

Alexandria Park Community School, 7-11 Park Road Alexandria

PRELIMINARY ABORIGINAL ARCHAEOLOGICAL
ASSESSMENT

Final

Tanner Kibble Denton Architects Pty Ltd

December 2017



Built & Urban Heritage | Aboriginal Heritage | Archaeology | Interpretation | Intangible Cultural Heritage | World Heritage

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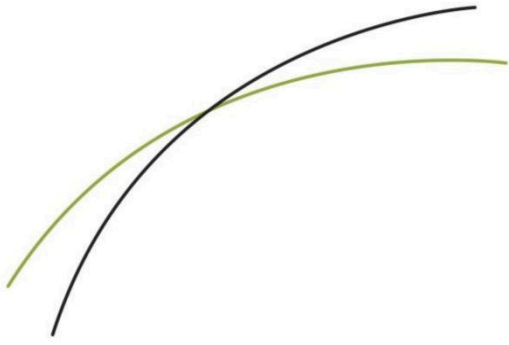
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Executive Summary

As part of its commitment to delivering key infrastructure to meet Sydney's growing educational needs, the New South Wales Department of Education is proposing to redevelop the Alexandria Park Community School at Park Road, Alexandria. The redevelopment of the Alexandria Park Community School ('the School') will address issues of capacity for schools in the inner city areas of Sydney and is also driven by the population growth resulting from the large number of residential developments that are transforming the former industrial precincts of Zetland, Waterloo and Alexandria.

Delivery of the project will be undertaken in sequential phases to maintain an operational school on the Park Road Campus and will involve enabling works separate to this application followed by three main construction phases for the new building and external works.

The purpose of this report is to provide an assessment of the proposal as described above and detailed within the EIS.

The proposed redevelopment is being assessed as State Significant Development (SSD) in accordance with Part 4 Division 4.1 of the *Environmental Planning and Assessment Act 1979*. The Secretary's Environmental Assessment Requirements (SEARs) for the project (SSD 17_8373) include the following conditions relating to Aboriginal heritage:

Address Aboriginal Cultural Heritage in accordance with the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW [sic] 2011) and Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW 2010).

Further advice has been provided by the Department of Planning and Environment (DPE) indicating that a desktop assessment is sufficient for the SSD Application, with further investigation to be provided at a later stage, if required. Extent Heritage Pty Ltd (Extent) has been commissioned by Tanner Kibble Denton Architects Pty Ltd to undertake an initial stage of the required Aboriginal cultural heritage assessment, in the form of a Preliminary Aboriginal Archaeological Assessment.

The report has been developed with consideration to heritage guidelines and procedures prepared by the Office of Environment and Heritage (OEH), but has not included Aboriginal stakeholder consultation in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010).

Key Findings

- No surface Aboriginal sites, objects, and/or culturally modified trees were identified within the Site, though the Site is within the Tuggerah soil landscape dunefield, and is located on the margins of the former Sheas Creek swamp. Sand dune systems and land within 200m of water in general has been identified by OEH as being likely to indicate the presence of Aboriginal objects. Aboriginal sites including middens, campsites and burials are known to occur on these landforms in the local area, at Sheas Creek/Alexandra Canal, Royal Sydney Golf Club and Randwick Stabling Yards.
- Historical development and occupation of the Site has involved some ground disturbance, though in general material has been introduced rather than removed, and this would have tended to conserve, or cap, any cultural deposits that may have been present.
- Based on environmental information and the above data, a model of archaeological potential has been developed, and indicates that large parts of the Site were identified as having moderate to high sensitivity.

Potential Impacts

Based on the findings of this report, the proposed development may impact Aboriginal objects/deposits across the Site. The majority of the works are associated with the removal of existing structures, construction of new above-ground structures and garden landscaping, primarily along the western and southern boundaries of the site. However, the works have potential to impact areas of moderate and high sensitivity, within which the Tuggerah soil landscape dunefield (and any associated cultural material, if present) is likely to be present. Such impacts would be constrained to the indirect impacts around existing structures (e.g. storage, vehicle movements, etc), although the installation of deep piles within proposed building footprints, the construction of a detention basin and associated drainage works may all have direct impacts to potential Aboriginal objects/deposits depending on the depth of impact. Existing information indicates that the Aboriginal objects/deposits (if present) would likely be situated beneath a layer of historical fill and over-burden that is some 40-340cm deep, and therefore any activities above this depth would result in minimal impact to the under-lying natural soil profile.

Management Strategy

The Department of Planning and Environment has indicated that a desktop assessment is sufficient for the SSD application. This preliminary report has sought to achieve this, and undertaken extensive background research and a review of technical, archaeological and environmental information for the Site, and has also included informal Aboriginal community consultation with the Metropolitan LALC. However, the report has been limited in the extent of Aboriginal consultation, and by the lack of on-site investigation allowed as part of a preliminary document.

It is, therefore, recommended that an Aboriginal Cultural Heritage Assessment Report (ACHAR), with formal Aboriginal community consultation and a staged program of archaeological test excavations, be undertaken to further inform the development and satisfy the Secretary's requirements. Given DPE's initial advice in relation to Aboriginal heritage, integration of these tasks into the post-approval phase (e.g. an Aboriginal Cultural Heritage Management Plan) may be a viable option. It is recommended that the proponent liaises with DPE on this issue prior to implementing further stages of Aboriginal heritage investigation.

Recommendations

The following recommendations are made in regard to the proposed development of the Site:

- This preliminary report satisfies the Department of Planning and Environment's desktop reporting requirements for submission of the SSD application/adequacy test. It does not, however, fulfil the project SEARs with respect to its Aboriginal cultural heritage assessment requirements, and has not been prepared in accordance with the *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011) and *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010a). Further assessment of Aboriginal cultural heritage is recommended in the form of an Aboriginal Cultural Heritage Assessment Report (ACHAR), with formal Aboriginal community consultation and a staged program of archaeological test excavations, to inform the development and satisfy the project SEARs. Such tasks may be moved into the post-approval phase if supported by DPE. In such a situation, the development of an Aboriginal Cultural Heritage Management Plan to undertake these works and management of cultural deposits during and following the construction, must be incorporated into the project's conditions of consent.

- A copy of this Preliminary assessment should be provided to the Metropolitan LALC to review and provide comment on the findings and recommendations for integration prior to finalisation.

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APPENDICES

Appendix 1: Legislation

Appendix 2: Archaeological Background and AHIMS Data

1 INTRODUCTION

This assessment has been prepared by Extent Heritage on behalf of the NSW Department of Education (the 'Applicant'). It accompanies an Environmental Impact Statement (EIS) prepared in support of State Significant Development Application SSD 17_8373 for the redevelopment of 'Alexandria Park Community School' at 7-11 Park Road, Alexandria (the 'Site'). The EIS seeks development consent for the following works:

The redevelopment of the Alexandria Park Community School ('the School') will address issues of capacity for schools in the inner city areas of Sydney and is also driven by the population growth resulting from the large number of residential developments that are transforming the former industrial precincts of Zetland, Waterloo and Alexandria.

The new school has been briefed to accommodate up to 1,000 primary school students and up to 1,200 secondary school students on one campus in an integrated and fully connected school building.

Specifically, this project includes:

- Demolition of all existing buildings on-site, including the temporary pop-up schools;
- Remediation of specific areas of the site containing contaminated fill;
- Construction of multiple school buildings of up to five stories, arranged along the western and southern parts of the site comprising:
 - Classroom home bases;
 - Collaborative learning spaces;
 - Specialist learning hubs;
 - Learning support spaces;
 - Offices for teachers and administrative staff;
 - Library; and
 - Student canteen.
- Construction of a sports hall and multiple outdoor sports courts;
- An all-weather multipurpose synthetic sports field;
- Informal play spaces and Covered Outdoor Learning Space or COLA;
- A community centre;
- A pre-school for 39 children;
- Site landscaping including green links, community garden and open space;
- Construction of a new on-site car park and associated vehicular access point off Belmont Street; and

- Augmentation and construction of ancillary infrastructure and utilities as required.

Delivery of the project will be undertaken in sequential phases to maintain an operational school on the Park Road Campus and will involve enabling works separate to this application followed by three main construction phases for the new building and external works.

The purpose of this report is to provide an assessment of the proposal as described above and detailed within the EIS.

1.1 Project Description

The Secretary's Environmental Assessment Requirements (SEARs) for the project (SSD 17_8373) include the following conditions relating to Aboriginal heritage:

Address Aboriginal Cultural Heritage in accordance with the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (OEH 2011) and Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW 2010).

Further advice has been provided by the Department of Planning and Environment (DPE) indicating that a desktop assessment is sufficient for the SSD Application, with further investigation to be provided at a later stage, if required. Extent Heritage Pty Ltd (Extent) has been commissioned by Tanner Kibble Denton Architects Pty Ltd to undertake an initial stage of the required Aboriginal cultural heritage assessment, in the form of a Preliminary Aboriginal Archaeological Assessment.

The principle objectives of the report are to:

- Compile a review of existing documentation and environmental, historical and archaeological information for the Site, by identifying and summarising known and previously recorded Aboriginal heritage places, cultural values areas and landforms of archaeological interest in its immediate surrounds;
- Determine if any Aboriginal objects, places or areas of archaeological potential are present (or are likely to be present) within and adjacent to the Site, as well as areas of existing disturbance, through site survey;
- Identify areas of key Aboriginal interest and/or significance, and assess the project's potential to harm Aboriginal cultural heritage; and
- Identify and summarise likely Aboriginal archaeological constraints and opportunities, and determine whether formal Aboriginal community consultation and a cultural heritage assessment report is required.

The report has been developed with consideration to heritage guidelines and procedures prepared by the Office of Environment and Heritage (OEH), namely the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW 2010c), 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 New South Wales* (DECCW 2010b).

1.2 Legislative Context

There are several Commonwealth and State Acts (and associated regulations) that manage and protect Aboriginal cultural heritage. These are outlined in **Appendix 1** and summarised in **Table 1**.

Table 1. Summary of legislative context for the project.

Legislation	Description	Relevant to Site?	Details
Commonwealth			
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Recognises sites with universal value on the World Heritage List (WHL). Protects Indigenous heritage places with outstanding heritage value to the nation on the National Heritage List (NHL), and significant heritage value on the Commonwealth Heritage List (CHL).	No	There are no Indigenous heritage places within the Site listed on the WHL, NHL or CHL.
<i>Native Title Act 1993</i>	Administers rights and interests over lands and waters by Aboriginal people. Provides for negotiation and registration of Indigenous Land Use Agreements (ILUAs). Often used in NSW to identify relevant stakeholders for consultation.	No	The Site consists of freehold land, and cannot be subject to a claim under this Act. There are no relevant entries for the Site on the National Native Title Register, Register of Native Title Claims, or Register of Indigenous Land Use Agreements.
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i>	Preserves and protects areas and objects of particular significance to Aboriginal people that are under threat from injury or desecration.	No	There are no areas or objects within the Site subject to a Declaration under the Act.
State (NSW)			
<i>Aboriginal Land Rights Act 1983</i>	Establishes Local Aboriginal Land Councils (LALCs). Allows transfer of ownership of vacant crown land to a Local Aboriginal Land Council. The Registrar, <i>Aboriginal Land Rights Act 1983</i> , registers Aboriginal land claims and maintains the Register of Aboriginal Owners. Often used in NSW to identify relevant stakeholders for consultation.	No	The Site consists of freehold land, and cannot be subject to a claim under this Act. A request to search the Register of Aboriginal Owners has not been made.
<i>National Parks and Wildlife Act 1974</i>	Provides blanket protection for all Aboriginal objects and declared Aboriginal places. Includes process and mechanisms for development where Aboriginal objects are present, or where Aboriginal Places are proposed for harm.	Yes	While elements of this Act do not apply to SSD projects, the consideration and protection of Aboriginal objects must still be considered.
<i>Environmental Planning and</i>	Requires environmental impacts, including Aboriginal heritage, to be considered in land use planning.	Yes	The proposed development is being assessed as an SSD project under Part 4 Division 4.1 of this Act, and is subject to project-specific environmental

Legislation	Description	Relevant to Site?	Details
<i>Assessment Act 1979</i>	Provides for the development of environmental planning instruments, including State Environmental Planning Policies and Local Environmental Plans.		assessment and reporting requirements. These requirements (SEARs) stipulate that further archaeological assessment is required (in accordance with standard OEH procedures and guidelines) to assess whether the project has the potential to impact on Aboriginal objects, sites or places of Aboriginal heritage significance.
Environmental Planning Instruments			
Sydney Local Environmental Plan 2012	Conserves Aboriginal objects and Aboriginal places of heritage significance.	Yes	<p>Though the Aboriginal cultural heritage requirements as stipulated in this Plan are superseded by the SSD project, the consideration and protection of Aboriginal objects must still be considered.</p> <p>Within the Site itself, there are no items or places of Aboriginal heritage significance listed in the Sydney LEP.</p>

1.3 The Site

The Alexandria Park Community School is a NSW Department of Education owned and managed property comprising approximately 3 ha within the City of Sydney Local Government Area. It is located 5 km southwest of the Sydney CBD and is bound to the north by Buckland Street, to the east by Alexandria Park and Loveridge Street, to the south by McEvoy Street and to the west by Belmont Street and properties that front onto Fountain Street (**Figure 1**).

1.4 Limitations

This report is based on existing and publicly available environmental and archaeological information and reports about the Site. The background research did not include any independent verification of the results and interpretations of externally sourced existing reports (except where the fieldwork indicated inconsistencies).

Information from the Aboriginal Heritage Information Management System (AHIMS) database was obtained from OEH. Information in the assessment reflects the scope and the accuracy of the AHIMS site data, which in some instances is limited.

One day for ground truthing of predictive models and conclusions was undertaken within the approved scope of works. No archaeological excavation was undertaken as part of this study.


Due to timing constraints, formal Aboriginal consultation in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010a) has not been undertaken.

The report cannot be used to support an application for an Aboriginal Heritage Impact Permit (AHIP). Such an application would require more detailed investigation involving a formal process of Aboriginal community consultation and the preparation of an Aboriginal Cultural Heritage Assessment Report (ACHAR).

EXTENT

**HERITAGE ADVISORS
TO AUSTRALIA AND
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Incorporating AHMS and Futurepast

Alexandria Park Community School

 Study Area

Drawn by: Laessa Berehowyj
Checked by: Alan Williams
Date: 11 October 2017
Projection: GDA 94 MGA Zone 56
Data sources: Extent, ESRI, Nearmap, Department of Finance.



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Meters

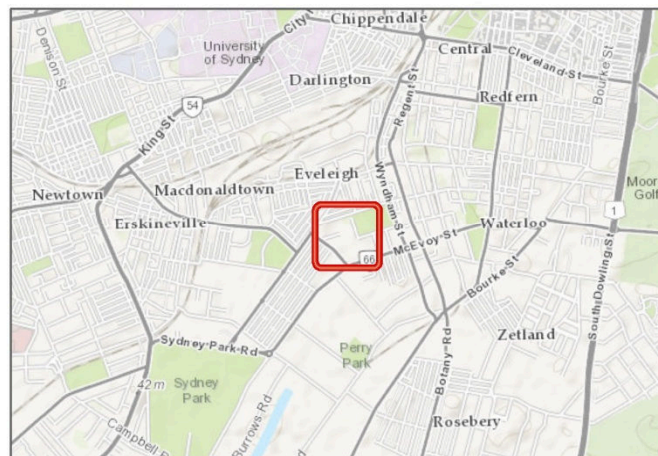


Figure 1. Alexandria Park Community School Site.



Figure 2. Ground and first floor Development Plan for the Alexandria Park Community School (Source: Tanner Kibble Denton Architects Pty Ltd December 2017).

2 ABORIGINAL CONSULTATION

An informal Aboriginal community consultation process was adopted for this preliminary report, but has not been undertaken in accordance with the procedures set out in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010a).

On 12 October 2017, the Metropolitan Local Aboriginal Land Council (LALC) was notified of the proposed Alexandria Park Community School redevelopment project, and invited to undertake an Aboriginal archaeological inspection of the Site on 19 October 2017 (See **Section 6.2** below). During the site survey, the Metropolitan LALC representative was presented with information about the proposed development and scope of works, was invited to pass on any cultural knowledge for the Site, and participated in the Aboriginal survey of the Site.

The results of the inspection were discussed onsite, and the Metropolitan LALC agreed to prepare a brief report on the inspection, in due course. Once finalised, the LALC report will be appended to this preliminary assessment; however, it was agreed that further Aboriginal community consultation, and possibly subsurface archaeological investigation, should be undertaken to further inform the development process.

3 EXISTING ENVIRONMENT

3.1 Key Findings

- The Site is within the Botany Lowlands physiographic region, and is characterised by gently undulating to rolling, deep coastal dunefields of the Tuggerah Soil Landscape. Sand dune systems and land within 200m of water in general have been identified by OEH as having potential to indicate the presence of Aboriginal objects. Aboriginal sites including middens, campsites and burials are known to occur on these landforms in the local area.
- The Site is 400m from Sheas Creek, a modified tributary that forms part of the Alexandria Canal. In pre-European times the hydrological context of the wider landscape was vastly different, with Sheas Creek Swamp located on the immediate margins of the Site; and was likely to have been a key resource for past Aboriginal populations in the past.
- Geotechnical investigation across the Site reveals silty, gravelly sand fills to varying depths, overlying natural aeolian sand. The depth of fill in the western part of the site is much less (0.4-0.6m) than across the remainder of the Site (1.6-3.4m), and is thought to represent dune crests and swales within the dune field.
- The Site has been extensively cleared of its native dry sclerophyll tall open-woodland and forest communities, and much of the vegetation within the Site is recent regrowth.
- An analysis of past land use indicates that localised excavation would have been undertaken for building footings and services, and for the stormwater channel, but there is no indication of substantial excavations (e.g. basements) across the site. In contrast, the results of the geotechnical investigation indicate that a large amount of fill has been introduced to the Site. This may have tended to preserve the underlying soil profile, and any associated cultural deposit, in the areas subject to fill.

3.2 Geology, Topography and Soils

Geological mapping indicates that the Site is located within a deep sand unit described as Quaternary (Holocene and Pleistocene) windblown, medium to fine-grained 'marine' quartz sand with Podzols and Humus Podzol integrades (Dept Mineral Resources 1983). This is in the Botany Lowlands physiographic region, and is mapped as the Tuggerah Soil Landscape or Tuggerah dunefield (Chapman & Murphy 1989:112) (**Figure 4**). On dunes, Tuggerah soils comprise 30cm of loose, speckled, grey-brown loamy sand, overlying >100cm of bleached loose sand with intermixed black and brown soft sandy organic and iron pans, and >200cm yellow massive sand subsoils. In swales, soils comprise up to 25cm grey-brown loamy sand overlying >30cm of bleached loose sand and yellow massive sand. Occasionally, grey-brown mottled sand and black soft sandy organic pans underlay bleached loose sands in swales, and these are associated with the watertable (Chapman & Murphy 1989:113-114).

Topographically, the Tuggerah soil landscape is characterised by gently undulating to rolling coastal dunefields. Elevation is usually <20 m, although the northern part of the landscape rises to elevations of up to 40m. Dune sideslopes are gently to moderately inclined with slope gradients of 1-10%, though isolated steep rises with slopes up to 35% occur. These dunes are oriented north-south, with narrow crests, and broad gently inclined concave swales.

This type of landscape limits the potential for the presence of a number of archaeological site types, such as rockshelters and rock engravings, which require sharp exposed sandstone relief that is not common in these areas. Conversely, surface artefact scatters and buried cultural material are likely to be more prevalent. A notable example of the latter in this soil landscape includes the recent discovery of dense and significant cultural materials as part of the construction of the Randwick light rail stabling yards (*Sydney Morning Herald*, 30 March 2016).

A geotechnical investigation was undertaken in 2016, to inform a previous development proposal for the Site (GeoEnviro Consultancy 2016). The investigation included drilling 12 boreholes. In all of the boreholes, a deposit identified as fill was encountered - described as gravelly clayey sand, gravelly silty sand and silty sand - and was present to depths ranging from 0.4 to 3.4m below the ground surface. The depth of fill in the western part of the site was much less (0.4-0.6m) than across the remainder of the Site (1.6-3.4m). Below the fill, a deposit identified as natural soil was encountered - described as fine to medium grained grey and brown sand. If this interpretation is correct, the difference in depths of fill may represent the under-lying undulations within the dune field, reflecting dune crests and swales across the Site. The shallower fill deposit and under-lying deposit in the western part of the Site potentially represent a former dune crest.

The Tuggerah dunefield landform unit identified throughout the Site is consistent with one of five landscape features specified by the Office of Environment and Heritage (OEH) as having potential to contain Aboriginal objects (DECCW 2010c:12). Specifically, all areas within a sand dune system are considered archaeological landforms of interest under OEH guidelines. The former Sheas Creek Swamp is also a landscape feature specified by OEH as being likely to indicate the presence of Aboriginal objects. All areas within 200m of waters are considered archaeological landforms of interest under OEH guidelines. The remaining three landscape features listed by OEH do not apply to the Site.

3.3 Hydrology

Today, the Site is situated on a well-drained dune formation in a highly urbanised area. The closest permanent water to the Site appears to be Sheas Creek, the headwaters of which are located approximately 400m to the south. Further downstream, this watercourse has been artificially modified and straightened (during the historic period) to enable nearby industries to discharge waste, and is also known as the Alexandra Canal.

However, the hydrological context of the wider landscape was vastly different prior to European settlement. Sheas Creek was originally a narrow, winding creek that was part tidal and part free-flowing, and was fed by streams further inland. It was originally a tributary of the Cooks River, and discharged into Botany Bay. According to historian Ron Ringer, descriptions of the country along the Cooks River by early explorers were not optimistic about the potential for food production, but describe the shallowness of the water and the large swamps (Ringer 2013). Historical maps of the region in the 1870s reveal that a series of lagoons and large swampy areas were available to local inhabitants and would likely have been used by Aboriginal people to the north, east and west of the Site (**Figure 5**). This includes the Sheas Creek swamp, which bordered the southern boundary of the Site.

Prior to European settlement, the Site would have been characterised as a well-watered but partly swampy area that would have been able to support Aboriginal populations, particularly those parts of the site that were elevated above the water line (see **Figure 3**). As well as providing fresh water for cooking and drinking, Sheas Creek would have supported a diverse range of plant, marine and animal resources within open forest, woodland and environments – environmental conditions that were conducive to prolonged occupation year-round. Vast Aboriginal shell middens along the Cooks River and elsewhere at Marrickville and Wolli Creek suggest that available resources included fish such as perch, cod and mullet, eels and estuarine shellfish.

3.4 Past Vegetation

In residential and industrial areas such as Alexandria, the original sclerophyll forest and coastal heathland has been extensively cleared. According to David Keith, this region is characterised by extensive deposits of coastal sands that were laid down by wave action as long as 140,000 years ago; and have since been redistributed by the wind into new dunes. Though these sands are occupied by stunted heathlands of emergent banksias and mallee Eucalypts, they contain a high diversity of sclerophyll shrubs and sedges (Keith 2006:176-177).

Prior to vegetation clearance, dominant open forest tree species would have included smooth barked apple (*Angophora costata*), Sydney peppermint (*Eucalyptus piperita*), silvertop ash (*Eucalyptus siberi*), scribbly gum (*Eucalyptus sclerophylla*), and old man banksia (*Banksia aemula*). The species of the shrubby understorey included bracken (*Pteridium esculentum*), Christmas bush (*Ceratopetalum gummiferum*), woody pear (*Xylomelum pyriforme*), prickly moses (*Acacia ulicifolia*) and various species of *Acacia*. Flowering shrubs would have included waratah (*Telopea speciosissima*) and native rose (*Boronia serrulate*), whilst groundcover species would have included *Grevillea laurifolia* and *Persoonia chamaepitys*.

Sedge, rush, reed and grass species such as tassel rope-rush (*Hypolaena fastigiata*), pale mat-rush (*Lepidosperma concavum*, *Lomandra glauca*), heath bog-rush (*Schoenus ericetorum*) and kangaroo grass (*Themeda australis*) were also prevalent, and may have formed key resources for Aboriginal occupation (**Figure 3**; Keith 2006:177; Comber Consultants 2009:19).

Extensive clearing has occurred within the Site, and much of the vegetation within the Site is recent regrowth. Sand mining has destroyed other areas, with many of the abandoned areas infested by the bitou bush (*Chrysanthemoides monilifera*).



Figure 3. A sketch of typical coastal sand heath vegetation by William Leigh in 1853, 'Near Botany Bay looking towards Sydney' (Source: State Library NSW, PXA 1988, FL1149289, Image 22, <http://archival.sl.nsw.gov.au/Details/archive/110329202>).

3.5 Existing Disturbance

The archaeological potential of a particular area also depends on the nature and extent of development in the historical period, as previous ground disturbance is likely to have had an impact on any archaeological deposits that may have been present. The historical development of the Site is outlined in the historical archaeological assessment (Extent Heritage, December 2017).

In brief, the Site was part of a grant of land made to William Hutchinson in 1823, and became known as the Waterloo Estate. In this early period, the Waterloo Estate was used for agriculture, including market gardening, and some residential development. Industrial development of the neighbourhood began in the 1860s. Development of the Site itself appears to have started in c1910, on the northern part of the Site (**Figure 6** and **Figure 7**). Additional industrial premises followed, and by 1949, the entire Site had been developed; the northern part for a timber mill, and the southern for a match factory (**Figure 8**). A stormwater channel was cut through the Site, as part of the construction of the Alexandra Canal. In the late 1970s, the Site was resumed by the Minister for Education, and in c1980 it was redeveloped for use as a school (**Figure 9**).

The known historical development has affected the whole of the Site, and is likely to have involved removal of any culturally scarred trees and surface archaeological sites (**Figure 10**). There is some potential that sub-surface cultural deposits have also been affected by the historical earthworks. Localised excavation would have been undertaken for building footings and services, and for the stormwater channel, but historical research suggests that there is no indication of substantial excavations (e.g. basements) across the site. In contrast, the results of the geotechnical investigation indicate that a large amount of fill has been introduced to the Site. This may have tended to preserve the underlying soil profile, and any associated cultural deposit, in the areas subject to fill.

EXTENT



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Study Area

Soil Landscapes

- Birrong
- Blacktown
- Deep Creek
- Disturbed Terrain
- Gymea
- Lucas Heights
- Tuggerah
- WATER

Drawn by: Laessa Berehowyj
Checked by: Alan Williams
Date: 17 October 2017
Projection: GDA 94 MGA Zone 56
Data sources: Extent, Nearmap, Soil Conservation Service
NSW, ESRI and PSMA Australia Limited.



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Meters

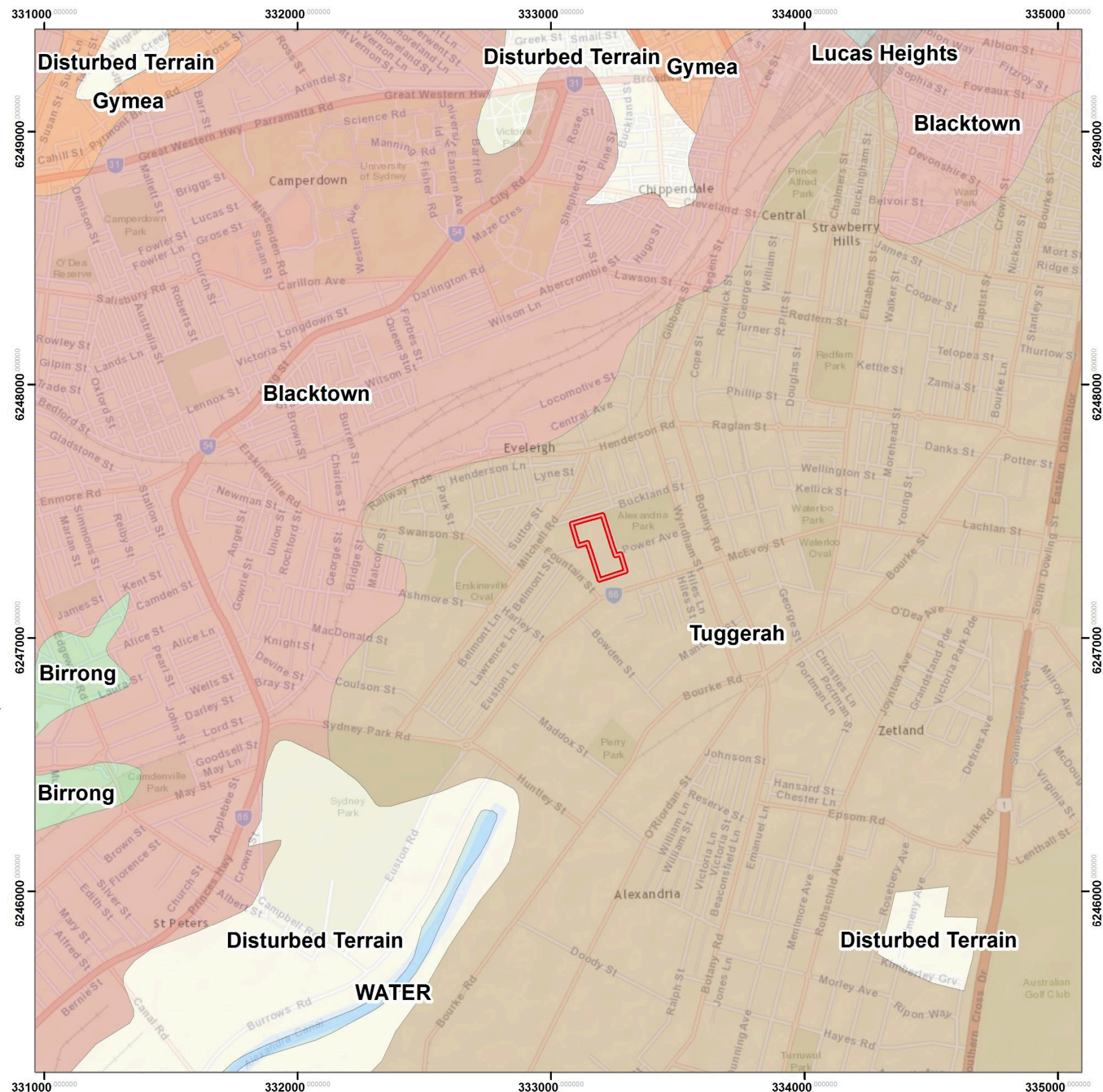
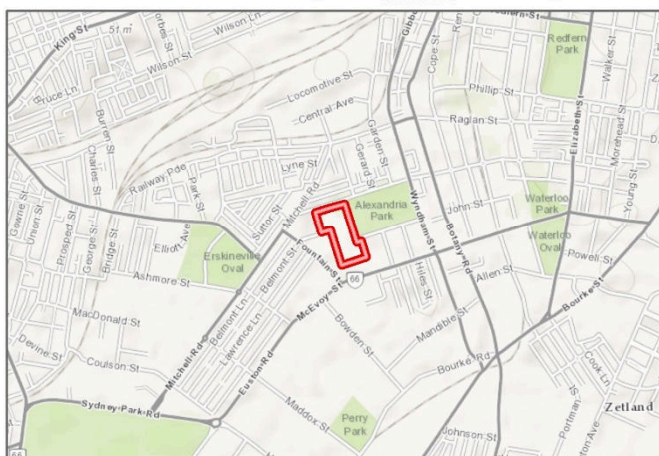


Figure 4. Soil Landscapes of the Alexandria area and surrounds. The Site is within the Tuggerah soil landscape dunefield (Source: Soil Conservation Service of NSW, Chapman & Murphy 1989).