal during the planning phase. The nature of the proposal is in itself one that contributes to the long term economic and social needs of current and future residents of the area.

### 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').

Archaeological assessment of the study area has been completed in accordance with the Code of Practice which resulted in the conclusion that no Aboriginal objects are present or likely to be present within the study area. In accordance with the requirements of the SEARs and the *National Parks and Wildlife Regulations (2019)*, full scientific investigation has been completed to inform this report. As such, further archaeological investigation is not required.

### 9.4.3 The principle of intergenerational equity

The present generation should ensure that the health, diversity, and productivity of the environment is maintained or enhanced for the benefit of future generations (the 'principle of intergenerational equity').

Archaeological assessment has been undertaken within the study area in accordance with the Code of Practice. The findings of this assessment have contributed to knowledge of the area for current and future generations.

## 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.

All archaeological material is a non-renewable resource and any impact to archaeological material constitutes a cumulative impact. As there are no Aboriginal objects of places within the study area, the proposed works will not generate cumulative impacts to Aboriginal archaeological material.



## 10.0 MANAGEMENT AND MITIGATION MEASURES

### 10.1 Guiding principles

The overall guiding principle for cultural heritage management is that Aboriginal heritage should be conserved. If conservation is not practical, measures should be taken to mitigate against negative impacts to Aboriginal sites. The nature of the mitigation measures recommended in this instance is primarily based on an assessment of archaeological potential and significance.

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

- **No archaeological significance** - No further assessment or mitigation required
- **Low archaeological significance** – Conservation where possible, but usually no mitigation required if impacts are unavoidable.
- **Moderate archaeological significance** – Conservation where possible. If conservation is not practicable, excavations or similar mechanisms determined in consultation with the Aboriginal community may be necessary.
- **High archaeological significance** – Conservation as a priority. Only if all practicable alternatives have been exhausted would impacts be considered justified. Comprehensive excavations may be necessary.
- **Unknown archaeological significance** – further investigation required to determine significance. It is not possible to appropriate mitigation measures without adequate assessment of significance. Further investigations, such as test excavations, are not mitigation measures.

Archaeological assessment has confirmed that the study area is of no archaeological significance. Consequently, no further assessment or mitigation is required.

### 10.2 Ongoing consultation with registered Aboriginal parties

Consultation with Registered Aboriginal Parties (RAPs) would continue throughout the life of the project, if necessary. For instance, ongoing consultation with RAPs would take place in the event of any unexpected Aboriginal objects being identified during works (see Unexpected Finds Policy below).

### 10.3 Changes to the proposed works

This ACHAR is based upon the project information available in the EIS. Any significant changes to the design that extends outside the current project site will be assessed by an archaeologist in consultation with the RAPs. Any changes that may impact on Aboriginal sites not assessed during the current study may warrant further investigation and result in changes to the recommended management and mitigation measures.

## 10.4 Unexpected finds policy

This unexpected finds procedure outlines the steps required if unanticipated Aboriginal objects or human skeletal remains are identified and should be included as part of the Construction Environment Management Plan for the project.

### Aboriginal objects

If unanticipated suspected Aboriginal objects are uncovered at any time throughout the life of the project, the following steps should be undertaken:

- Cease all activity within the vicinity of the find
- Leave the material in place and protect it from harm
- Take note of the details of the material and its location, take a photograph of the find *in situ*, preferably with a scale
- Inform the site manager/ area supervisor, who would then inform the superintendent/ principal

Once the find has been secured, a suitably qualified archaeologist should be contacted to assess the significance of the find and determine management requirements.

If the find is identified as a genuine Aboriginal object:

- Heritage NSW and Registered Aboriginal Parties (RAPs) must be notified and consulted
- A methodology for long-term storage of the find must be developed in consultation with RAPs
- The Aboriginal object should be registered on AHIMS
- Further archaeological mitigation may be required prior to works recommencing.

Works should not recommence until written consent is received from the project archaeologist.

An unexpected finds policy should be implemented in the event that human skeletal remains or Aboriginal objects are identified during construction.

### Human skeletal remains

If suspected human skeletal remains are uncovered at any time throughout the life of the project the following steps should be undertaken:

- Cease all activity in the vicinity of the find
- Leave the remains in place and protect them from harm
- Notify NSW Police
- Engage a forensic anthropologist and archaeologist where required
- Notify Heritage NSW via the Environment Line 131555 to provide details of the remains and their location

Excavation activity will not recommence unless authorised in writing by Heritage NSW.

## 11.0 CONCLUSIONS AND RECOMMENDATIONS

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)
- Project SEARs
- The results of the stakeholder consultation
- Extensive search of the AHIMS database
- In depth background research and assessment following an archaeological survey.

The assessment found that:

- No sites listed on the Aboriginal Heritage Information Management System (AHIMS) were discovered in the study area
- No previously unrecorded Aboriginal sites or objects were identified within the study area during survey
- The study area has been heavily disturbed by historical development activities
- The study area was assessed as having nil to low potential to retain intact archaeological deposits that may contain Aboriginal objects
- The consultation process has found that the nearby Gooly'yari (Cooks) River is of high cultural significance to the Aboriginal community

### 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 was found to be disturbed and to have a nil-low potential for Aboriginal objects to be located within it, further archaeological assessment is not required.
- Ongoing consultation with RAPs would continue throughout the life of the project, if necessary. For instance, ongoing consultation with RAPs would in the event of any unexpected Aboriginal objects being identified during works
- Unexpected Aboriginal objects remain protected by the *National Parks and Wildlife Act 1974*. If any suspected Aboriginal objects are uncovered in the course of construction activities, all work in the vicinity should cease immediately. A qualified archaeologist should be contacted to assess the find and Heritage NSW and Registered Aboriginal Parties must be notified.

- If human remains, or suspected human remains, are found in the course of construction, all work in the vicinity should cease, the site should be secured, and the NSW Police and Heritage NSW should be notified
- This ACHAR is based upon the project information available in the EIS. Any significant changes to the design that extends outside the current project site will be assessed by an archaeologist in consultation with the RAPs. Any changes that may impact on Aboriginal sites not assessed during the current study may warrant further investigation and result in changes to the recommended management and mitigation measures.

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## 13.0 APPENDICES

### 13.1 Consultation Log



## 13.2 Consultation Documentation

## 13.3 AHIMS

### 13.3.1 AHIMS search results

13.3.2 Site card: [REDACTED]

13.3.3 Site card: [REDACTED]





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