Moore Point Precinct Plan - Aboriginal Heritage Due Diligence Assessment

Moore Point Landowners Group

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Template 2.8.1

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1. Project context

The following section has been provided by Leamac and Coronation Property Group.

1.1 Background

This Biodiversity Report has been prepared by Eco Logical Australia on behalf of Leamac and Coronation to assess the biodiversity values of the study area in relation to a Planning Proposal at Moore Point, Liverpool (the site).

The site is located east of Liverpool CBD on the opposite side of the Georges River and north of Newbridge Road. It provides a site area of 38.5 hectares (approx.) and is currently developed with industrial uses. There is nothing contained within this report to preclude rezoning.

The site is situated within Liverpool Collaboration Area's Georges River North precinct and is subject to the priorities and actions of the Liverpool Place Strategy (Strategy), which was released by the Greater Sydney Commission (GSC) in December 2018. Refer to the figure below:

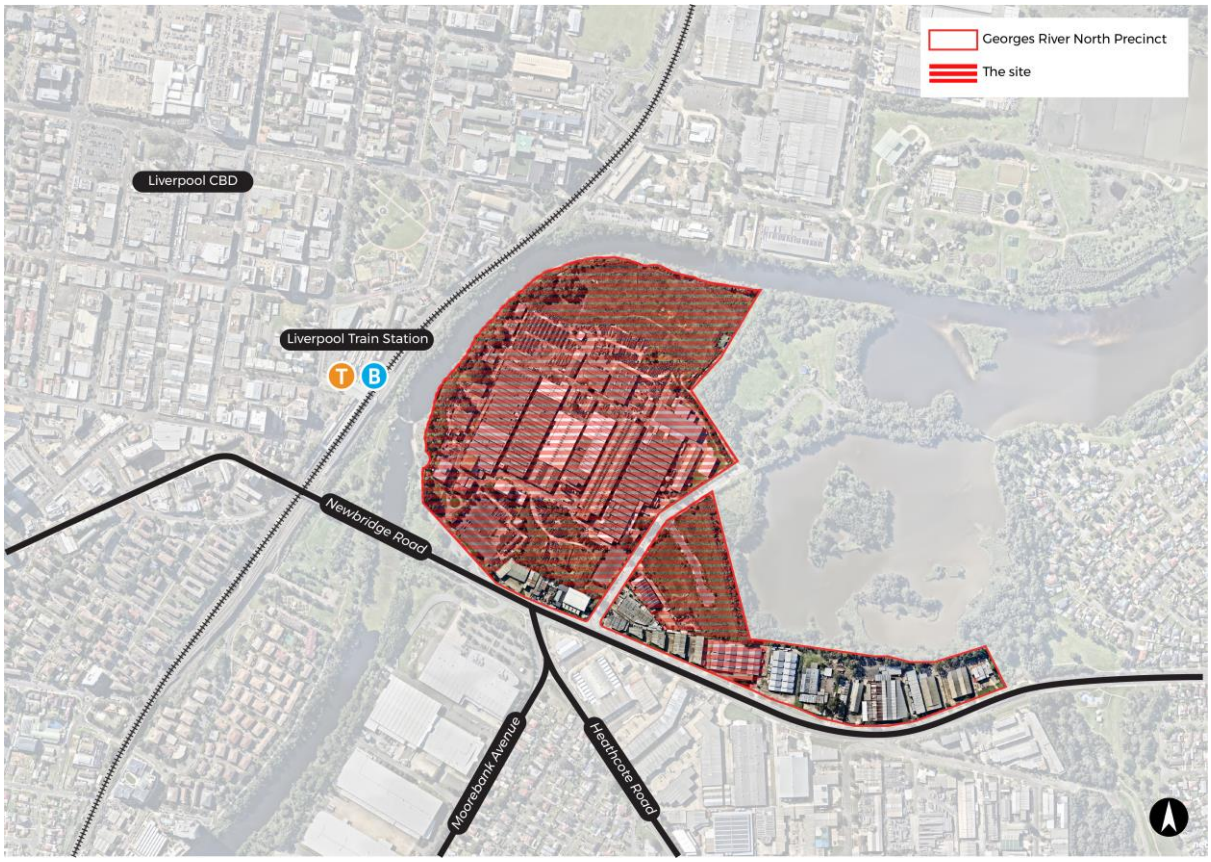

Figure 1:– Site aerial (Source: Nearmap modified by Mecone)

The Strategy states that by 2036 Liverpool will be a rejuvenated river city, offering diverse and growing residential and employment opportunities. Major health, education and retail precincts, and a mixture of open spaces and parklands alongside the Georges River, will create a rich mix of jobs and workplaces, public spaces, shops and entertainment.

Under the Strategy the site is identified as 'mixed use', which comprises:

'a mixture of commercial, retail, residential and community uses that provide sustainable employment, that is complementary to, and not in competition with, the commercial core'

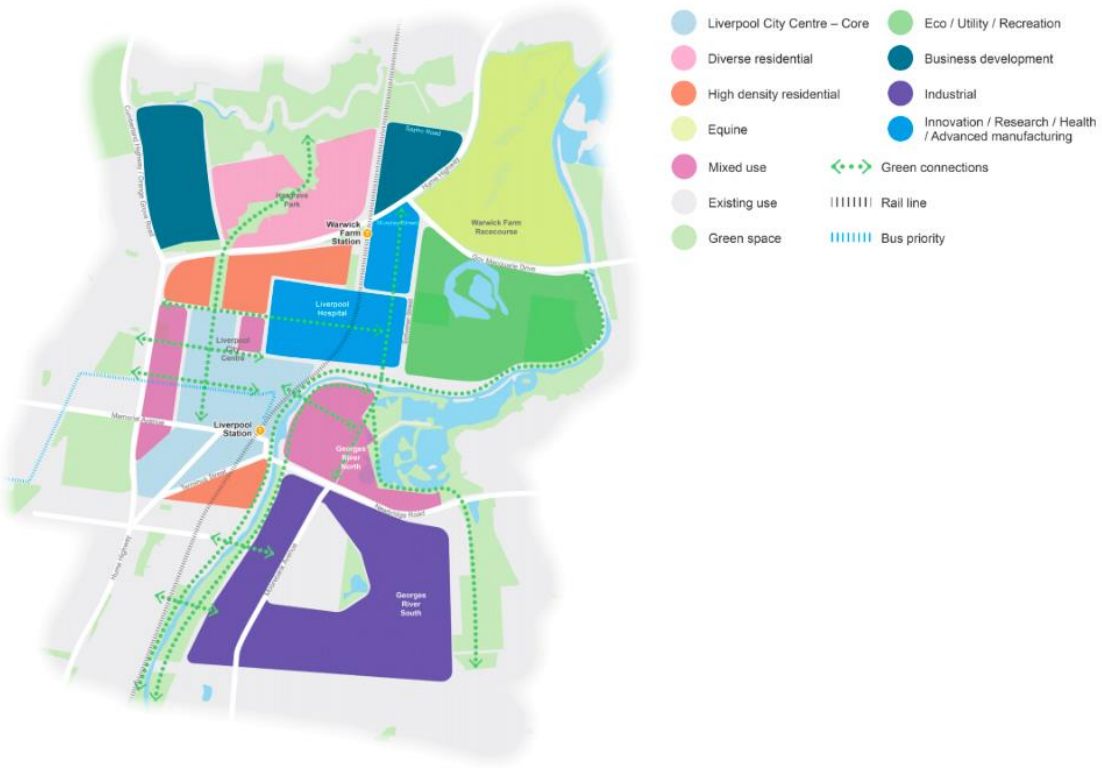

Figure 2:– A Place Strategy for Liverpool (Source: Liverpool Collaboration Area Place Strategy 2018)

The 2019 Annual report summary for Liverpool Collaboration Area highlighted key steps commenced and completed to address the imperatives acknowledged in the Strategy to accelerate the delivery of the Collaboration Area. These included:

- Engagement with Transport for NSW (TfNSW) to prepare the Liverpool Place-based Integrated Transport Strategy and accelerated investment; and
- flood studies and flooplain risk management plan completed by Liverpool City Council.

The land uses reflected in the Strategy are reinforced in Liverpool City Council's Local Strategic Planning Statement (LSPS), which identifies the site for investigation as residential/mixed use to support the CBD and Innovation Precinct in tandem with linking open space and green corridors.

The LSPS provides the following short to medium term action (12-24 months) specific to the Georges River North precinct:

Action 11.2 – Investigate amendments to LEP to rezone River precinct north of Newbridge Road (Moore Point) as a mixed-use zone to support the Liverpool CBD and Innovation Precinct, with an extensive open space system and cross-river linkages (short to medium term)

The Planning Proposal involves the creation of a mixed use precinct, providing new homes, jobs and open space adjoining the Georges River and connecting to Liverpool CBD. Key features of the proposal include:

- Adaptive re-use of existing heritage;
- Foreshore embellishments and new open spaces;
- Educational and cultural facilities;
- Connections to Liverpool CBD and Train Station; and
- Transport, intersection and collector road improvements.

The Planning Proposal aligns with the priorities of Government and the implementation phase of the Place Strategy by facilitating the transformation of the Collaboration Area with new jobs, infrastructure, green spaces and housing. The Planning Proposal responds to The Pulse of Greater Sydney's performance indicators, which sit under the following key themes:

1.1.1 Infrastructure and Collaboration

The Planning Proposal will facilitate additional jobs, education and housing in close proximity to Liverpool CBD and Train Station. The proposal will support additional medium and long-term housing supply in Liverpool CBD through diverse and new housing products. The proposal supports the continual expansion and growth of Liverpool Innovation precinct and nearby health infrastructure, with potential to provide complementary uses near Liverpool Hospital and educational and cultural facilities on the site.

1.1.2 Productivity

The Planning Proposal supports the growth of the thirty-minute city, ensuring Liverpool emerges as a premier CBD in the Western City. The proposal provides capacity for new transport infrastructure on the site, road and intersection upgrades and locating density near major transport infrastructure (Liverpool Train Station and Badgery's Creek Aerotropolis). The proposal encourages additional business activity and investment in Liverpool by providing new commercial uses that will complement Liverpool CBD.

1.1.3 Liveability

The Planning Proposal significantly improves upon the existing use of the site by creating walkable places for people to live work and play. This includes foreshore embellishments to the Georges River, improved connections across the Georges River and adaptative re-use of existing heritage items. These measures will contribute to Sydney's Green Grid, improve access to services in Liverpool CBD and establish a community that celebrates identity and place.

1.1.4 Sustainability

The Planning Proposal addresses the urban heat island effect by significantly increasing the quantum of green space on the site for active and passive recreational use. The proposal will provide new parks and green connections to surrounding open spaces including Haigh Park, which will contribute to the urban tree canopy of the area.

Overall, the Planning Proposal represents a clear and consistent strategic line of site with the priorities of government. It meets the performance indicators, priorities and objectives expressed in the District Plan, Place Strategy, LSPS and The Pulse of Greater Sydney.

Nothing contained in the body of this report/assessment would preclude the Planning Proposal from rezoning and gazettal for residential/mixed use purposes.

2. Introduction

The Moore Point Landowners Group engaged Eco Logical Australia Pty Ltd (ELA) to undertake an Aboriginal Heritage Due Diligence Assessment of the proposed Moore Point precinct (hereafter referred to as 'the study area'; Figure 3) to identify if Aboriginal objects are likely to be located within the area of the proposed works and, if so, whether the proposed works have the potential to harm those objects.

A map of the proposed precinct layout has been provided by the Moore Point Landowners Group (Figure 4).

This assessment outlines the findings of the Aboriginal Heritage Due Diligence Assessment of the study area, in accordance with the Department of Planning, Industry and Environment (DPIE) *Due Diligence Code of Practice for the protection of Aboriginal Objects in New South Wales* (DECCW 2010a).

2.1 Assessment process

The methodology of this archaeological due diligence assessment includes :

- Undertake a search of the Aboriginal Heritage Information Management System (AHIMS) register maintained by the DPIE to establish if there are any previously recorded Aboriginal objects or places within the study area;
- Undertake a search of the NSW State Heritage Inventory, the Australian Heritage Database, the Liverpool Local Environment Plan (LEP) 2008 Schedule 5 (Environmental Heritage) in order to determine if there are any sites of archaeological significance or sensitivity located within the study area;
- Review of the relevant Development Control Plan (DCP) for any development controls concerning heritage in the area;
- Undertake a desktop review of relevant previous archaeological assessments to understand the local archaeological context and assist in predicting the likely occurrence of unrecorded archaeological sites or objects;
- Undertake a site inspection to identify any Aboriginal sites and areas of sensitive landforms;
- Prepare an archaeological due diligence assessment determining if known objects or additional unrecorded objects are present within the study area, as well as indicate whether further assessment and/or an Aboriginal Heritage Impact Permit is required.

The DPIE process involves *"taking reasonable and practical measures to determine whether your actions will harm an Aboriginal object and, if so, what measures can be taken to avoid that harm"* (DECCW 2010a:4).

If an AHIP application is required, the DPIE necessitate that it is supported by an Aboriginal Cultural Heritage Assessment (ACHA) prepared in line with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales* (DECCW 2010b), and a copy of the approval for the development or infrastructure under Part 4 or Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act, New South Wales).

An archaeologically sensitive landscape is an area that has the potential for archaeological material to be present within it. According to the *Due Diligence Code of Practice* (DECCW 2010a), archaeologically sensitive landscapes can include areas:

- Within 200m of waters;
- Located within a sand dune system;
- Located on a ridge top, ridge line, headland;
- Located within 200m below or above a cliff face;
- Within 20m of or in a cave, rock shelter, or a cave mouth; and
- Is on land that is not disturbed land

The Due Diligence Code of Practice (DECCW 2010a:18) defines disturbed land as areas that have any land that:

> "*Has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable. Examples include ploughing, construction of rural infrastructure (such as dams and fences), construction of roads, trails and tracks (including fire trails and tracks and walking tracks), clearing 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*."

2.2 Due diligence assessment summary

ELA has undertaken an extensive search of the AHIMS database maintained by the DPIE which identified one (1) registered Aboriginal heritage site within 1 km of the study area, located on the opposite side of the Georges River from the study area. Zero (0) registered AHIMS sites are located within the study area. ELA has also reviewed past Aboriginal archaeological studies located within and nearby the study area, which have demonstrated the Georges River as an area of high archaeological potential and a focal point of Aboriginal activity in Western Sydney in the past.

A pedestrian survey was conducted of the proposed development area by ELA Archaeologist Daniel Claggett. The site survey identified almost all areas as having been significantly disturbed by past land use, such as agriculture, construction, cutting and mounding of soils, modifications to Georges River, reclamation and the placement of fill material across much of the study area. One portion of the study area, in the north western riparian corridor of the Georges River, has moderate archaeological potential due to the proximity of Georges River and lack of development in the area.

However, development is not proposed in this area, with the retention of the riparian corridor planned. The remainder of the study area possesses low archaeological potential and no further assessment is necessary.

Figure 3: The Study Area

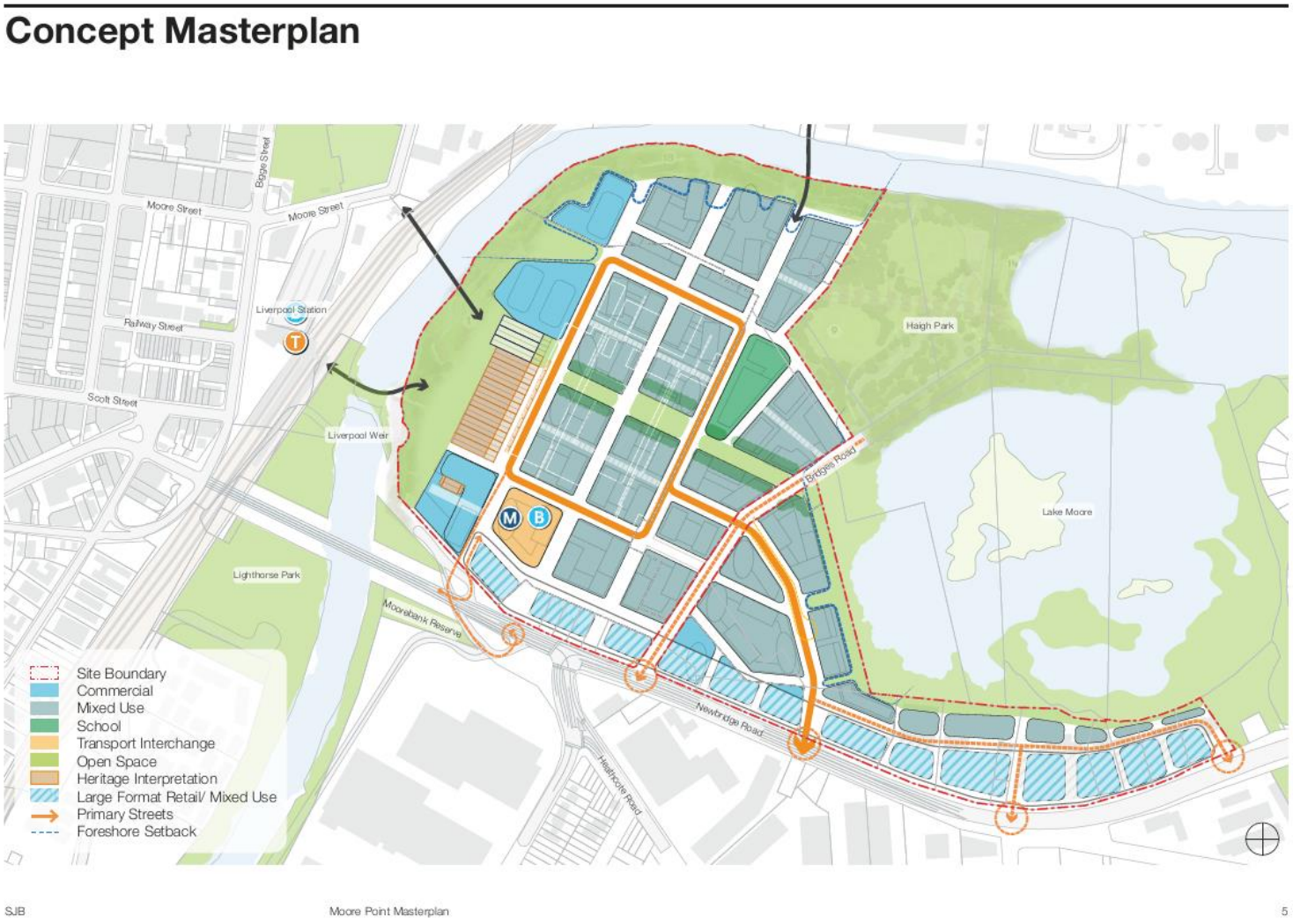

Figure 4: Plan of Proposed Moore Point precinct (Source: SJB Architects)

Figure 5: Proposed landscape layout for the Moore Point precinct, highlighting the areas of riparian corridor that will be maintained in the area (Source: SJB Architects)

3. Basis for cultural heritage management

> *Places of cultural significance enrich people's lives, often providing a deep and inspirational sense of connection to community and landscape, to the past, and to lived experiences … they are irreplaceable and precious (Australia ICOMOS Burra Charter 2013:1).*

Traditionally, heritage and archaeological assessments have focused on the significance of the tangible elements of cultural heritage (Brown 2008). Items such as structures and archaeological artefacts have been considered predominantly in terms of their scientific/research potential and representativeness (New South Wales Heritage Office 2015:20-24). By focusing on the scientific qualities of heritage, many of the intangible qualities of heritage were not considered. This is especially crucial when participating in the management and protection of Aboriginal cultural heritage. By nature, Aboriginal cultural heritage is multi-faceted: it consists not only of tangible structures and objects of value for scientific investigations, but also of a deeply complex array of intangible expressions, such as stories, memories, and traditions. Many of the rights and interests of Aboriginal communities in their own heritage is formed on the basis of this intangibility. It stems from their spirituality, customary law, original ownership, and continuing custodianship (Australian Heritage Commission 2002:5). These intangible expressions often share a strong link with the landscape. Byrne *et al.* (2003:3) describe this connection in the form of a map, where individuals:

> *Carry around in* [their] *heads a map of the landscape which has all these places and their meanings detailed on it. When we walk through our landscapes the sight of a place will often trigger the memories and the feelings* [that] *go with them … it is the landscape talking to us.*

Crucially, those who are not connected to the landscape in question will not be able to discern these intangible meanings embedded in the landscape; they can only come to recognise the significance by consulting with local knowledge holders (Byrne *et al.* 2003:3). And, even so, they may vary between individuals, reflecting unique experiences.

By recognising the rights and interests of Aboriginal knowledge holders and community members in their cultural heritage, all parties involved in the identification, conservation, and management of this cultural heritage must acknowledge that Aboriginal people (Australian Heritage Commission 2002:6):

- Are the primary source of information on the value of their heritage and how this is best conserved;
- Must have an active role in any heritage planning processes;
- Must have input into primary decision-making in relation to their heritage so that they can continue to fulfil their obligations towards this heritage; and
- Must control the intellectual property and other information relating specifically to their heritage, as this may be an integral aspect of its heritage value.

As such, cultural heritage sites and objects are fundamental elements of Aboriginal peoples' identities, connections, and belonging to their communities. The careful protection and management of this heritage is essential for the preservation of connection between past, present, and future.

4. Assessment process

4.1 Identify if the proposed activity will disturb the ground surface

The first stage of the due diligence process is to identify if the activity will disturb the ground surface or any culturally modified trees. Although this due diligence assessment has been prepared at the planning proposal stage of this project, which does not involve any development, any future development within the Moore Point precinct would require disturbance of the ground surface for the construction of buildings and associated infrastructure. Therefore, the due diligence process moves to the next stage.

4.2 Database searches and known information sources

Searches of the Australian Heritage Database, State Heritage Register (SHR) and the Liverpool LEP 2008 Schedule 5 (Environmental Heritage) was conducted on 14 May 2019.

There are no Aboriginal items in the study listed on the Australian Heritage Database.

There is one Aboriginal Place listed on the SHR within one kilometre south of the study area, known as Collingwood Precinct. Collingwood Precinct is a significant part of the landscape for Dharawal, Gandangara and Dharug people. The hilltop and ridge line were meeting places for Aboriginal groups and also a vantage point during the pre-contact era, enabling Country to be observed and monitored. The lookout provided views across the landscape, which allowed for observations of weather patterns, movements, threats from fire and changes in seasonal vegetation.

The search of the State Heritage Register (SHR) also located the following historical heritage items in the vicinity, but not within, the study area:

- Liverpool Weir (SHR listing 01804)
- Liverpool Train Station (SHR listing 01181).

Schedule 5 of the Liverpool LEP 2008 did not list any Aboriginal sites within the study area but identified a large portion of the study area at 1 Bridges Road as a heritage item listed as the former Pirelli Power Cables and Systems Building, now known as Prysmian Cables and Systems (item no. 76). The study area is also located in close proximity to several other heritage items including:

- Pylons (former Liverpool Bridge), Georges River near Haigh Avenue (item no. 86)
- Liverpool Weir, Georges River near Haigh Avenue (item no. 87)
- Liverpool Railway Station Group, including station building, good shed and jib crane (item no. 72)
- Light Horse Park, Atkinson Street (item no. 70).

A separate historical heritage assessment that addresses the heritage items that will be impacted by the proposed works has been prepared by ELA and accompanies this report (ELA 2020).

4.2.1 AHIMS search

The Aboriginal Heritage Information Management System (AHIMS) is a database maintained by the DPIE and regulated under Section 90Q of the *National Parks and Wildlife Act 1974.* AHIMS holds information and records regarding the registered Aboriginal archaeological sites (Aboriginal objects, as defined under the Act) and declared Aboriginal places that exist in NSW.

An extensive search of the AHIMS database was conducted on 17 May 2019 to identify if any registered Aboriginal sites were present within, or adjacent to, the study area (**Appendix A**).

The AHIMS database search was conducted using the following search parameters:

Datum: GDA94, Zone 56

Lot/DP: Lot 200, DP1009044

Buffer: 1 km.

The AHIMS search result showed that one registered Aboriginal site and one registered Aboriginal place were located within 1 km of the study area (Figure 6).

No Aboriginal sites were identified within the study area on the AHIMS database. The one identified AHIMS site is located on the banks of the Georges River associated with the weir to the north of the study area.

The registered Aboriginal place is “Collingwood Precinct” (AHIMS ID: 57), a traditional meeting place for the Dharawal, Gandangara and Dharug Aboriginal people and a vantage point from which to observe Country (State Heritage Register 2015). It is located approximately 900 m to the south (Figure 6).

Figure 6: AHIMS registered sites in/within the vicinity of the study area

4.2.2 Previous archaeological investigations

There have been a number of archaeological investigations conducted within the local region over the past 30 years as a response to the planning and rapid development of the Sydney Southwest Growth Centre. Archaeological investigations within and nearby the Liverpool City Centre are primarily related to historical archaeology, due to the early urban development of the area, reducing the likelihood of subsurface artefacts surviving. However, a number of Aboriginal sites have been registered along the Georges River, a major waterway that runs adjacent the Liverpool City centre and current study area.

An early predictive model for the region was developed during a large study of 2,262 hectares of land proposed for release in the Liverpool Area (Smith 1989). Almost three-quarters of Aboriginal sites identified in the study (74%) were associated with water sources including permanent creeks and swamp margins (Smith 1989: 2, 28).

McDonald (2001) undertook a preliminary archaeological study of the Hoxton Park Aerodrome, a large parcel of land west of Liverpool City Centre. McDonald noted that almost one third of the sites in the study area were located at low elevations of less than 30 m above sea level (ASL) and more than half of the sites were below 40 m ASL. This data seemed to support Smith's (1998) suggestion that sites would be in low-lying areas close to water resources (McDonald CHM 2001: 7).

The results of some of the regionally and locally significant Aboriginal heritage studies within the area are presented below.

Australian Museum Business Services, 2003. *Edmondson Park Composite Site Master Plan Aboriginal Heritage Management Plan.* Prepared for Liverpool City Council & Campbelltown City Council.

Australian Museum Business Services (AMBS) was previously engaged by Liverpool Council and Campbelltown Council to prepare an Aboriginal Heritage Management Plan (AHMP) for the Edmondson Park Composite Site (EPCS), a large, planned precinct in Edmondson Park, NSW, located approximately 8 km from the current study area and associated with the Georges River.

AMBS undertook surveys across the EPCS and identified 13 previously registered artefact scatters and five previously registered isolated artefacts, totalling 276 artefacts. Additionally, the surveys identified 15 new stone artefact sites which comprised a total of 32 artefacts. It was noted that a majority of the previously and newly registered Aboriginal sites identified by AMBS were in landscapes of low to moderate disturbance and located along tributaries of Maxwell's Creek on alluvial flats or associated, gently sloping rises above the tributary water ways.

AMBS's report identified several areas of archaeological sensitivity across the EPCS precinct that would warrant further investigation. Most areas of sensitivity were associated with areas previously identified as containing surface artefact scatters or in landscapes that had experienced low levels of disturbance and were located in a landscape conducive to Aboriginal occupation, such as being located adjacent a creek line.

Mary Dallas Consulting Archaeologists, 2010. *Aboriginal Archaeological Assessment and Management Plan: Proposed Industrial / Commercial Development, Former Hoxton Park Airport Site, Hoxton Park, NSW.* Prepared for MIRVAC.

Mary Dallas Consulting Archaeologists (MDCA) was previously engaged by Mirvac Group to prepare an Aboriginal Archaeological Assessment for the proposed development of the former Hoxton Park Aerodrome into an industrial and commercial precinct, located approximately 7 km west study area and associated with a number of waterways including Cabramatta Creek which feeds into the Georges River.

Background research identified 80 previously registered Aboriginal sites as being located within or immediately adjacent to the study area. Almost all of the previously registered sites identified were either open campsites, isolated artefacts or potential archaeological deposits (PADs). Site survey by MDCA identified a majority of the study area as having been stripped of all original topsoil and replaced with fill in order to raise the level of the former airstrip. The field survey did not result in the location of any previously unrecorded Aboriginal artefacts. However, a large area adjacent Hinchinbrook Creek located on elevated terrain in the east of the study area was considered a PAD and was recommended for test excavation prior to any proposed works take place within this area.

4.2.3 Previous archaeological investigations within the study area

Eco Logical Australia, 2016. *Prysmian Site, Bridges Road, Moorebank – Aboriginal Heritage Assessment.* Prepared for LAC JV Pty Ltd.

ELA was previously engaged by LAC JV Pty Ltd to prepare an Aboriginal Heritage Assessment to support a planning proposal for the redevelopment of the former industrial Prysmian Site at Bridges Road, Moorebank, which encompassed a majority of the current study area (Figure 7).

Background research identified the Prysmian Site as having been used primarily for agricultural / pastoral purposes in the 19th and early 20th centuries. In the late 1940s the area began transitioning into an industrial centre. The areas of the Prysmian Site adjacent to the Georges River underwent extensive modification, with lakes in the north and west expanded and mined for the surrounding rich topsoil. These works left the riverbanks of the Prysmian Site heavily eroded and hazardous and a process of rehabilitation was begun in 1977 to restore the former riverbanks.

Field survey confirmed that significant disturbance had occurred to the subsurface, with the south western part of the study area having been filled and levelled adjacent to Liverpool Weir. The southern portion of the site comprised of a cable factory site, large bitumen carpark and a vacant grassed area in which the topsoil appeared to have been removed and now consists of fill. The only area assessed as possessing archaeological potential within the Prysmian Site was 11 Bridges Road, located directly adjacent the bend of Georges River and which had only been exposed to low-moderate level disturbance activities such as land clearance, possible cropping and rubbish dumping (Figure 7).

Based on the low-moderate levels of disturbance that have taken place there in the past, ELA's report concluded that future test excavation would only be required if development was proposed to take place at 11 Bridges Road that included works that would excavate below any existing fill to the natural soil horizon.

Figure 7: Study area for ELA's 2016 assessment of part of the Moore Point precinct (Six Maps LPI)

4.3 Landscape assessment

The study area is located within the Cumberland Plain physiographic region. The Cumberland Plain is characterised by gently undulating low hills and plains. Topography within study area is characterised by a largely flat landform with a gentle slope to the west and northwest.

The local geology comprises Wianamatta Group Ashfield Shale of laminate and dark grey siltstone, Bringelly Shale and Minchinbury Sandstone consisting of fine to medium-grained quartz lithic sandstone. The geomorphology is gently undulating rises on Wianamatta Group shales with local relief to 30 m and slopes usually less than 5% (Bannerman & Hazelton 1990:29).

The dominant soil landscape within the study area is the Blacktown Residual Soil (REbt) landscape, with a smaller portion of the Richmond Alluvial Soil (ALri) landscape within the southeast portion of the study area adjacent Newbridge Road (Figure 8).

The Blacktown soil landscape consists of shallow to moderately deep soil with relatively low susceptibility to erosion. In general, the soil profile of this landscape is comprised of a friable brownish black loam (A1 horizon) typically to 30 cm depth, followed in turn by hard setting brown clay loam (A2 horizon), strongly pedal, mottled brown light clay (B horizon) and grey plastic mottled clay (B3 or C horizon). Blacktown soils are conducive to artefact survivability, however the acidity within in these soils quickly removes organics. In addition, the tendency of these soils to deflate often result in a temporal collapse where archaeological objects from multiple time periods can accumulate within a single cultural layer.

The Richmond soil landscape consists of deep, acidic, non-calcic brown soils, and red, podzolic, earthy soils. The dominant soil types within this landscape include a loose reddish-brown loamy sand (A horizon), a brown sandy clay loam (A horizon), a brown mottled light clay (B horizon) and a brown, mottled, stiff medium-heavy clay (B horizon). Soils within this landscape are highly acidic. Additionally, surface soils within this landscape are moderately erodible, which subsoils are highly erodible, increasing the potential for a temporal collapse where archaeological objects from multiple time periods can accumulate within a single cultural layer.

In addition to these two soil landscapes, areas of reclaimed land surrounding Lake Moore are labelled as “disturbed terrain”.

The study area is surrounded to the west and north by the Georges River and the east by Lake Moore. These water courses have shaped and defined the landscape and soils of the study area. The source of the Georges River is the upland swamps of the O'Hares Creek catchment, in the Illawarra Escarpment. The river travels for approximately 96 kilometres in a generally north easterly direction to its mouth at Botany Bay. The upper reaches of the river narrow considerably south of Chipping Norton Lake and the riverbanks become steeper.

The 1943 aerial imagery of the subject area (Figure 9) demonstrates the area has been heavily modified and disturbed by landscaping / levelling, agriculture and construction of industrial facilities / factories. Additionally, both Lake Moore and the portion of the Georges River that runs adjacent the study area have been heavily modified in order to provide a better connection between the two bodies of water.

4.4 Predictive model

Based on the material evidence and range of archaeological sites across the region, it is clear that Aboriginal people have been utilising the land and resources within the Cumberland Plain for thousands of years. The predictive model outlined in Table 1 below has been developed for the study area based on the AHIMS search results, landscape assessment and regional and local Aboriginal archaeological context outlined above.

Table 1: Predictive Model

Site Type	Description
Open camp sites / stone artefact scatters / isolated finds	Open camp sites represent past Aboriginal subsistence and stone knapping activities and include archaeological remains such as stone artefacts and hearths. This site type usually appears as surface scatters of stone artefacts in areas where vegetation is limited, and ground surface visibility increases. Isolated finds may represent a single item discard event or be the result of limited stone knapping activity. The presence of such isolated artefacts may indicate the presence of a more extensive, in situ buried archaeological deposit, or a larger deposit obscured by low ground visibility. Based on nearby AHIMS sites, the adjacent Georges River and the heavy disturbance that has taken place across the subject area, it is unlikely this site type will occur. The only area with at least moderate potential to contain this site type is within the riparian corridor.
Potential Archaeological Deposit	Potential Archaeological Deposits (or PADs) are areas where there is no surface expression of stone artefacts, but due to a landscape feature there is a strong likelihood that the area will contain buried deposits of stone artefacts. Based on nearby AHIMS sites, the adjacent Georges River and the heavy disturbance that has taken place across the subject area, it is unlikely this site type will occur. The only area with at least moderate potential to contain this site type is within the riparian corridor.

Site Type	Description
Scarred or carved trees	Tree bark was utilised by Aboriginal people for various purposes, including the construction of shelters (huts), canoes, paddles, shields, baskets and bowls, fishing lines, cloaks, torches and bedding, as well as being beaten into fibre for string bags or ornaments (sources cited in Attenbrow 2002: 113). Trees may also have been scarred in order to gain access to food resources (e.g. cutting toe-holds so as to climb the tree and catch possums or birds), or to mark locations such as tribal territories. Such scars, when they occur, are typically described as scarred trees. The study area has been cleared of mature growth vegetation, making this site type unlikely to occur.

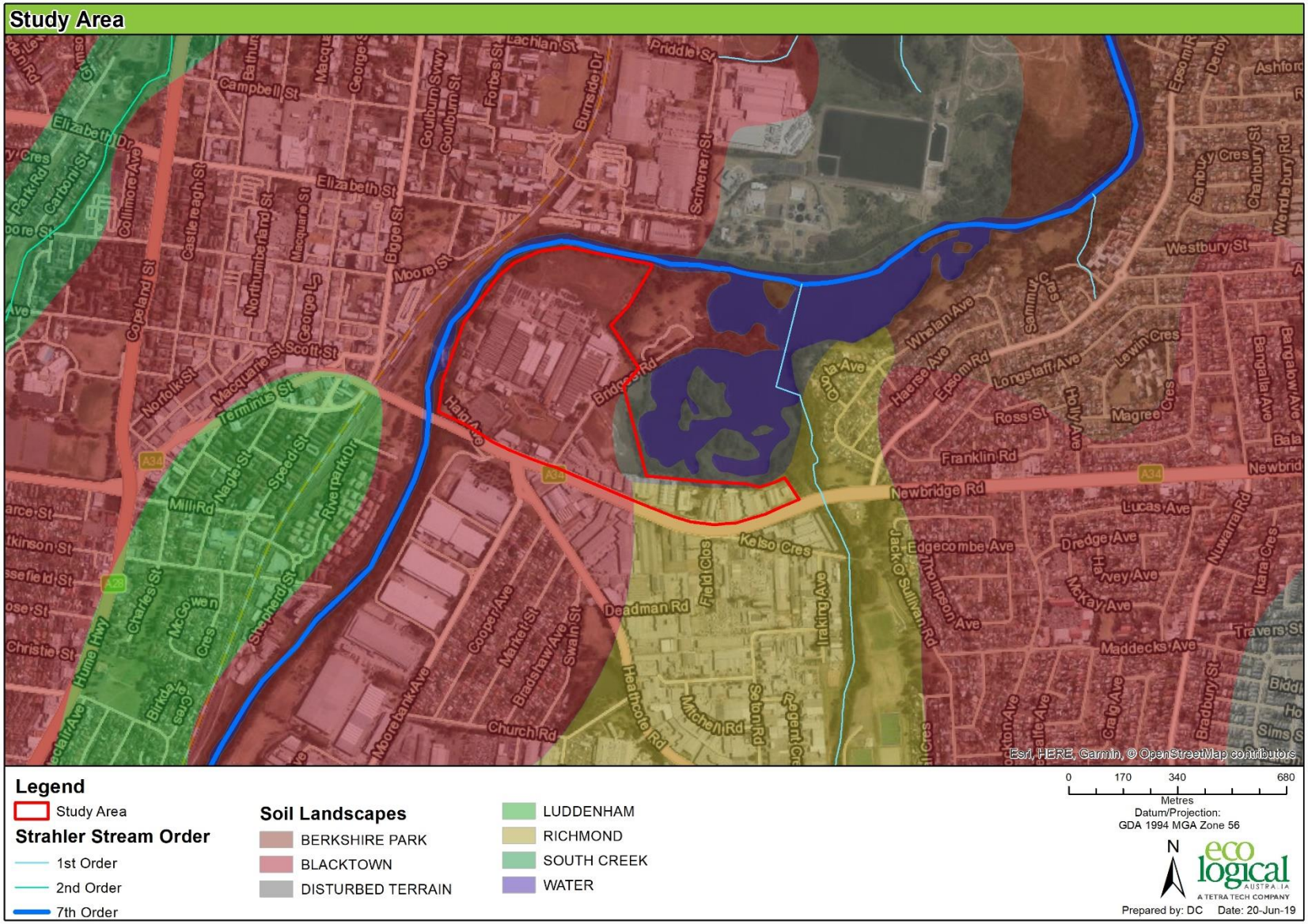

Figure 8: Soil landscapes and hydrology of the study area

Figure 9: 1943 aerial imagery of the study area (Six Maps LPI)

4.5 Impact avoidance assessment

No previously recorded Aboriginal archaeological sites, Aboriginal objects or items of Aboriginal heritage significance exist within the study area. However, due to the proximity of Georges River and the planning proposal allowing for activities that would disturb the ground surface; Therefore, site survey was required to determine the likelihood of the Aboriginal sites occurring within the study area.

4.6 Visual inspection

A visual inspection of the study area was undertaken by ELA Archaeologist Daniel Claggett on 21 June 2019. Visual inspection aimed to identify Aboriginal objects if present and assess the archaeological potential of the study area. The study area was divided into four survey units based on distinct landscape features. The area covered by each survey unit is present in Figure 27 below.

Survey Unit 1 – Prysmian and Joyce Factories

Survey Unit 1 contains the Prysmian Cable Factory and the Joyce Foam Factory (Figure 10, Figure 11). Both industrial estates have significantly altered the existing landscape due to the construction factory buildings, roadways, and infrastructure (Figure 12, Figure 13). Areas of exposed soil in this survey unit are heavily disturbed and is made up of fill material in order to create a flat landscape and build the factory sites up from the Georges River (Figure 14). Additionally, deposits of waste material, including asbestos, are also present within the subsurface (Figure 15).

Survey Unit 1 also possesses a large portion of the riparian corridor located along the eastern bank of Georges River (Figure 16). This area is heavily vegetated and contains both native vegetation and noxious weeds (Figure 17). There is zero ground visibility in the corridor, but this area has likely been modified from alterations to the banks of the Georges River to create a flat landscape where the factory sites now stand. Additionally, an underground drainage line running between Georges River and the corridor further suggests modification. The riparian corridor would be retained and regenerated by the proposed precinct plan.

Figure 10: Part of the Prysmian Cable Factory, facing northeast

Figure 11: Part of the Joyce Foam Factory, facing west

Figure 12: Prysmian Factory buildings and roadways, facing south

Figure 13: Prysmian Factory storage yards. The storage yards back directly onto Survey Unit 2 (11 Bridges Road)

Figure 14: Exposed and altered soil profile adjacent the riparian corridor in the Prysmian factory site, facing north

Figure 15: Exposed and altered soil profile adjacent the riparian corridor, facing northwest

Figure 16: Concrete weir associated with the Riparian corridor between the Georges River and the Prysmian Cable Factory, facing north

Figure 17: Concrete weir and a mixture of weeds and native vegetation in the riparian corridor, facing east

Survey Unit 2 – 11 Bridges Road

Survey Unit 2 consists of the vacant lot directly north of the Prysmian Cable Factory. This area was previously used as a landfill site and contains dumped rubbish (Figure 18) and a gravel access road (Figure 19). There is large-scale mounding across this survey unit, likely associated with the use of the area as a landfill (Figure 20).

This survey unit also contains the remainder of the riparian corridor located in the study area, which consists of both native and exotic vegetation (Figure 21). ELA's 2016 Aboriginal heritage assessment of this area concluded that moderate archaeological potential existed in a section of the riparian corridor located in the north west of survey unit 3 and that a natural soil profile may still exist beneath fill material. However, the riparian corridor in this section of the study area has been proposed to be retained and regenerated rather than developed. Disturbance in this area would be associated with past land clearance and agricultural activities, as seen in 1943 imagery of the area.

Figure 18: Dumped rubbish and mounding in survey unit 2

Figure 19: The gravel access track leading to the rubbish dump

Figure 20: Overview image of survey unit 2, showing mounding, rubbish and weed growth across the area

Figure 21: Weeds and native vegetation across survey unit 2

Survey Unit 3 – Lake Moore Cul de Sac

Survey Unit 3 consists of a vacant property located directly adjacent Lake Moore. The only built up section of this survey unit is a small road that leads to a cul de sac that runs through the centre of the survey unit (Figure 22). Some ground disturbance is visible in the southern portion of the study area (Figure 23) and there is heavy mounding of soil in the northern portion of the survey unit, possibly associated with the expansion of Lake Moore (Figure 24). Comparison between the existing landscape and 1943 aerial imagery (Figure 9) of the survey unit suggests that past land use included construction of buildings, farming and soil movement which has altered the landscape in this unit.

Figure 22: Road that runs through survey unit 3, facing east

Figure 23: Ground disturbance in the southern portion of survey unit 3

Figure 24: The northern portion of survey unit 3 adjacent the road. The gradual rise in the landscape is due to soil mounding

Survey Unit 4 – Newbridge Road

Survey Unit 4 consists of the commercial structures located along Newbridge Road. These properties front Newbridge Road and back onto either Lake Moore or area that makes up Survey Unit 3. This survey unit has been significantly disturbed by past land use and the construction of the commercial buildings that currently occupy the area (Figure 25) as well as the placement of underground infrastructure along the frontage of these buildings (Figure 26).

Figure 25: Commercial buildings along Newbridge Road, facing east

Figure 26: Underground infrastructure adjacent Newbridge Road, facing east

Figure 27: Survey units described above

5. Statutory requirements

Aboriginal objects and places in New South Wales are afforded protection under the NPW Act irrespective of whether they are registered on AHIMS. Strict penalties apply for engaging in activities that inflict harm to an Aboriginal cultural heritage site or object without consent for activities under the NPW Act. Under Part 6 of the NPW Act, consent or authorisation for harmful activities may be given under an AHIP. Should harm be inflicted upon an Aboriginal site or object, there are five defences:

- The harm was authorised under an AHIP;
- The proponent exercised due diligence prior to causing the harm and is able to demonstrate this;
- The harm was caused during activities that complied with a code of practice as described in Part 6A of the *National Parks and Wildlife Regulation 2009* (New South Wales). For example, undertaking archaeological test excavations in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010c);
- The harm was caused as part of a low-impact activity or omission under the regulation, and the proponent was not aware of the presence of Aboriginal cultural material; or
- The harm caused during activities that are exempted under Section 87A of the NPW Act. For example, emergency fire-fighting or bushfire hazard reduction work, as defined by the *Rural Fires Act 1997* (New South Wales).

To assess the requirement of an AHIP, the DPIE necessitates that an ACHA is prepared in accordance with the *Guide to Investigating, Assessing, and Reporting on Aboriginal Cultural Heritage in New South Wales* (DECCW 2010b) and the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW 2010a). These two guides establish a set of guidelines to aid land users in being aware of how their activities could damage Aboriginal cultural heritage sites and archaeologists in the requirements that must be followed during the investigation of Aboriginal cultural heritage sites. If an AHIP is required, the DPIE necessitates that it is further supported by a copy of the approval for the development or infrastructure issued under Part 4 or Part 5 of the EP&A Act.

6. Conclusions

The purpose of the Aboriginal heritage due diligence is to identify if there are registered Aboriginal sites and/or sensitive landforms which may indicate the presence of Aboriginal sites and may therefore require further assessment and approval under Part 6 of the *National Parks and Wildlife Act 1974*.

ELA has undertaken an extensive search of the Aboriginal Heritage Information Management System (AHIMS) database maintained by the Department of Planning, Industry and Environment (DPIE) which identified 1 registered Aboriginal heritage site within 1 km of the study area, located on the other side of Georges River. Zero registered AHIMS sites are located within the study area.

A pedestrian survey was conducted of the proposed development area by ELA Archaeologist Daniel Claggett on 21 June 2019. Site survey identified all areas as having been significantly disturbed by past land use, such as land cultivation, as well as construction, cutting and mounding of soils, modifications to Georges River and the placement of fill material across the study area. A small portion of survey unit 3, located in the north western riparian corridor adjacent Georges River, has moderate archaeological potential due to the proximity of Georges River and lack of development in the area. However, development is not proposed in this area (Figure 5). The remainder of the study area possesses low archaeological potential and no further assessment is necessary. An AHIP application is therefore not required. Nothing contained within this report precludes rezoning of the study area.

6.1 Recommendations

Based on the findings of this due diligence and the requirement of the NP&W Act the following is recommended.

Recommendation 1 – Areas set aside for conservation

Any potential modification to the proposed development area for the Moore Point precinct should avoid the north western riparian corridor area identified as possessing archaeological potential. If any development were proposed in this area and could not be avoided, subsurface test excavation is recommended to determine whether presence of Aboriginal objects are present. If objects are present and an impact is proposed, an Aboriginal Heritage Impact Permit would be required.

Recommendation 2 - General measures

Aboriginal objects are protected under the NPW Act regardless if they are registered on AHIMS or not. If suspected Aboriginal objects, such as stone artefacts are located during future works, works must cease in the affected area and an archaeologist called in to assess the finds. If the finds are found to be Aboriginal objects, the DPIE must be notified under section 89A of the NPW Act. Appropriate management and avoidance or approval under a section 90 AHIP should then be sought if Aboriginal objects are to be moved or harmed.

In the extremely unlikely event that human remains are found, works should immediately cease, and the NSW Police should be contacted. If the remains are suspected to be Aboriginal, the DPIE may also be contacted at this time to assist in determining appropriate management.

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Appendix A AHIMS Search Results

Office of Environment & Heritage
NSW GOVERNMENT

AHIMS Web Services (AWS)
Search Result

Purchase Order/Reference : 12608
Client Service ID : 421604

Eco Logical Australia Pty Ltd - Sydney

Date: 17 May 2019

PO Box 12 668 Old Princes Hwy
Sutherland New South Wales 1499

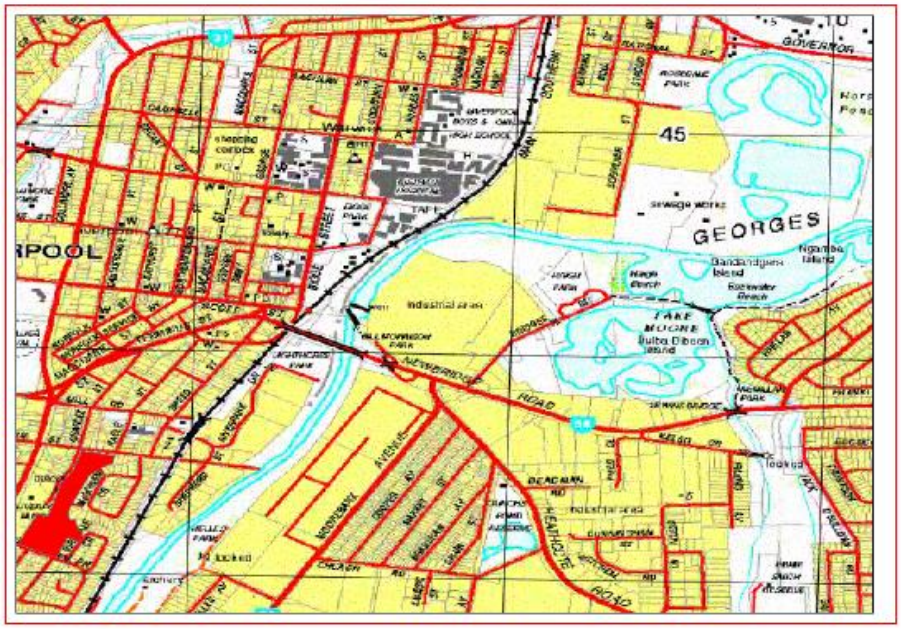
Attention: Daniel Claggett

Email: daniel.claggett@ecoaus.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 200, DP:DP1009044 with a Buffer of 1000 meters, conducted by Daniel Claggett on 17 May 2019.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

1	Aboriginal sites are recorded in or near the above location.
1	Aboriginal places have been declared in or near the above location. *

ID	Aboriginal Place Name
57	Collingwood Precinct

Office of Environment & Heritage
NSW GOVERNMENT

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 12608
Client Service ID : 421604

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-5-2540	Liverpool Weir ocs1	AGD	56	308420	6244040	Open site	Valid	Artefact : -	Open Camp Site	98443,102340

Contact | Recorders: Jeff Thomas | Permits

Report generated by AHIMS Web Service on 17/05/2019 for Daniel Claggett for the following area at Lot : 200, DP:DP1009044 with a Buffer of 1000 meters. Additional Info : Due Diligence Assessment. Number of Aboriginal sites and Aboriginal objects found is 1

This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

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