Aboriginal Heritage Due Diligence Assessment

St George Illawarra Dragons Community & High-Performance Centre

July 2023

Project Number: 22-590

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Acronyms and abbreviations

ACHA	Aboriginal Cultural Heritage Assessment
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
CHPC	Community and High-Performance Centre
DA	Development Application
DD	Due Diligence
DECCW	(Former) Department of Environment, Climate Change and Water (formerly responsible for heritage, now superseded by Heritage NSW)
DPIE	Department of Planning, Industry and Environment (NSW)
ha	hectares
Heritage Act	*Heritage Act 1977* (NSW)
Heritage NSW	Heritage NSW, within the Department of Premier and Cabinet (formerly part of OEH)
km	Kilometre/s
LALC	Local Aboriginal Land Council
LGA	Local Government Area
m	Metre/s
NPW Act	*National Parks and Wildlife Act 1974* (NSW)
NPW Regulation	National Parks and Wildlife Regulation 2019 (NSW)
NSW	New South Wales
OEH	(Former) Office of Environment and Heritage (NSW) (now Heritage NSW)
PAD	Potential Archaeological Deposit
UoW	University of Wollongong

Executive summary

NGH Pty Ltd (NGH) was commissioned by Bridge 42 to undertake an Aboriginal Heritage Due Diligence Assessment in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (DECCW, 2010) for the St George Illawarra Dragons Community and High-Performance (CHPC) (the Project Area). The Project Area comprises part of Lot 1 and Lot 2 in DP 1172135 at 7-9 Squires Way, North Wollongong, within the Wollongong Local Government Area (LGA). It encompasses approximately 4.3ha and is located in the northern portion of the University of Wollongong's Innovation Campus. The proposal involves site preparation works, landscaping and public domain works and the construction of a Community and High-Performance Centre, two playing fields and an at-grade car park.

Background and desktop assessment

An extensive AHIMS search of the Aboriginal Heritage Information Management System (AHIMS) database revealed 16 Aboriginal sites registered in the local area and three Aboriginal sites within 1km of the Project Area. The nearest AHIMS site to the Project Area was a destroyed Artefact site located 220m northeast. The most common site type in the local area was Artefact followed by Midden and Potential Archaeological Deposit (PAD).

The Project Area is located on a floodplain with two water sources located within 200m, demonstrating an environment likely to have been utilised by Aboriginal people for sustenance and fresh water in the past. Background research of historic land use of the Project Area found that the property had been impacted by vegetation clearance, farming, the construction and removal of the migrant hostel buildings and the development of playing fields as part of the Innovation Campus.

A review of previous archaeological investigations in the local area, demonstrated the potential for Aboriginal stone artefacts to remain in areas of disturbance, particularly if they are located within 200m of water. The desktop assessment determined that there was low to moderate potential for landscapes present within the Project Area to contain Aboriginal objects.

Field results

No Aboriginal sites, objects or places, or areas of potential Aboriginal archaeological sensitivity were identified within the Project Area or immediate surrounds during the visual inspection, and it was confirmed that the majority of the property has experienced a high level of disturbance.

The Project Area has been impacted by initial vegetation clearing, historical use of the property as a farm and migrant hostel, the installation of sub-surface infrastructure, levelling and modification of the natural landform, turfing and the establishment of pathways, driveways and a car park. Given the results of the visual inspection, the predictive model for Aboriginal sites, and the observed level of disturbance within the Project Area, it is considered unlikely that *in situ* Aboriginal heritage deposits are present and therefore further archaeological assessment of the site is not likely to increase the current scientific understanding of the local region.

Impact assessment conclusion

The Due Diligence Code of Practice states that if, after the desktop research and visual inspection is completed, it is evident that harm will occur to Aboriginal objects or heritage places then further and more detailed assessment is required. However, if the research and inspection conclude that

there are no, or unlikely to be any, objects impacted by the proposed activity, then the activity can proceed with caution.

The field assessment concludes it is unlikely that *in situ* Aboriginal heritage deposits are present within the Project Area. Therefore, due to the levels of disturbance to the area and lack of potential for the existence of Aboriginal sites within the Project Area, the area does not require further investigation and assessment.

Recommendations

The following recommendations are based on a number of considerations including:

- Background Aboriginal heritage research into the area;
- Assessment of the landscape;
- Past and present land use and disturbance assessment;
- Visual inspection;
- Consideration of the impact of the proposed works; and
- Legislative context for the development proposal.

Based on an assessment of the project, the location and previous level of disturbance, the proposed work can proceed with caution with the following recommendations:

1. Induction of all personnel including sub-contractors on the environmental safeguards and sensitivities relating to Aboriginal heritage values, statutory obligations with regard to Aboriginal and non-Aboriginal heritage.
2. Given that there are cultural values associated with the Battle of Fairy Meadow in the local area, NGH recommends continued consultation with the Illawarra LALC regarding the potential impact any ground disturbing works may have.
3. Any activity proposed outside of the current Project Area should also be subject to an Aboriginal heritage assessment.
4. All access to the site and laydown areas must be within existing tracks and disturbed areas otherwise visual inspection of the sites by a qualified archaeologist is required.
5. If any items suspected of being Aboriginal in origin are discovered during the work, all work in the immediate vicinity must stop and the NSW Environment Line (131 555) notified. The find will need to be assessed and, if found to be an Aboriginal object, further detailed assessment and an application for an Aboriginal Heritage Impact Permit (AHIP) may be required.
6. In the unlikely event that human remains are identified during development works, all work must cease in the immediate vicinity and the area must be cordoned off. The proponent must contact the local NSW Police who will make an initial assessment as to whether the remains are part of crime scene or possible Aboriginal remains. If the remains are thought to be Aboriginal, Heritage NSW must be notified by ringing the Enviroline (131 555).

Bridge 42 is reminded that it is an offence under the *National Parks and Wildlife Act 1974* to disturb, damage or destroy an Aboriginal object without a valid Aboriginal Heritage Impact Permit (AHIP).

1. Introduction

NGH was commissioned by Bridge 42 (the Proponent) to undertake an Aboriginal Heritage Due Diligence Assessment in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (DECCW, 2010) (Due Diligence Code) for the proposed St George Illawarra Dragons Community and High-Performance Centre (CHPC) at the University of Wollongong's (UoW) Innovation Campus in North Wollongong. The assessment is required to support a Development Application (DA) for the property to ensure that impacts to Aboriginal Heritage have been appropriately considered as part of the DA for the proposed works.

The proposal involves site preparation works, landscaping and public domain works and the construction of a Community and High-Performance Centre, two playing fields and an at-grade car park (Figure 1-3). The Due Diligence Assessment is undertaken to evaluate whether Aboriginal objects are present, or likely to be present, within the proposed impact area of the development activity, and if those objects would be harmed by the proposed activities.

1.1 Project area

The Project Area comprises part of Lot 1 and Lot 2 in DP 1172135 at 7-9 Squires Way, North Wollongong, within the Wollongong Local Government Area (LGA) (Figure 1-1 and Figure 1-2). It encompasses approximately 4.3ha and is located in the northern portion of the UoW Innovation Campus. The Project Area is located approximately 250m south east of the Fairy Meadow Railway Station and is located west of Puckeys Estate and Fairy Meadow Beach.

The Project Area currently includes two sports fields and an open lawn bordered by trees and fence lines on all boundaries. An existing shared pedestrian pathway traverses the Project Area, connecting the central part of the Innovation Campus to Squires Way, toward the intersection of Elliotts Road. Located in the central part of the Project Area are the following heritage-listed buildings:

- Building 201 – Quonset Hut with later additions – Former dining hall for the Balgownie Migrant Workers' Hostel, currently utilised as a childcare centre (known as 'Kid's Uni').
- Building 204 – Nissen Hut – Formerly used as laundry exchange for the Balgownie Migrant Workers' Hostel, now utilised as the University Alumni Bookshop.
- Building 210 – Quonset Hut – Formerly used as staff accommodation for the Balgownie Migrant Workers' Hostel, now utilised as the University Alumni Bookshop.

1.2 Proposed works

The proposed works to be undertaken by Bridge 42 are shown in Figure 1-3 and will involve the following:

- Site preparation works.
- Construction and use of a new Community and High Performance Centre, including facilities such as:
    - Gymnasium;
    - Player amenities such as locker rooms, players' lounge, viewing balcony and dining areas;
    - Staff amenities, including end of trip facilities and bike storage;

  - Allied health and training rooms, including medical and physical recovery rooms;
  - Sleep recovery room;
  - Classrooms, lecture theatre and educational spaces;
  - Club administration and community outreach program office spaces;
  - Back of house, administration services and rooms (such as plant, laundry rooms, uniform and merchandise rooms and the like).
- Construction and use of two new playing fields, to include:
  - New NRL-standard elite training field for training by the Dragons' first grade teams; and
  - New community field with floodlighting to allow evening community uses including the All Abilities Squad, Indigenous Programs, After School Programs.
- Landscaping and public domain works within the curtilages of the proposed development including improved open space areas, landscape embellishment works and revised pedestrian and cyclist pathways.
- New at-grade car park comprising 59 parking spaces.

1.3 Project personnel

The Due Diligence assessment was carried out by Petra Balanzategui (Senior Heritage Consultant) of NGH, and included background research, field inspection and the completion of this report. Glenn Willcox (Senior Heritage Consultant) reviewed the report for quality assurance purposes.

1.4 Aboriginal consultation

The Due Diligence process does not formally require consultation with Aboriginal community groups. The project area is within the boundaries of the Illawarra Local Aboriginal Land Council (LALC), who were contacted for this assessment. A representative of the Illawarra LALC attended the site inspection with NGH on 1 December 2022 (see Section 6).

1.5 Approach and format of this report

This report has been drafted in keeping with the sequence of steps identified in the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (Due Diligence Code) (DECCW, 2010). The Due Diligence Code outlines a five-step approach to determine if an activity is likely to cause harm to an Aboriginal object, as defined by the NSW *National Parks and Wildlife Act 1974* (NPW Act). The steps follow a logical sequence of questions, and the answer to each question determines the need for the next step in the process in order to:

- Identify whether Aboriginal objects are, or are likely to be, present in the Project Area;
- Determine whether or not the proposed activities are likely to harm Aboriginal objects (if present) in the Project Area; and
- Determine whether an Aboriginal Heritage Impact Permit (AHIP) application is required.

Table 1-1 Due Diligence steps

	Due Diligence steps
Step 1.	Will the activity disturb the ground surface?
Step 2a.	Search the AHIMS database and use any other sources of information of which you are already aware.
Step 2b.	Are activities proposed in areas where landscape features indicate the presence of Aboriginal objects?
Step 3.	Can you avoid harm to the object or disturbance of the landscape feature?
Step 4.	Undertake a desktop assessment and visual inspection. Is it likely that Aboriginal objects will be impacted by the proposed works?
Step 5.	Further investigations and impact assessment.

If the proposed activities are not 'low impact activities' (a defence for which is provided under the NPW Regulation), the considerations result in a determination of whether or not:

- Further approval under the NPW Act is required, in the form of an AHIP; or
- Due Diligence obligations for the protection of Aboriginal objects are discharged by the process under the Code.

For the purposes of the Due Diligence assessment, disturbed land is defined in the Due Diligence Code. Land is disturbed if it has been the subject of a human activity that has changed the land's surface, with the changes remaining clear and observable.

The defence against prosecution offered by following the Due Diligence Code process does not apply to situations where it is known there is an Aboriginal object present. The defence does not authorise harm to Aboriginal objects.

Each section within this report follows the relevant step outlined in the Due Diligence Code (DECCW, 2010). Reference is also made, where relevant, to the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011) and the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW, 2010).

Figure 1-1 General project location

Figure 1-2 The Project Area

Figure 1-3 Proposed development plan for the Project Area (source: Bridge 42) (next page)


4x LIGHTING POLES TO FIELD 2
FIELD 2
(COMMUNITY FIELD)
65000
4000
CURTILAGE SHOWN DASHED
HERITAGE LISTED
NISSEN HUTS
EXISTING LIGHT POLE
PUCKEY'S
ESTATE RESERVE
INNOVATION WAY
RETAIN EXISTING CARPARKS
EXISTING FOOTPATH
NORTH OF DASHED LINE
7 EXISTING CARPARKS TO BE
DEMOLISHED
45KL FIELD IRRIGATION TANK ON PAD
APPROX. 4.4M DIA. X 3.5M HIGH
1100mm FENCE TO FIELD PERIMETER
RL 3.4 (FOP)
16m WIDE x 15m HIGH KICKING NETS
SQUIRES WAY
RAISED SEATING
PEDESTRIAN/VEHICLE SHARED ZONE
EXISTING DB - NEW BOLLARDS
TO BE INSTATED
EXISTING TRANSFORMER ON POLE
RL 3.5 (FOP)
NSW AMBULANCE DEPOT
(BY OTHERS)
BOTTOM OF SWALE - RL.3.60
TOP OF BERM - RL.5.00
T.O.W. RL.4.10
3 LANE 70m LONG SPRING TRACK
GATE
450mm SPOON DRAIN + 200mm FENCE ZONE TO WESTERN EDGE OF SPRINT TRACK
CULVERT UNDER
CONCRETE FOOTPATH
450mm SPOON DRAIN TO WESTERN EDGE OF FIELD 1
FIELD 1
(ELITE FIELD)
RAISED SEATING
EXISTING CCTV CAMERA
EXISTING TICKET MACHINES
RL 3.6
EXISTING
PARKING TO BE
RETAINED
HIGH IMPORTANCE FIG TREE TO BE RETAINED
1100mm FENCE TO
FIELD PERIMETER
RL 4.45
RL 3.70 (FOP)
RL 4.45 (TOP STAIR)
RL 3.70 (BOTTOM STAIR)
RL 3.70
RL 4.15 (BENCH SEATING)
RL 4.45 (TOW)
VEHICLE ACCESS GATE
NEW DUAL HEADS BOOSTER ASSEMBLY IN
CABINET & HYDRANT PUMPSET IN CABINET
TIMBER
DECKING
BUS STOP C/F
MAIN
ENTRY
YARNING
CIRCLE
LOADING
NEW EXTERNAL FIRE HYDRANT
GOLF CART FIELD ACCESS
RAINWATER TANK SHOWN DASHED
KIOSK SUBSTATION ON PAD
SERVICES ROAD
10 EXISTING CARPARKS DEMOLISHED
RAMMED EARTH
RAISED SEATING
8 EXISTING CARPARKS RETAINED
BOOM GATE
REFER TO LANDSCAPING DOCUMENTS
FOR PAVING & LANDSCAPED ZONES
SUSTAINABLE BUILDINGS RESEARCH CENTRE
(SBRC)
TREES TO BE REMOVED

2. Legislation

In NSW, Aboriginal heritage is principally protected by two legislative acts:

- *National Parks and Wildlife Act 1974* (NSW) (NPW Act) and its subordinate legislation, the *National Parks and Wildlife Regulation 2019*; and
- *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act).

2.1 National Parks and Wildlife Act 1974

Part 6 of the NPW Act concerns Aboriginal objects and places and various sections describe the offences, defences and requirements to harm an Aboriginal object or place. All Aboriginal material receives blanket protection under the NPW Act. The main offences under section 86 of the NPW Act are:

- A person must not harm or desecrate an object that the person knows is an Aboriginal object.
- A person must not harm an Aboriginal object.
- For the purposes of this section, "circumstances of aggravation" are:
    - that the offence was committed in the course of carrying out a commercial activity; or
    - that the offence was the second or subsequent occasion on which the offender was convicted of an offence under this section.
- A person must not harm or desecrate an Aboriginal place.

An Aboriginal object is defined as:

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

Section 87 sets out defences that are available to a person who is prosecuted for a particular harm offence under section 86. For example, it will be a defence in certain circumstances if the person who is being prosecuted can show that:

- the harm or desecration was authorised through an Aboriginal Heritage Impact Permit (AHIP) and conditions of the AHIP were not contravened;
- the person exercised due diligence to determine whether the act/omission constituted the offence would harm an Aboriginal object and reasonably determined no harm would occur;
- the person complied with requirements or a code of practice, as prescribed in in the National Parks and Wildlife Regulation (2019); or
- was a low impact act or omission.

Section 89A of the NPW Act also requires that a person who is aware of an Aboriginal object, must notify the Director-General in a prescribed manner. In effect, this section requires the completion of AHIMS site cards for all sites located during heritage surveys.

2.2 Environmental Planning and Assessment Act 1979

The EP&A Act regulates development in NSW. It sets up a planning structure that requires developers (individuals or companies) to consider impact of the project on the environment and to promote the sustainable management of built and cultural heritage (which includes Aboriginal cultural heritage). The EP&A Act requires that Aboriginal cultural heritage, and the possible impacts that development may have to Aboriginal heritage be considered, as part of the environmental impact assessment process under the EP&A Act. For most projects requiring assessment under Part 4 and 5 of the EP&A Act, the NPW Act will apply and an AHIP may be required.

It also provides for the identification, protection, and management of heritage items through inclusion of these items into schedules of planning instruments, such as Local Environmental Plans (LEPs).

2.3 Wollongong Local Environmental Plan 2009

The Project Area is located within the Wollongong LGA. Clause 5.10 of the Wollongong LEP requires that development consent be obtained for any proposed activity which will result in impacts to an Aboriginal object or Aboriginal Place. This includes any identified within the LEP itself, or on any other register.

Schedule 5 of the Wollongong LEP 2010 details the included environmental heritage items covered by the plan. No Aboriginal sites or places listed on Schedule 5 are located within the Project Area.

3. Ground disturbance

Step 1. Will the activity disturb the ground surface or any culturally modified trees?

Site preparation works will include earthworks, tree protection and removal, and removal of the existing at-grade car park. These works, along with construction of the Community and High-Performance Centre, playing fields and new carpark, as well as landscape embellishment works, and revision of pedestrian and cyclist pathways will disturb the ground surface. Any potential Aboriginal sites within the disturbance footprint could therefore be subject to harm. As the project will include ground disturbance, the next step in the due diligence process will be completed.

4. Register search and landscape assessment

Step 2a. Search the AHIMS Database and other information sources

A search of relevant heritage registers for Aboriginal sites and places provides an indication of the presence of previously recorded sites. A register search is not conclusive, however, as it requires that an area has been subject to archaeological survey, and information about any sites identified has been submitted for registration. However, as a starting point, the search will indicate whether any sites are known within or adjacent to the investigation area and provide oversight regarding the site types most commonly recorded within the locality. The Aboriginal Heritage Information Management System (AHIMS) provides a database of previously recorded Aboriginal heritage sites in NSW. A search provides basic information about any sites previously identified within a search area. The results of the search are valid for 12 months for the purposes of a due diligence level assessment.

On 14 November 2022, a search of the AHIMS database was undertaken over a 5m x 4km area centred on the Project Area, as follows:

- Client Service ID: 731995
- MGA Zone: 56
- From: Latitude -34.4215, Longitude 150.8601
- To: Latitude -34.3861, Longitude 150.9219
- Aboriginal objects: 16
- Aboriginal Places: nil.

There were 16 Aboriginal sites recorded within this search area and no declared Aboriginal Places. Thirteen of the sites were listed as valid, one had been partially destroyed, one had been destroyed and one was not a site. Table 4-1 below shows the breakdown of site types and Figure 4-1and Figure 4-2 show the location of the AHIMS sites in relation to the Project Area.

Table 4-1 Breakdown of previously recorded Aboriginal sites in proximity to the Project Area.

Site type	Number	%
Artefact (1 or more)	5	31.25
Midden	3	18.75
Potential Archaeological Deposit (PAD)	3	18.75
Burial; Artefact	1	6.25
Burial; Potential Archaeological Deposit	1	6.25
Grinding Groove	1	6.25
Rock shelter with Potential Archaeological Deposit (PAD)	1	6.25
Shell	1	6.25
Total	**16**	**100**

None of the archaeological sites currently recorded on AHIMS are located within or directly adjacent to the Project Area, however, three sites occur within ~1km. These sites are summarised in Table 4-2 below and shown in Figure 4-1 and Figure 4-2.

Table 4-2 Sites within ~1km of Project Area.

Site number	Site name	Site type	Distance to project (m)	Site status on AHIMS
52-2-2195	Thomas Dalton Park	Artefact (1 or more)	220m east	Destroyed
52-2-2194	Squires Way	Artefact (1 or more)	860m west	Valid
52-2-0477	Flat Rocks; Towradgi	Midden	930m north east	Valid

AHIMS #52-2-2195

AHIMS #52-2-2195 an artefact site that was recorded by Niche Environment and Heritage (Niche) in 2020 and impacted under AHIP #1371. The site is located at Thomas Dalton Park, approximately 220m east of the Project Area. Excavation by auger was undertaken at the site which identified two stone artefacts, one being located at a depth between 40–80cm and the other between 80–120cm. The soil was described as brown loamy topsoil over light grey coarse sand with dark grey clay at 200cm. The type and material of the stone artefacts are not described on the site card. The artefacts were determined to be a background scatter or potentially part of a low-density artefact scatter associated with Towradgi Beach. The site was assessed by Niche as having low archaeological significance.

AHIMS #52-2-2194

AHIMS #52-2-2194 is an artefact site that was recorded by Navin Officer in 2022 as part of the Illawarra Waste Water Management Strategy. The artefact was identified during excavation by auger and was found at a depth of 140–170cm. The artefact was found among European rubbish, which was present through the entre pit. The site card specifies that prior to the construction of Squires Way, this area would have been archaeologically sensitive however the pipeline is located within the zone of disturbance caused by road construction. The site was assessed as having low archaeological significance.

AHIMS #52-2-0477

AHIMS #52-2-0477 is a midden site that was recorded by W. Sullivan in 1980. At the time of recording, the site had been impacted as a result of revegetation works. The site is described as being located in the hollow behind a frontal dune, 50m south of Towradgi Surf Club and measuring approximately 60m by 55m. The midden is described as containing oyster and whelk shells, as well as flakes with some secondary working and a small amount of bone. No further information regarding the flaked artefacts were provided on the site card.

Figure 4-1 AHIMS sites surrounding the Project Area

Figure 4-2 AHIMS sites near the Project Area

4.1 Archaeological context

Aboriginal people have utilised the resources of the NSW south coast and adjacent hinterland for at least the past 20,000 years (Boot 1996, 2002). Despite evidence for the Pleistocene occupation of the area at Burrill Lake, Bass Point and Wallen Creek, it is recognised that the majority of sites in the region date to within the last 5,000 years (Boot 1996). However, this could be representative of a change in sea level with the majority of the Pleistocene coastline no longer visible. The Pleistocene occupation is generally thought to have been sporadic and low intensity, reflecting the low population at the time. It was not until the mid-Holocene, when sea levels reached their present level, that there begins to be an increase in Aboriginal occupation of the region reflected in the archaeological record.

Several archaeological studies have been undertaken in the region including some in close proximity to the current Project Area which have been summarised below.

Mary Dallas Consulting Archaeologists (Mary Dallas) (2002) was commissioned by Emibarb to undertake archaeological test excavations of AHIMS #52-2-2189 at the former Lagoon Restaurant at Stuart Park, approximately 1.4km south of the current Project Area. Sefton (2001) had previously completed an archaeological investigation of the area which identified a small amount of shell and one petrified wood flaked artefact (AHIMS #52-2-2189) and subsequent archaeological test excavations were recommended. Three test pits were archaeologically excavated by Mary Dallas, each measuring between 2–3m in length. A total of 116 artefacts were recovered from the test pits and one artefact was identified on the surface of the area. The assemblage was predominantly flakes (42%) and flaked pieces (27%), and raw materials included chert, banded chert, chalcedony, silcrete, quartz and a manuport of weathered fine-grained sedimentary rock. A high level of disturbance was encountered during the excavations, including rubbish, and majority of the artefacts had been damaged. It was determined that the site prior to disturbance was likely to have been a focus of stone tool manufacture and maintenance. However, the small amount of shellfish/other food remains, and absence of hearths/fireplaces suggested that the site had not been used as an ongoing campsite.

Navin Officer Heritage Consultants (Navin Officer) (2002) undertook an Aboriginal Archaeological Assessment of the Wollongong Innovation Campus, at the UoW, including the current Project Area. The assessment was prepared as part of the Master Planning process to support rezoning of the campus. A desktop assessment undertaken by Navin Officer identified that the most common site type to occur in the local area was midden and that they were generally located on rocky headlands and coastal sand dunes. Based on local archaeological studies, the most common lithic materials utilised by Aboriginal people in the Illawarra were chert, quartz, silcrete, petrified wood and indurated mudstone. Background research found that the proposal area had been subjected to significant disturbance from vegetation clearance, levelling and filling and long-term use of the area for recreational purposes. As a result of these impacts, the potential for undisturbed Aboriginal sites to remain within the proposal area was deemed unlikely. Archaeological survey was conducted over one day and no Aboriginal sites or objects were identified. Ground surface visibility was very poor and large portions of the area were covered in imported fill. Visibility along the creek banks was moderate, provided by pedestrian paths and de-vegetated areas. Based on the results of the assessment, it was concluded that there were no Aboriginal heritage constraints to the proposed development and no further archaeological assessment was required.

Australian Museum Business Services (AMBS) (2010) were commissioned by PB+MWH on behalf of the Sydney Water Corporation (SWC) to prepare a preliminary Aboriginal heritage assessment for the provision of a proposed water and wastewater infrastructure for the West Dapto Urban Release Area (WDURA), located approximately 14.4km south west of the current Project Area.

The report aimed to provide an understanding of known and potential Aboriginal heritage sites within the WDURA. AMBS had previously undertaken an archaeological investigation of the West Dapto area in 2006 which recovered sub-surface artefacts from the following landforms:

- Hillslopes;
- Alluvial flats (consisting of Pleistocene and Holocene terraces more than 10m away from stream channels);
- Streams (consisting of the edges of Pleistocene and Holocene terraces within 10m of stream channels); and
- Spur crests.

The majority of artefacts were recovered from the upper 20cm of the deposits, however maximum artefact depth was 60–70cm on alluvial flats (AMBS 2010:40). AMBS identified 309 registered Aboriginal sites within the WDURA, with areas of high potential focused on watercourses and ridges. It was recommended that a comprehensive survey of the area be undertaken to verify the presence of known, potential and additional Aboriginal sites, specifically along the proposed pipeline routes.

Archaeological and Heritage Management Solutions (AHMS) (2014) were commissioned by K F Williams and Associates on behalf of Piruse Constructions to undertake an ACHA for West Dapto Road and Shone Avenue, Horsley, approximately 15km south west of the current Project Area. The proposal area comprised 44ha and the proposed works involved the re-zoning and subdivision of land for residential development. An extensive search of the AHIMS database showed that there were no registered sites within the proposal area. The most common site type was artefact, many of which had been previously recorded by Australian Museum Business Services during survey and excavation for the West Dapto Release Area. The desktop assessment found that the proposal area had been mostly used for pastoral purposes and disturbance was likely to have included vegetation clearance, ploughing, erosion and cattle trampling. Due to the extensive vegetation clearance, it was considered highly unlikely for culturally scarred trees to remain. In areas of substantial ground disturbances (houses, farm buildings, tracks, and yard), it was determined that archaeological evidence would have been destroyed. The following archaeological predictions were made by AHMS:

- Site distribution is characterised by proximity to permanent water sources, and the presence of resources.
- Certain landforms have a higher likelihood of retaining archaeological materials, and these included alluvial flats, particularly in association with low order streams.
- Archaeological evidence in the vicinity of low order tributaries is likely to be sparse, being the remains of transitory activities, such as one-off camps or single knapping (artefact manufacturing) events.
- Raised areas or terraces associated with creeks would have been favourable camping grounds for Aboriginal people and these areas have potential to contain higher densities of archaeological material.

Archaeological survey did not identify any Aboriginal objects within the proposal area. Ground surface visibility was limited, and the survey was therefore ineffective at determining the nature, extent and density of potential artefact sites within areas of dense vegetation cover. In line with AHMS's archaeological predictions, the survey did identify areas with a high probability of containing PAD sites, on ridgelines and terraces near Robins Creek and its tributaries. It was

recommended that further archaeological investigation be undertaken prior to construction impacts occurring within the proposal area.

GHD (2018) were commissioned by Australian Industrial Energy to prepare an Aboriginal heritage Due Diligence Assessment for the proposed Port Kembla Gas Terminal, located approximately 5.2km south of the current Project Area. The proposal area was located around the former Tom Thumb Lagoon which now comprises the Port Kembla Inner Harbour. This area had been heavily altered by urban development, however, would have once consisted of wetlands, saltmarsh, coastal scrub, hilly forest and forested plains, providing a resource rich environment for Aboriginal people. An extensive AHIMS search identified one Aboriginal site within close proximity to the proposal area. This site contained two flaked stone artefacts and was located on the crest of Spring Hill, in a disturbed context. Based on regional modelling and the history of disturbance, it was determined that there was potential for Aboriginal cultural values to remain within undeveloped areas of the proposal area. A visual inspection revealed that the majority of the proposal area had been heavily modified and there was little to no potential for Aboriginal archaeological deposits to survive. The crest of Spring Hill was found to have high potential for Aboriginal archaeological deposits, in areas where less disturbance has occurred. The proposed pipeline alignment would avoid this area and as such it was recommended that if there was a change to the footprint, then further archaeological investigation would be required, in accordance with the guidelines. It was also recommended that a heritage induction be included into the general induction package for all individuals undertaking or supervising ground disturbing works.

Biosis (2021) were commissioned by Wollongong City Council to undertake an ACHA to support a Review of Environment Factors (REF) for proposed upgrades to the North Beach Seawall at North Wollongong, approximately 1.7km south east of the current Project Area. Archaeological survey identified a PAD site which was registered as AHIMS #52-2-4615 (North Beach PAD 1). It was determined that this site would not be avoided by the proposed development and as such archaeological test excavations were completed under AHIP #4679. One 50cm x 50cm test pit, one 1m x 1m test pit and six auger pits were excavated within the study area. No Aboriginal objects were recovered from the excavations and the study area was found to be highly disturbed with fill material identified to a depth of 1.42m within the PAD boundaries. Biosis determined that natural sands were likely removed from the study area historically due to many of the sand dunes along the Illawarra Coast being legally exploited for sand minding up until the 1970s. Additionally “between 1948 and 1955, there was an estimated 3 million tonnes of sand removed from sand leases in the Illawarra to raise the level of Tom Thumb Lagoon, highlighting the extreme levels of sand removal occurring at this time” (Biosis 2021:24). Due to the results of the excavation, it was determined that there was low potential for Aboriginal sites to occur within the study area. Biosis recommended that the proposed works proceed with due caution.

4.2 Landscape assessment

Step 2b. Are there landscape features present likely to contain Aboriginal objects?

The Due Diligence Code outlines a range of general landscape features that are more likely to contain Aboriginal objects. It is also necessary to consider whether there are landscape features of undisturbed land that may contain Aboriginal objects. These include land that is:

- Within 200m of water;
- Located within a sand dune system;
- Located on a ridge top, ridge line or headland;

- Located within 200m below or above a cliff face; or
- Within 20m of a cave, rock shelter or cave mouth.

The Project Area is located on a floodplain with Cabbage Tree Creek located approximately 190m south west, Towradgi Arm located approximately 200m east and Towradgi Beach 400m east.

4.2.1 Geology

The geological formations of the area provide information on the resources available to Aboriginal people, including access to materials to create stone tools. When considering resources available to Aboriginal people, it is also relevant to consider the ranges of stone raw materials present within the local area. Locations of, access to and type of raw material played a significant role in the way in which Aboriginal people obtained and used stone for artefact manufacture.

The Project Area is located within the Fairy Meadow soil landscape which is characterised by quaternary sediments of quartz sand, lithic fluvial sand, silt and clay (Hazelton and Tille 1990:113). Based on geological mapping, it is likely that prior to landform modification, the Project Area was underlain by fine to medium quartz sand with shelly fragments. There is limited potential for rock engraving sites to exist within the Project Area due to lack of stone outcrops.

4.2.2 Soils

The formation and nature of soils within the Project Area can provide insight into the types of sites which may be present, in addition to the likelihood for intact archaeological deposits to be present.

The Project Area is located within the Fairy Meadow soil landscape (see Figure 4-3), which is characterised by friable alluvial loams and siliceous sands on upper floodplains with dark brown sands and heavy clays (Prairie soils) and yellow podzolic soils on lower alluvial flats (Hazelton and Tille 1990:113). This soil landscape is prone to flood hazard (see Section 4.2.3), low wet bearing strength, highly permeable soils and high seasonable watertables.

Geotechnical investigations undertaken within the Project Area by Tetra Tech Coffey (2022) revealed a general soil profile of ‘up to one metre of fill, over deep alluvial clays, sandy clays, clayey sands, and sand, underlain by siltstone and sandstone bedrock’ (Tetra Tech Coffey 2022:6). The fill is made up of clay, gravelly clay and gravelly sand, with traces of fine-grained sand, sub angular gravel, concrete fragments and rootlets (Tetra Tech Coffey 2022:6).

4.2.3 Topography & hydrology

Topographical features typical of the Fairy Meadow soil landscape include gently undulating alluvial plans including floodplains and valley flats with minor terraces (Hazelton and Till 1990:113). The Project Area is located on a floodplain with several water sources located in close proximity (see below). However, the natural landform has been altered for the establishment of sporting fields and a grass lawn, therefore impacting any Aboriginal heritage deposits that may have existed.

The Project Area is within the Fairy and Cabbage Tree Creeks Catchment which covers an area of approximately 21.7km^2, draining from the Illawarra Escarpment to the Tasman Sea, through Fairy Lagoon (950m south of the Project Area). Specifically, the Project Area is located in the lower catchment between the Fairy Creek and Towradgi Arm Waterways. Cabbage Tree Creek extends from Fairy Creek and is located approximately 190m south west, Towradgi Arm is located approximately 200m east and Towradgi Beach is 400m east. An unnamed tributary extending

north west from Towradgi Arm is located 95m east of the Project Area. Flood mapping shows that during flooding events, this tributary expands into the Project Area. The Fairy and Cabbage Tree Creeks catchment has a history of flooding, resulting in extensive damage to private and public property located near creeks and major drainage channels (Advisian 2020:1).

Figure 4-3 Soil landscape of the Project Area and those in the local area

4.2.4 Vegetation

The Project Area is located in the vicinity of an estuarine and wetland environment and beach and as such would have provided abundant food and fresh water sources for Aboriginal people. Original vegetation would have comprised low open-forest (dry sclerophyll forest) and woodland with species such as decorative paperbark, prickly-leaved paperbark and northern boobialla (Hazelton and Tille 1990:113). However, historic land use of the Project Area has resulted in the natural vegetation being completely cleared. Such clearing of vegetation would have impacted the integrity of archaeological deposits and would have removed any trees modified (scarred or carved) by Aboriginal people in the past.

Exotic grassland covers the majority of the Project Area's surface and was planted for the purpose of the sporting fields. Exotic grass species include *Cenchrus clandestinus* (Kikuyu Grass), *Axonopus fissifolius* (Carpet Grass) and *Cynodon dactylon* (Couch Grass) (Eco Logical Australia 2022:23). Along the boundaries of the Project Area and around the existing buildings, mature canopy species and occasional shrub species have been planted. Dominant tree species include *Eucalyptus tereticornis* (Forest Red Gum), *E. microcorys* (Tallowwood), *E. botryoides* (Bangalay), *E. saligna* (Sydney Blue Gum) and *Casuarina glauca* (Swamp Oak) (Eco Logical Australia 2022:22). Dominant shrub species include *Banksia integrifolia* (Coast Banksia), *Callistemon viminalis* (Weeping Bottlebrush), *Dodonaea triquetra*, *Leptospermum laevigatum, Melaleuca armillaris, M. linearis, M. quinquenervia, Pittosporum undulatum, Podocarpus elatus, Syzygium australe* and *Waterhousea floribundum* (Weeping Lilly-pilly) (Eco Logical Australia 2022:22-23).

A small patch of PCT 4049 (South Coast Floodplain Grassy Swamp Forest) is located on the south eastern boundary of the Project Area. This vegetation type is typically dominated by *Casuarina glauca* and "occurs on slightly saline, coastal floodplain margins and headland soaks of the Sydney Basin and northern South East Corner Bioregions" (Eco Logical Australia 2022:22). Intentional garden plantings have been established at the building in the centre of the Project Area.

4.2.5 Historic land use

Encompassing the coastline east and north east of Lake Illawarra, the Aboriginal custodians of the region including the Project Area are the Wodi Wodi (Department of Environment and Conservation NSW 2005). Speaking a variant of the Dharawal language, traditional stories recount their arrival at Lake Illawarra via canoes, bringing with them the Dharawal (cabbage tree palm) (DEC NSW 2005). The Aboriginal habitation and association with the greater Illawarra region spans thousands of years, with the land and marine resources providing a sustainable food source featuring both marine and estuarine environments (DEC NSW 2005).

While the landscape would see changes such as changing water levels and the establishment of sand dunes circa 6,500 years ago, the continued use of this area and reliance on resources is evident (DEC NSW 2005). Although archaeological and ethnographic evidence provide minimal information about the use of land resources by the Wodi Wodi, contemporary knowledge from the Aboriginal community highlights the use of marine resources as well as land resources available (DEC NSW 2005).

European settlement in the greater Illawarra region is officially documented via Government land survey in December 1816, however, reports of cattle being moved into the area indicate presence as early as 1815 (DEC NSW, 2005). Red cedar (*Toona ciliate*) timber-getting was the first industry in the area, beginning in the 1810s. Land grants in the Illawarra region were made by Governor Macquarie on 24 January 1817 and by November 1834, the township of Wollongong was surveyed and approved by Surveyor H.F White (Australian Historical Society 1901:225-226).

The increase of land grants into the 1820s saw the beginning of an 'alienation' of the Aboriginal inhabitants, with the positioning of land plots fronting water and restricting Aboriginal access to resources within freshwater and marine environments (DEC NSW 2005). The late 1820s and into the 1830s saw the continued growth of the European population in the region, further restricting the Wodi Wodi people's access to natural resources, which would only be seen to further increase with the introduction of farming and cedar-cutting in the area (DEC NSW 2005).

In 1830, the Battle of Fairy Meadow occurred between the Illawarra and Bong Bong (or *Bung Bung*, meaning big swamp or a watercourse lost in a swamp) Aboriginal groups at "Mr James Townsend's paddock" which encompasses the current day junction of Main Road and Mt Ousley Road (Bong Bong Common Management Committee 2021:3; Organ 1990:158; Organ 2014). According to Martin Lynch, a local who witnessed the battle, "several hundred men on each side took part in the battle, which consisted of a series of intermittent onslaughts, which extended over three days and nights". The deceased were buried in several sandy locations in the North Wollongong locality including 'in the Tea Tree Scrub between the site of the battle and the sea as well as along the northwest bank of Fairy Creek, east of the Illawarra Council Chamber' (Lynch cited in Organ 1990:158). Also "the sandy bushland on the south side of Fairy Creek – now Stuart Park – east and west of the Pavilion and the sand banks near Tom Thumb lagoon, Bellambi and Towradgi" (Lynch cited in Organ 1990:158).

In 1836, two small land grants totalling 260 acres were made to William Wilson, comprising the current Project Area (Lindsay et al 1994:32). By 1895, the property was owned by Edward Collaery and later by his son Frank Collaery who used the Collaery Estate for farming and grazing (Migration Heritage Project 2021:24,28&31). Collaery's property was eventually purchased by Wollongong Council and then the Commonwealth Government to establish the Balgownie Migrant Hostel (later to become known as the Fairy Meadow Migrant Hostel) (Migration Heritage Project 2021:31). Construction began for the Balgownie Migrant Hostel in the early 1950s and was completed by around 1953, accommodating 1,200 people (Migration Heritage Project 2022).

Historic aerial imagery from 1951 (Figure 4-7), shows that land encompassing the Project Area had been completely cleared in preparation for the Balgownie Migrant Hostel. Historic aerial imagery from 1961 (Figure 4-8) shows the addition of these huts, and that Squires Way to the east had been established, which would have resulted in a high level of disturbance. An access track had been established along the eastern boundary of the Project Area and the road that now comprises Innovation Way had been added. This would have required further clearing of vegetation and grading of the natural landform. By the 1970s, majority of the huts had been sold, moved or demolished, as can be seen in historic aerial imagery in Figure 4-9. Huts had been removed in the southern extent of the Project Area and buildings had been constructed (these buildings remain in here today).

The property was purchased by the University of Wollongong in June 1987 and two sports fields, and a grass lawn were established around the remaining Building 201 (Nissen Hut), and this is evident in the aerial image from 2002 (Figure 4-10). The establishment of the sports fields would have required modification of the natural topography and disruption/importation of soil. By 2002, the driveway, car park and pedestrian pathway south of Building 201 had also been established within the Project Area, suggesting further disturbance. In 2003, Buildings 204 and 210 (Quonset Huts) were relocated to their present location within the Project Area, westerly adjacent to Building 201 (Weir Phillips Heritage and Planning 2022:5). Their original locations can be seen in Figure 4-9. Photographic evidence shows that the location for Building 204 and 210 was significantly raised for their relocation, see Figure 4-5 and Figure 4-6. This would have required importation of soil and earthworks, therefore resulting in ground disturbance.

The Project Area has been impacted by vegetation clearance, farming, the construction and removal of the hostel buildings, construction of buildings and associated infrastructure in the southern extent, modification of the natural landform, the establishment of a driveway, carpark and pedestrian pathway and of playing fields and grass lawn as part of the Innovation Campus. These types of disturbance across the Project Area have significantly reduced the potential for Aboriginal objects to remain present and intact in most areas. If Aboriginal stone artefacts remain, they are likely to be in a disturbed context.

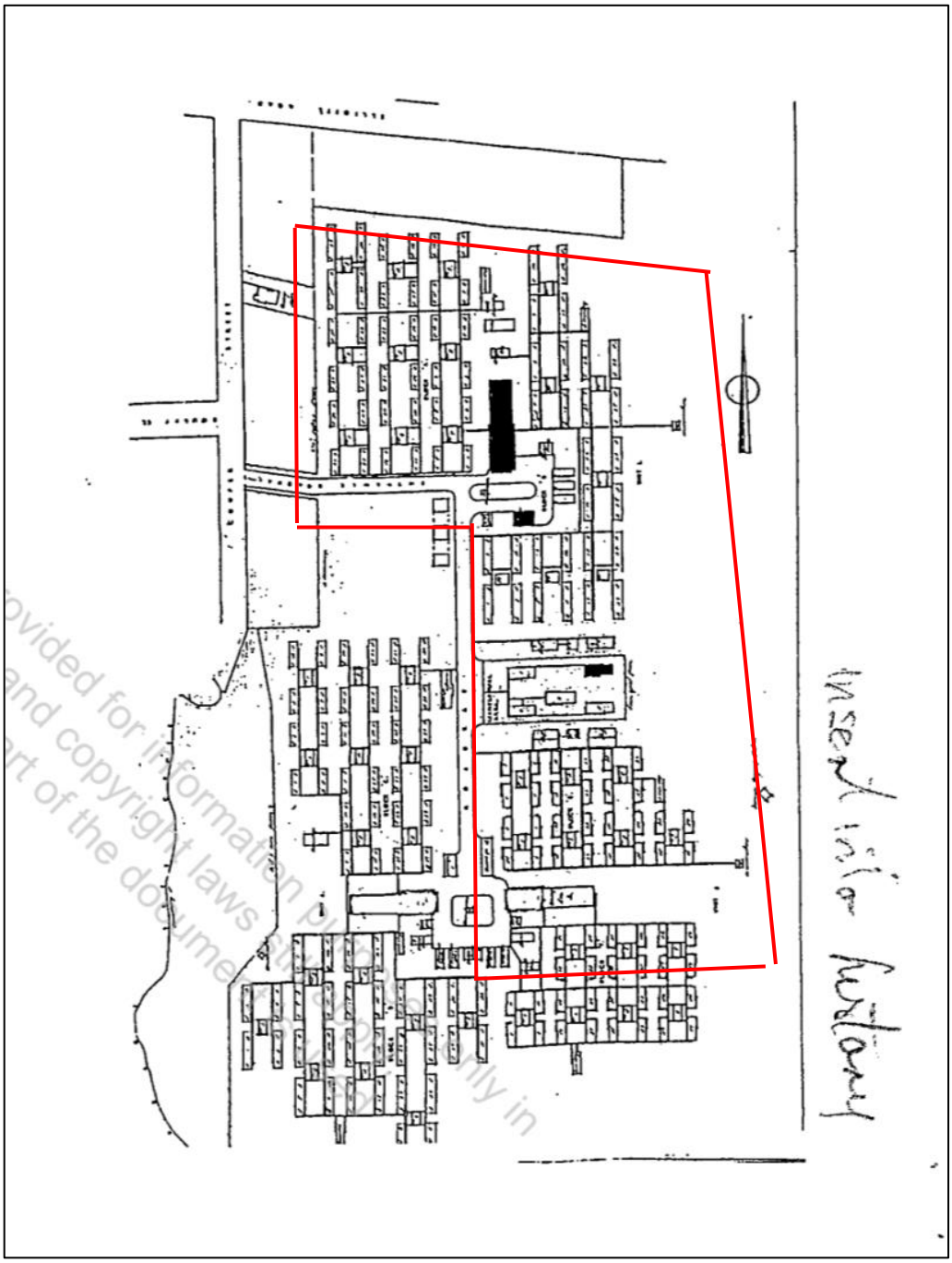

Figure 4-4 The Nissen Hut (large area shaded in black) and original location of the two Quonset huts (smaller shaded in black to the south)

The two smaller huts were relocated to their present location in 2003, westerly adjacent to the Nissen Hut (Weir Phillips Heritage and Planning 2022:6). The approximate location of the Project Area is outlined in red.

Figure 4-5 Former flat elevation of the landform westerly adjacent to Building 201, prior to the relocation of Building 204 and 210. View to north (Wollongong City Council cited in Weir Phillips Heritage and Planning 2022:6)

Figure 4-6 Raised elevation for the addition of Building 204 and 210. View to south

Historical Aerial Imagery 1951

Legend
Project Area

0 100 200 m

Data Attribution
© NGH 2023
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© Six Maps 2022

Ref: 22-590 Dragons Community Centre \ Historical Aerial Imagery 1951
Author: clair.d
Date created: 18.07.2023
Datum: GDA94 / MGA zone 56

NGH

Figure 4-7 Historic aerial imagery from 1951

Historical Aerial Imagery 1961

Legend
Project Area

0 100 200 m

Data Attribution
© NGH 2023
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Ref: 22-590 Dragons Community Centre \ Historical Aerial Imagery 1961
Author: clair.d
Date created: 18.07.2023
Datum: GDA94 / MGA zone 56

NGH

Figure 4-8 Historic aerial imagery from 1961

Figure 4-9 Historic aerial imagery from 1974

Historical Aerial Imagery 2002

Legend
Project Area

0 100 200 m

Data Attribution
© NGH 2023
© Bridge 42 2022
© Six Maps 2022

Ref: 22-590 Dragons Community Centre \ Historical Aerial Imagery 2002
Author: clair.d
Date created: 18.07.2023
Datum: GDA94 / MGA zone 56

NGH

Figure 4-10 Historic aerial imagery from 2002

4.3 Aboriginal site prediction

The purpose of a predictive model is to provide an indication of the potential archaeological resource based on the local archaeological context and environmental context. The predictive model is necessary to appropriately formulate field methodologies as well as providing information for the assessment of archaeological significance.

Based upon the initial desktop assessment, and the review of historical and satellite aerial imagery and past archaeological investigations of the local area and wider region, it appears that there is low to moderate potential for Aboriginal heritage sites to be present within the Project Area. The Project Area has been impacted by vegetation clearing, farming from around the mid-1800s to mid-1900s, preparation of the land for the migrant hostel, construction of the hostel buildings and associated infrastructure, and the establishment of playing fields as part of the UoW Innovation Campus. However, previous archaeological investigations in the local area have demonstrated the potential for stone artefacts to remain in areas of disturbance, particularly if they are located within 200m of water.

The most common site type previously recorded in the local area is Artefact, followed by Midden and PAD sites. Based on previous archaeological investigations in the local area, surface artefacts are most likely to be made of silcrete, chert, and quartz, and flakes are the most likely form of stone tool to be found. Sites are predicted to occur more frequently and to contain denser amounts of material in proximity to water, and in particular permanent water sources. As outlined in Table 4-3.

Table 4-3, midden sites predominantly occur near significant waterways, beaches, swamps and billabongs. If midden material remains in the Project Area, it is likely to be minimal and/or fragmented due to the high level of past disturbance and distance to nearest water source. PAD sites are defined as “those areas where it can be inferred that, although not visible, material traces or evidence of Aboriginal land use have a likelihood of being present under the ground surface” (DECCW 2010:12). The natural landform of the Project Area has been modified for the establishment of sports fields and an open lawn. If sub-surface Aboriginal heritage deposits remain within the Project Area, they are unlikely to be *in situ*. No modified tree (scarred or carved) sites have been previously recorded on AHIMS in the local area. If any of the trees in the patch of PCT 4049 (South Coast Floodplain Grassy Swamp Forest) on the south eastern boundary of the Project Area are of a mature age, they may retain evidence of cultural modification, however this is unlikely due to past vegetation clearance.

The desktop assessment indicates that there is low to moderate potential for landscapes present within the Project Area to contain Aboriginal objects. The nature of the works being undertaken at this site will involve ground disturbance ranging from moderate to very high, which has potential to impact on any Aboriginal heritage sites that may be present.

An outline of predicted Aboriginal objects within the activity area is provided below in Table 4-3.

Table 4-3 Aboriginal site prediction statements

Site type	Site description	Potential
Stone artefacts scatters and isolated artefacts	Artefact scatter sites can range from high-density concentrations through to isolated finds.	Moderate potential to occur in low to moderate densities however high levels of past disturbance are likely to have removed many traces.
Potential Archaeological Deposits (PADs)	Potential subsurface deposits of archaeological material.	Low potential to occur within Project Area due to high levels of past disturbance.
Midden	The agglomeration of shell material disposed of after consumption. Such places are found along the edges of significant waterways, beaches, swamps and billabongs.	Low potential for midden material to remain due to high level of past disturbance and distance to the nearest water source.
Modified trees	Trees that have undergone cultural modification.	Low potential to occur within Project Area due to high levels of past vegetation clearance.
Burial	Aboriginal burial sites.	There are currently two burials sites previously recorded in the local area. There is low potential for burial sites to occur within the Project Area due to high levels of past disturbance and the modifications to the natural landform.
Grinding Grooves	Grooves created in stone platforms as a result of stone tool manufacture.	Suitable sandstone rock outcrops do not occur within the Project Area and as such there is low potential for this type of site to occur.

5. Impact avoidance

Step 3. Can any AHIMS listed objects, or landscape features be avoided?

The Project Area is located on a floodplain with two water sources located within 200m, demonstrating an environment likely to have been utilised by Aboriginal people for sustenance and fresh water in the past. There are three registered AHIMS sites located within 1km of the Project Area, however this number is reflective of archaeological investigations that have been undertaken in the local area. The nearest AHIMS site #52-2-2195, has been destroyed and was recorded approximately 220m east of the Project Area.

The Project Area has been impacted by vegetation clearing, farming from around the mid-1800s to mid-1900s, preparation of the land for the migrant hostel, construction of the hostel buildings and associated infrastructure, and the establishment of playing fields as part of the UoW Innovation Campus. However, previous archaeological investigations in the local area have demonstrated the potential for stone artefacts to remain in areas of disturbance, particularly if they are located within 200m of water.

Proposed construction works will result in sub-surface disturbance and as such will impact any Aboriginal sites that may be present in the Project Area. The desktop assessment alone is not sufficient to conclusively define the archaeological potential of the landscape or identify the location of any Aboriginal objects. Therefore, the next step in the process, a visual inspection, must be conducted to determine the presence of Aboriginal objects or potential archaeological deposits.

6. Desktop assessment and visual inspection

Step 4. Does the desktop assessment confirm that there are likely to be Aboriginal objects present or below the ground surface?

The assessment process is primarily a desktop exercise, using available information such as the AHIMS search results and relevant archaeological reports to develop or refine a model of Aboriginal site prediction based on the type of activity proposed and the level of disturbance of the area. A visual inspection is also required where landscape features are present that may contain Aboriginal objects that cannot be avoided by the activity.

A visual inspection of the Project Area was undertaken on 2 December 2022 by NGH Heritage Consultant Petra Balanzategui and Site Officer of Illawarra LALC Roy Stewart. The entire Project Area was subject to pedestrian inspection and all portions of the Project Area was assessed for the presence of Aboriginal objects and areas of archaeological potential.

The Project Area is located on a floodplain landform with the former migrant hostel buildings in the centre (Plate 6-1 and Plate 6-3), buildings in the southern extent and two sports fields and grassed areas surrounding (Plate 6-4 and Plate 6-5). Innovation Way extends westerly into the Project Area from Cowper Street and a driveway and car park is located at the entrance to the childcare centre (Plate 6-2) and another carpark and driveway is located at the buildings in the south. A cemented pedestrian pathway runs from the eastern side of the childcare centre's car park to the northeastern corner of the Project Area, leading to Elliotts Road (Plate 6-19). A concreted drainage channel extends from a culvert on the eastern boundary of the Project Area, runs west through the Project Area, traversing the pedestrian pathway (see Plate 6-12 and Plate 6-18).

Original vegetation of the Project Area has been completely cleared and current vegetation comprises intentionally planted native trees and regrowth 4D49 (South Coast Floodplain Grassy Swamp Forest) around the boundary of the Project Area (see Plate 6-25 and Plate 6-26). All vegetation within the Project Area is young and therefore not of an age suitable to bear evidence of cultural modification. The Project Area's surface has been altered by the addition of turf, concrete and asphalt. The surface beneath and surrounding the buildings has been concreted as seen in Plate 6-3 and Plate 6-14 and Innovation Way, the driveway and car park contain asphalt (Plate 6-2). Outside of these areas, the remainder of the Project Area has been turfed for the purpose of sports fields and recreation areas. Visual inspection confirmed that the landform beneath Building 210 and 204 has been raised and disturbance would have occurred in this area to undertake this modification (Plate 6-1 and Plate 6-4).

Ground surface visibility was limited throughout the Project Area due to the presence of turfed grass, and asphalt and concrete surfaces. Areas of higher surface visibility were focused around pathways and the base of trees, poles and water taps.

All soil exposures were observed for cultural materials; however, none were identified. Soil exposures were minimal and were mostly situated at bases of trees and around areas of disturbance such as foot paths, taps and drains. Imported material, such as blue metal gravel was identified at many of these soil exposures (see Plate 6-24). In fact, very few natural stones were observed, and introduced quartz pebbles were dispersed within the blue metal material.

Some soil exposures comprised clay (Plate 6-23), which is characteristic of the type of fill present throughout the Project Area, as recorded by Tetra Tech Coffey (2022) during geotechnical investigations.

No Aboriginal objects or areas of archaeological potential were identified within the Project Area and a high level of disturbance was observed throughout. As evidenced by the photographs below and verified by a Dial Before you Dig, the Project Area has been significantly impacted by sub-surface infrastructure including sewer mains, Telstra fibre optic cables, NBN cables, water drains/culverts, cabling for electrical services and more (see Plate 6-6 to Plate 6-18). Other forms of disturbance throughout the Project Area include the installation of water taps, poles, fire-mains, fence-lines, water drains and culverts, pathways, driveways and the carpark (Plate 6-2, Plate 6-15 and Plate 6-20 to Plate 6-22). The natural topography of the Project Area has been modified and flattened for the sports fields and the surface has been altered for the installation of turf, asphalt and concrete. The landform adjacent to the childcare centre has been modified for the establishment of a play area and turfing and sand have been added. Photographs of this area were not taken due to privacy reasons. Due to past sub-surface disturbance, it is likely that natural soils which might have retained any *in situ* Aboriginal heritage deposits have been moved and/or destroyed.

The Battle of Fairy Meadow (described in Section 4.2.5) was discussed with LALC Site Officer Roy Stewart whilst undertaking the visual inspection. It was indicated that the local area contains potential archaeological and cultural sensitivity, particularly in proximity to Fairy Creek and Cabbage Tree Creek. However, the Project Area itself was not noted to hold specific cultural significance and the natural landform has been significantly impacted by historical disturbance.

After the site inspection was completed, NGH was informed by Bridge 42 that the Project Area boundary had been extended to the south by approximately 150m (this is reflected on all maps within this report). It was determined that this area did not warrant an additional site inspection due to the presence of buildings, pathways, a road and carpark covering majority of this area's surface and the extensive disturbance that had occurred here since the 1950s. This area has been impacted by vegetation clearance, farming, the construction and removal of the hostel buildings, the construction of buildings, driveways and pathways in the 1970s and the installation of turf and as such it is considered unlikely for Aboriginal objects to remain.

Given the results of the visual inspection, the predictive model for Aboriginal sites, and the observed level of disturbance within the Project Area, it is considered unlikely that *in situ* Aboriginal heritage deposits are present within the Project Area, and therefore further archaeological assessment of the site is not likely to increase the current scientific understanding of the local region.

Below are site photographs taken during field work:

Plate 6-1 Former migrant hostel buildings and differing elevation of landform. View to south.

Plate 6-2 Turfed area in between the driveway at entrance of childcare centre. View to west.

Plate 6-3 Former migrant hostel building with concreted surface beneath and surrounding. View to north.

Plate 6-4 Looking over the Project Area. Note the levelled sports field and hut located at a higher elevation. View to south.

Plate 6-5 Turfed grass for sports field. View to south east.

Plate 6-6 Manhole cover on the eastern boundary of the Project Area.

Plate 6-7 Manhole cover on the sports field, indicating sub-surface disturbance.

Plate 6-8 Culvert extending from Squires Way into the Project Area showing substantial sub-surface impacts. View to east.

Plate 6-9 Culvert extending from Squires Way into the Project Area. View to east.

Plate 6-10 Manhole covers indicating sub-surface infrastructure on the eastern boundary of the Project Area. View to north east.

Plate 6-11 Indication of sub-surface disturbance on the sports field. View to north west.

Plate 6-12 Drainage channel running through the Project Area. View to west.

Plate 6-13 Evidence of sub- surface disturbance in the Project Area, with turfed grass surrounding.

Plate 6-14 Concreted surface adjacent to childcare centre and evidence of sub-surface infrastructure.

Plate 6-15 Irrigation infrstructure in the Project Area. View to west.

Plate 6-16 Cabling for an electrical power pole located on Squires Way. View to south east.

Plate 6-17 Manhole cover on one of the sports fields, surrounded by turfed grass.

Plate 6-18 Drainage channel running through the Project Area, extending from culvert.

Plate 6-19 Pedestrian pathway traversing Project Area and culvert. View to north west.

Plate 6-20 Water tap connected to sub-surface plumbing in the Project Area.

Plate 6-21 Pedestrian pathway and irrigation infrastructure beyond. View to south west.

Plate 6-22 Wooden poles that no longer serve a purpose. View to west.

Plate 6-23 Shallow silty clay on surface of Project Area.

Plate 6-24 Blue metal in soil exposure at base of tree.

Plate 6-25 Pocket of PCT 4049 vegetation along the boundary of the Project Area. View to north.

Plate 6-26 Intentionally planted native vegetation on the southern boundary of the Project Area. View to south.

6.1 Summary

No Aboriginal sites, objects or places, or areas of potential Aboriginal archaeological sensitivity were identified within the Project Area or immediate surrounds during the site inspection. Visual inspection of the Project Area confirmed that majority of the property has experienced a high level of disturbance. As per the Heritage NSW Due Diligence Code of Practice, lands can be considered disturbed "if it has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable" (DECCW 2010:7). Examples of disturbance that have impacted the Project Area provided by the Code include ploughing, the construction of roads, clearing of vegetation, construction of buildings and the erection of other structures, construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure) and construction of earthworks (DECCW 2010:18).The Project Area has been impacted by initial vegetation clearing, historical use of the property as a farm and migrant hostel, the installation of sub-surface infrastructure, levelling and modification of the natural landform and turfing and the establishment of buildings, pathways, driveways and car parks. Given the results of the visual inspection, the predictive model for Aboriginal sites, and the observed level of disturbance within the Project Area, it is considered unlikely that *in situ* Aboriginal heritage deposits are present within the Project Area, and therefore further archaeological assessment of the site is not likely to increase the current scientific understanding of the local region.

7. Further assessment

Step 5. Is further investigation or impact assessment required?

The Due Diligence Code states that if, after the desktop research and visual inspection is completed, it is evident that harm will occur to Aboriginal objects or heritage places then further and more detailed assessment is required. However, if the research and inspection conclude that the proposed activity is unlikely to harm Aboriginal objects then the activity can proceed with caution.

This Due Diligence Assessment comprising both desktop and field assessment concludes that the area is highly unlikely to contain Aboriginal objects or potential archaeological deposits due to the levels of previous disturbance and land modification which has occurred. As such, the proposed works may proceed as outlined within this document without requiring further investigation or assessment.

8. Recommendations

The following recommendations are based on a number of considerations including:

- Background Aboriginal heritage research into the area;
- Assessment of the landscape;
- Past and present land use and disturbance assessment;
- Visual inspection
- Consideration of the impact of the proposed works; and
- Legislative context for the development proposal.

Based on an assessment of the project, the location and previous level of disturbance, the proposed work can proceed with caution with the following recommendations:

1. Induction of all personnel including sub-contractors on the environmental safeguards and sensitivities relating to Aboriginal heritage values, statutory obligations with regard to Aboriginal and non-Aboriginal heritage.
2. Given that there are cultural values associated with the Battle of Fairy Meadow in the local area, NGH recommends continued consultation with the Illawarra LALC regarding the potential impact any ground disturbing works may have.
3. Any activity proposed outside of the current Project Area should also be subject to an Aboriginal heritage assessment.
4. All access to the site and laydown areas must be within existing tracks and disturbed areas otherwise visual inspection of the sites by a qualified archaeologist is required.
5. If any items suspected of being Aboriginal in origin are discovered during the work, all work in the immediate vicinity must stop and the NSW Environment Line (131 555) notified. The find will need to be assessed and, if found to be an Aboriginal object, further detailed assessment and an application for an Aboriginal Heritage Impact Permit (AHIP) may be required.
6. In the unlikely event that human remains are identified during development works, all work must cease in the immediate vicinity and the area must be cordoned off. The proponent must contact the local NSW Police who will make an initial assessment as to whether the remains are part of crime scene or possible Aboriginal remains. If the remains are thought to be Aboriginal, Heritage NSW must be notified by ringing the Enviroline (131 555).

Bridge 42 is reminded that it is an offence under the *National Parks and Wildlife Act 1974* to disturb, damage or destroy an Aboriginal object without a valid Aboriginal Heritage Impact Permit (AHIP).

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