

Royal Rehabilitation Centre, Ryde

Aboriginal Archaeological Assessment

Report to Frasers Putney Pty Ltd

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Executive Summary

Artefact Heritage Services was commissioned by Frasers Putney Pty Ltd to undertake an assessment of Aboriginal heritage for the Royal Rehabilitation Centre site, Ryde. This property will be impacted by the proposed construction of a residential development, public open space and associated infrastructure. The assessment has been undertaken in response to the DGRs for the Environmental Assessment for Stage 1, Phase 1 development as issued by the Department of Planning. An Aboriginal heritage assessment was therefore conducted in order to assess heritage opportunities and constraints on the proposed development. The assessment was undertaken for the entire development area and will therefore be relevant to applications for future stages of the development.

The archaeologist and a representative from the Metropolitan Local Aboriginal Land Council (MLALC) undertook a site survey. The site was found to be heavily disturbed with significant landscape modification having occurred over the last two hundred years. The site was found to have a low /no Aboriginal archaeological potential and a low Aboriginal archaeological significance. The cultural significance of the site will be discussed by the MLALC in their comments on this draft reports.

It is recommended that there are no Aboriginal archaeological constraints on the proposed development. If any Aboriginal objects are located during construction, work should stop immediately and the Department of Environment, Climate Change and Water (DECCW), an archaeologist, and the MLALC, should be contacted. Although permits are not required to disturb Aboriginal objects under a Part 3A approval, it is important that correct procedures are adhered to in regards to Aboriginal heritage

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1.0 Introduction and Background

1.1 Background

Artefact Heritage Services was commissioned by Frasers Putney Pty Ltd to conduct an assessment of Aboriginal heritage as part of the Environmental Assessment for the Royal Rehabilitation Centre site Ryde, which is currently subject to a Stage 1, Phase 1 Project Application submission under Part 3A of the *Environment Planning and Assessment Act 1979*.

It was advised in the Concept Plan approval that subsequent applications would need to include documentation of an archaeological survey. The archaeological investigation would be prepared and undertaken by a suitably qualified person(s). Although it is not clear whether the archaeological investigation refers to Aboriginal archaeology, the requirements for an Aboriginal archaeological assessment is specified in the current DGRs. The Director General's Requirements (DGRs) of 9 February 2011 state that 'the EA shall provide an archaeological assessment of Aboriginal and non-Indigenous archaeological resources including an assessment of the significance and potential impact on archaeological resources'. An assessment of non-Indigenous archaeology was completed by Austral (2007) but it did not address Aboriginal archaeology.

An Aboriginal archaeological study investigates the scientific potential of the area by assessing the likelihood of Aboriginal sites, places or areas of subsurface archaeological deposit remaining. Aboriginal people should assess the cultural significance of the area. An Aboriginal representative from the Local Aboriginal Land Council was present during the site visit and will comment on the cultural significance of the area in a letter that will be included as an appendix to the final report.

Although this study has been conducted in conjunction with the submission of the Project Application for Stage 1 Phase 1 of the development, it encompasses the entire development area and is relevant to future Project Applications for subsequent development stages.

The aim of this study is therefore to fulfill the requirements of the DGRs, outline opportunities and constraints on the proposed development regarding Aboriginal heritage, and to recommend if further action is required to fulfill statutory heritage obligations.

1.2 The Study Area

The study area is a 15.829 ha area of land comprising Lot 1,2,3,4,7 DP 1129293 (600 Victoria Road, 110 Princes Street and 57 Charles Street, Ryde). The study area is bounded to the north by Victoria Road and residential development; to the east by houses along Charles St; to the south by Morrison Rd and the Coorabel complex; and to the west by Princes St and residential development.



Figure 1: Study area in its locality. Residential development area bounded in blue, Phase 1, Stage 1 area bounded in red.

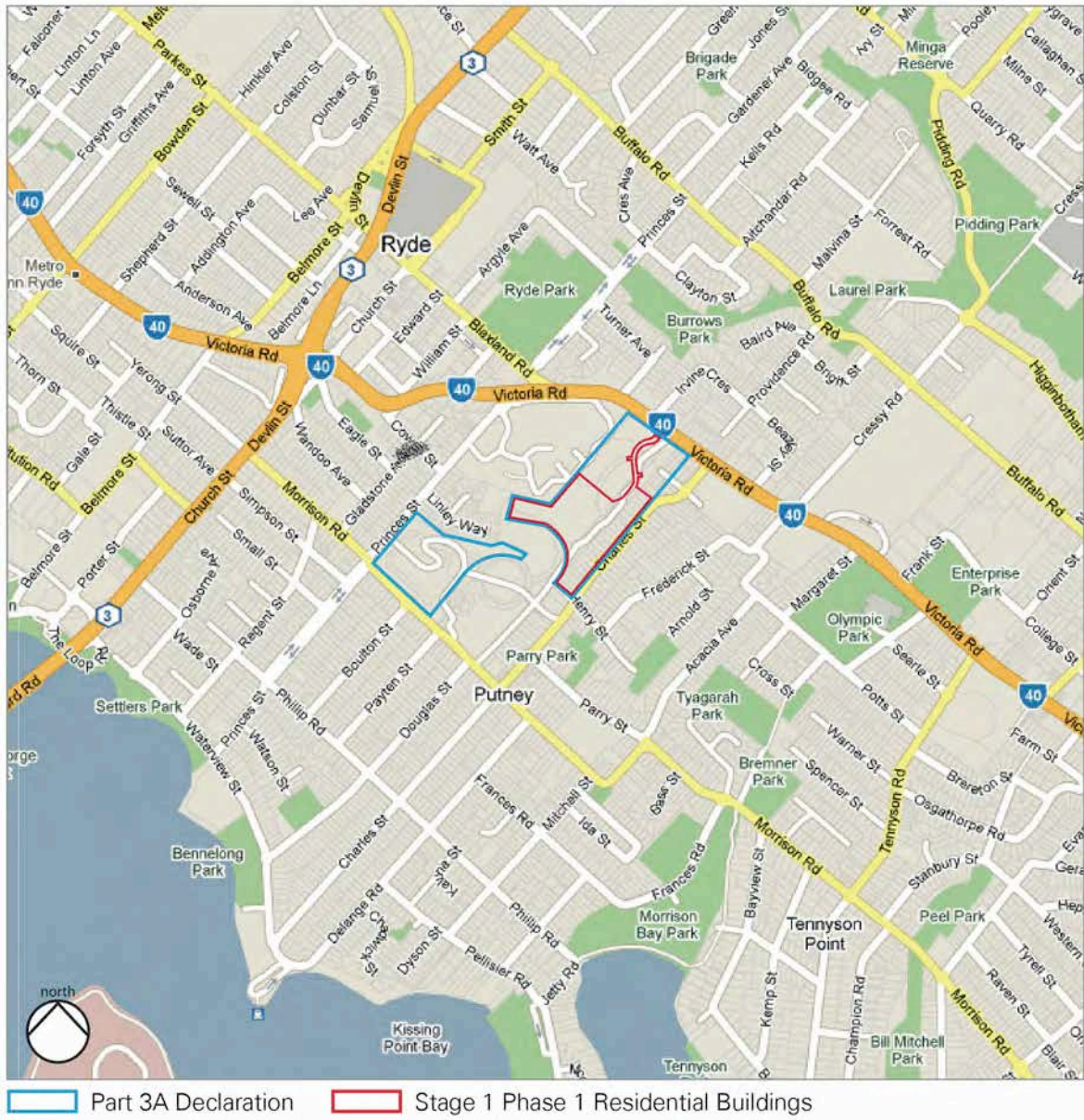
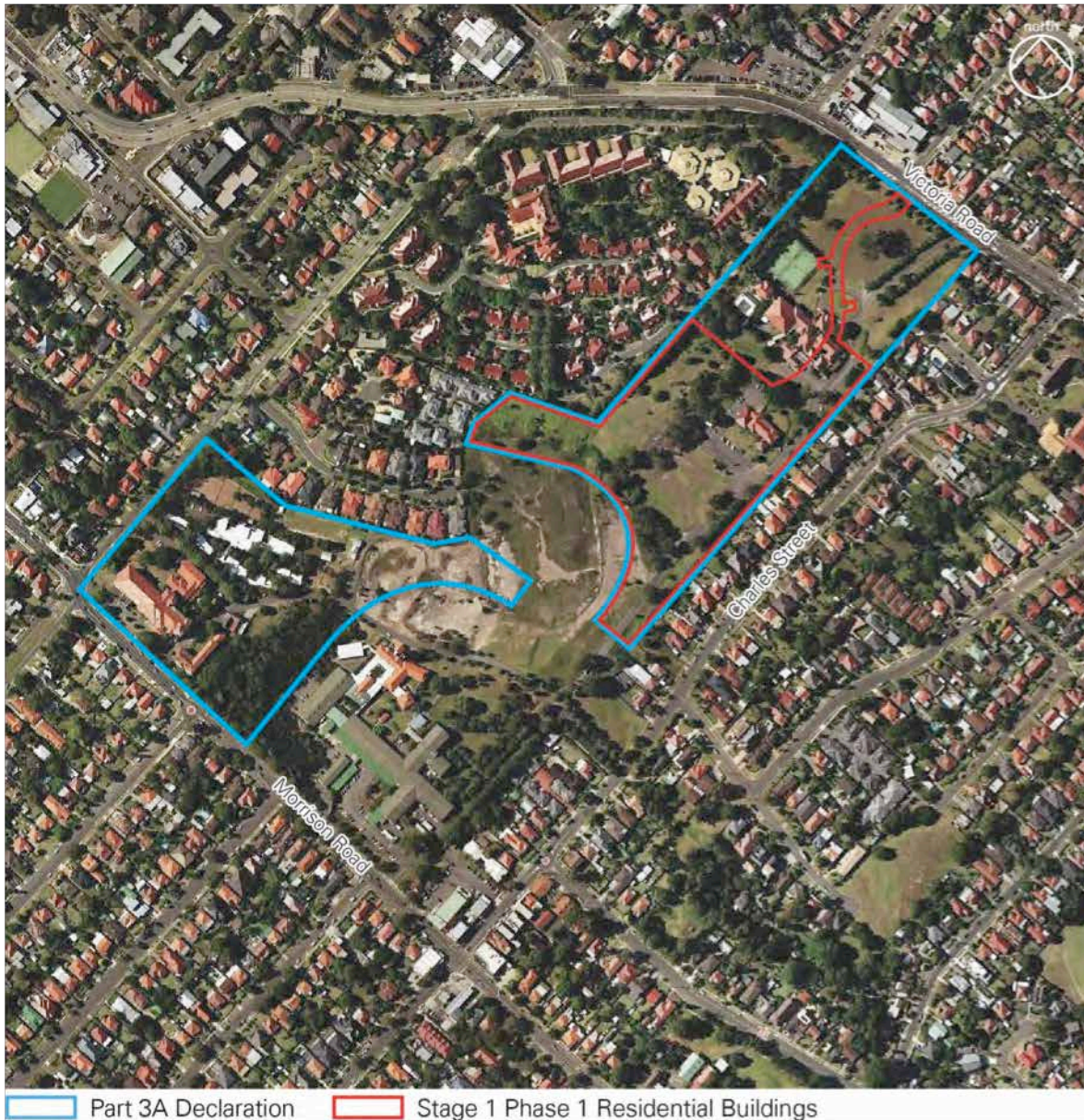


Figure 2: The study area aerial view. Residential development area bounded in blue, Stage 1, Phase 1 area bounded in red.



1.3 Proposed Development

The proposed development is currently being assessed under a Project Application submission for Stage 1, Phase 1 development. The Concept Plan was approved in 2006. The development as a whole will consist of new purpose built rehabilitation and disability facilities, a residential

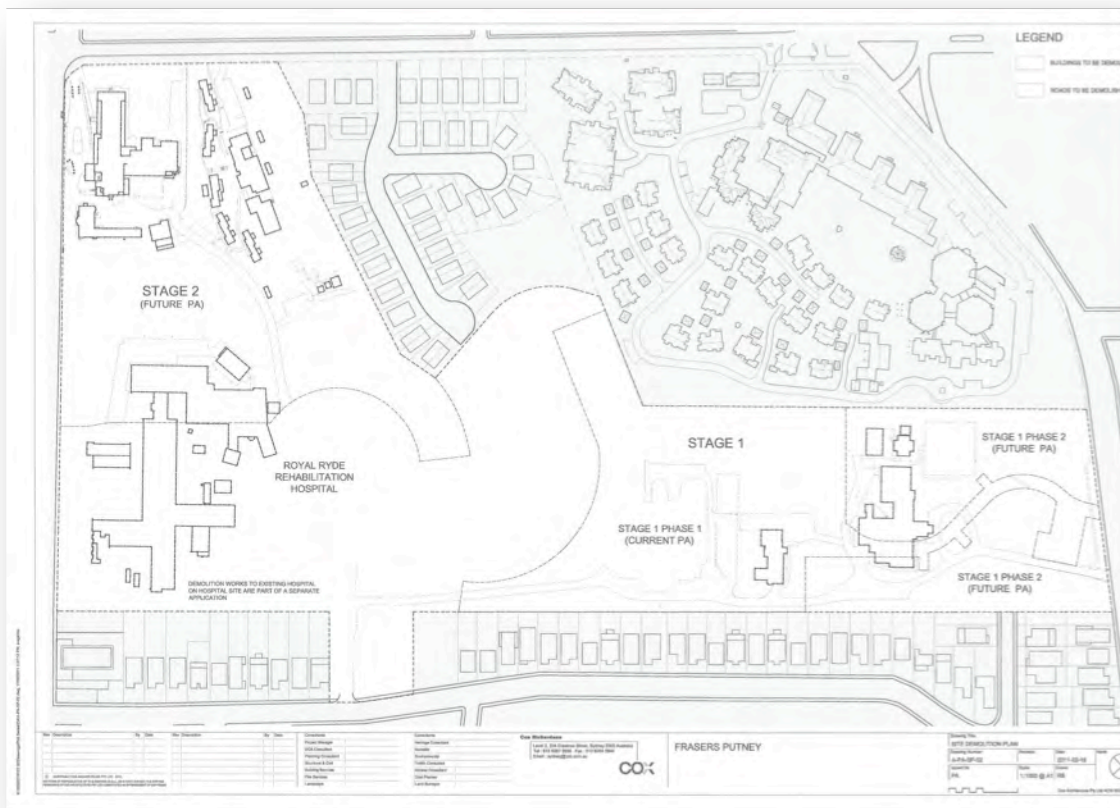


subdivision, public open space, roads and other associated infrastructure. During development all existing buildings will be demolished.

The Stage 1, Phase 1 works, which are currently the subject of a Project Application, will incorporate the residential subdivision. Works included in Stage 1, Phase 1 are:

- Demolition of the existing RRCS buildings located on the intended residential components on the site;
- Construction of residential development including 60 apartments and 58 dwellings;
- Associated car parking to service the needs of the development;
- Provision of public open space, landscaping (including tree removal) and site works (including roads);
- Extension/augmentation of the physical infrastructure/utilities required;
- Vehicular access to the site from Charles Street and Victoria Road;
- Sales and marketing facilities including a marketing suite and use of dwellings as exhibition homes.

Figure 3: Development Staging Plan



1.4 Summary of Findings and Recommendations

The following recommendations are based on consideration of:

- Statutory requirements under the *National Parks and Wildlife Act 1974* as amended;
- The Director General's Requirements as specified for the Aboriginal heritage Component of the Environmental Assessment for this project;
- The results of the background research, site survey and assessment;
- The interests of the Metropolitan Local Aboriginal Land Council (MLALC) and other Aboriginal stakeholders; and
- The likely impacts of the proposed development.

It was found that:

- No Aboriginal archaeological sites or places have been located within the study area;
- The area was found to be highly disturbed and to have a low/no archaeological potential;
- The study area was found to have a low archaeological significance. The Aboriginal representative will address the cultural significance of the study area in their report.

It is therefore recommended that:

- No Aboriginal archaeological constraints exist for the proposed development within the Royal Rehabilitation Centre study area;
- If any Aboriginal objects are located during construction, work should stop immediately and the Department of Environment, Climate Change and Water (DECCW), an archaeologist, and the MLALC, should be contacted. Although permits are not required to disturb Aboriginal objects under a Part 3A approval, it is important that correct procedures are adhered to in regards to Aboriginal heritage;
- All contractors should attend an Aboriginal heritage induction.

1.5 Legislation and Regulatory Guidelines

Two principal pieces of legislation provide automatic statutory protection for Aboriginal heritage and the requirements for its management in New South Wales. These are the *National Parks and Wildlife Act 1974* as amended (2010) and the *Environmental Planning and Assessment Act 1979*. The *National Parks & Wildlife Service* (NPWS) now comprises an administration branch of the Department of Environment and Climate Change and Water (DECCW).

National Parks and Wildlife Act (1974)

The *National Parks & Wildlife Act 1974*, administered by DECCW provides statutory protection for all Aboriginal 'objects' (consisting of any material evidence of the Aboriginal occupation of NSW) under Section 90 of the Act, and for 'Aboriginal Places' (areas of cultural significance to the Aboriginal community) under Section 84.

The protection provided to Aboriginal objects applies irrespective of the level of their significance or issues of land tenure. However, areas are only gazetted as Aboriginal Places if the Minister is satisfied that sufficient evidence exists to demonstrate that the location was and/or is, of special significance to Aboriginal culture.

The Act was recently amended (2010) and as a result the legislative structure for seeking permission to impact on heritage items has changed. An s.90 permit is now the only Aboriginal Heritage Impact Permit (AHIP) available and may only be granted by the DECCW if the conditions of the 'due diligence guidelines', and/or an 'archaeological investigation' have been met. The penalties and fines for damaging or defacing an Aboriginal object have also increased. As noted below however, s90 AHIPs are not required for impacts to Aboriginal objects for projects which are assessed under Part 3A of the *Environmental Planning & Assessment Act 1979*.

As part of the administration of Part 6 of the Act DECCW has developed regulatory guidelines on Aboriginal consultation, which are outlined in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010)*. Guidelines have also been developed for the processes of due diligence - *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (2010)*, and for investigation of Aboriginal objects - *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (2010)* in accordance with the 2010 amendment to the Act.

Environmental Planning & Assessment Act (1979)

The EP&A Act is administered by the Department of Planning and provides planning controls and requirements for environmental assessment in the development approval process. This Act has three main parts of direct relevance to Aboriginal cultural heritage. Namely, Part 3 which governs the preparation of planning instruments, Part 4 which relates to development assessment process for local government (consent) authorities and Part 5 which relates to activity approvals by governing (determining) authorities.

In 2005 section Part 3A of the Act was introduced. This section 'switches off' Part 6 of the NPW Act (for approved project) which specifies penalties for destruction of Aboriginal heritage. NPW Act s90 AHIPs are therefore not required to impact on Aboriginal heritage under Part 3A development applications as the penalties for doing so are nullified. Under Part 3A assessments proponents must

adhere to the *Draft Guidelines for Aboriginal Heritage Impact Assessment and Community Consultation 2005* developed by DECCW and the NSW Department of Planning (DEC 2005).

Heritage Act (1977)

The *Heritage Act 1977* is also administered by the Department of Planning and protects the natural and cultural heritage of NSW. Generally this Act only pertains to Aboriginal Heritage if it is listed on the State Heritage Register, or subject to an interim heritage order.

Aboriginal Land Rights Act (1983)

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

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

Native Title Act (1994)

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

Implications

The proposed development at the Royal Rehabilitation Centre, Ryde is being assessed under Part 3A of the EP&A Act. Subsequently permits from DECCW are not required in order to impact Aboriginal heritage. Instead of the statutory control lying solely with the DECCW, a Part 3A application is assessed in relation to the Director General's Requirements (DGRs) advised by the Director General of the Department of Planning. Best practice, regardless of the statutory context, advocates that development impact to documented and/or potential sites of Aboriginal cultural heritage sensitivity be avoided where practicable and/or mitigated at the minimum, and that all decisions made for either course of action be made consequent to direct guidance provided by Aboriginal stakeholders.

1.6 Aboriginal Community Consultation

Initial Aboriginal community consultation was conducted for this study. The Metropolitan Local Aboriginal Land Council (MLALC) has a statutory obligation to manage Aboriginal cultural heritage within the Land Council boundary, which includes the study area. Artefact Heritage contacted Rebecca McHugh, administration officer at MLALC on the 7 March 2011 to book an Aboriginal sites officer for the site survey. Kevin Telford of MLALC participated in the survey and will be forwarded a copy of this draft report for comment.

The Aboriginal Heritage Office (AHO) is an organisation funded by several local councils (Lane Cove, Ku-ring-gai, Manly, Warringah, North Sydney, Ryde, Pittwater and Willoughby) to manage Aboriginal Heritage issues. Viki Gordon, an archaeologist at the AHO, was contacted and made aware of the current study. The AHO will be forwarded a copy of the final report for their records.

As no Aboriginal objects, places, or areas of potential were located within the study area a full Aboriginal consultation process is not required, as outlined in the draft *Guidelines of Aboriginal Cultural Heritage Impact Assessment and Community Consultation July 2005*.

1.7 Report Authorship

Dr Sandra Wallace wrote this draft report. The assistance of Clare Swan from JBA is acknowledged in supplying relevant plans and other information. Kevin Telford of Metropolitan Local Aboriginal Land Council (MLALC) is acknowledged for his participation in the site survey, and his input into the Aboriginal cultural assessment of the site. Kelly Bradshaw (MLALC) made arrangements for the Land Council's involvement in the consultation process.

2.0 Environment and Context

2.1 Geology and Soils

The study is within the Hawkesbury sandstone formation overlain by Wianamatta Shale. The Hawkesbury formation is described as 'medium to coarse grained quartz sandstone with shale and laminitic lenses' (Irish 2006 after Herbert 1980). The shale soils are clayey with duplex character and are representative of the Glenorie soil landscape (Oculus 2008). Disturbance within the study area is exemplified by areas of clay soil that were noted at the surface, particularly in the north of the study area surrounding Moorong.

2.2 Vegetation

According to the Landscape Study for the proposed central Parkland (Environmental Partnership 2008) the study area would have been characterised by a Turpentine-Ironbark Margin Forest. Modeling of pre-1750 landscapes indicates that Ryde LGA would have contained 2814 ha of Turpentine-Ironbark Forest (DECCW website). It is estimated that the remnant community covers only 1.6 ha.

Ryde Council's study of Urban Bushland in the Ryde area characterises Turpentine-Ironbark forest as follows. 'In Sydney Turpentine-ironbark Forest the trees are between 20-30 m tall with an open understorey consisting of flowering shrubs and native grasses. The main canopy trees in this plant community are Turpentine, Angophora, Grey Ironbark, Broadleaved Ironbark, White Stringybark and Red Mahogany with an understorey of wattles, Hop Bush and native grasses and herbs' (Oculus 2001:7).

Only a few old growth trees were observed during the site survey, including a very large gum adjacent to Victoria Road. This is an indication of site disturbance, and particularly the heavy clearing that was conducted in the Ryde area from the early 1800s. Another indicator of land disturbance, introduced species, were observed within the study area. These included thistle and camphor laurel.

2.3 Topography

The subject site slopes steeply to the south/southwest, with a fourteen-metre change in levels from north to south. The topography varies significantly within the site, with several zones of steep slope, which are particularly evident in the area to the north of the proposed athletic field. Terracing and other earth works has modified much of the natural topography of the study area.

2.4 Hydrology

There are no permanent waterways within the study area. An ephemeral watercourse once ran through the centre of the study area, as shown in the 1943 aerial (Figure 6). Buffalo Creek, a tributary of the Lane Cove River runs approximately 200m to the north of the study area and would have provided a source of permanent water.

The Lane Cove River runs approximately three kilometers to the east of the study area, although it would have been brackish at that point. Sydney Harbour is located less than a kilometre to the south of the study area.

A central detention area is currently under construction under a separate Planning Approval and will be the primary means of managing storm water for the site.

2.5 Resources

Aboriginal people were highly mobile hunter-gatherers utilising different landform units and resource zones. Different resources may have been available seasonally, necessitating movement or trade (Attenbrow 2010: 78). Aboriginal people hunted kangaroo and wallaby and snared possums for food and skins (Bradley 1788). In marine or estuarine environments Aboriginal people caught fish and collected shellfish. Shell middens have been recorded along the harbour south of the study area, and along the Lane Cove River to the northeast. There are many accounts by Europeans of Aboriginal people in canoes on rivers and the ocean, fishing and cooking the fish on small fires within the vessels (e.g. Collins 1798).

Plants were an important source of nutrition, common edible species being *Macrozamia*, a cycad palm with poisonous seeds that were detoxified and ground into a paste and *Xanthorrhoea*, or grass tree. The grass tree nectar was a high-energy food, the resin a strong hafting glue, and the flower spikes used for spear barbs. From observations by early European colonists, only about twenty species of plant are identified as being used for food or manufacture by Aboriginal people of the Sydney region (Attenbrow 2010:41). It is likely this is only a fraction of what was actually used.

2.6 European land Use

The history of the study area has been comprehensively addressed by previous studies (City Plan Heritage 2007, Austral 2007). The brief summary of European land use in this section provides a context for assessment of the impact that land disturbance may have had on archaeological deposits.

The study area was first divided into land grants in 1792 to several marines but soon after became part of James Squire's extensive holdings, which he accumulated between 1795 and 1806. It appears that his lands were primarily used for grazing of stock but may have also been used for production of hops for his brewery (Austral 2007:3). Bennelong and Nanbaree, two well know Aboriginal people of the period lived on Squire's property at their deaths in 1813 and 1821 respectively. They are thought to be buried on Squire's land in an orchard close to the river (Smith 2005).

In 1822 Squire died and lands including the study area were left to his daughter Elizabeth O'Donnell. There was no mention of a house on the land in Squire's will. It is thought that the first construction within the study area did not occur until after 1844 when the house was sold to the Meikle's. A large house was built in the southwest of the study area at the location of Weemala. It is understood that this house was demolished when Henry Moses built Weemala in 1884 after purchasing the land from the Meikle family.

During the 1800s, the land was almost completely cleared (Figure 4) and was probably used for grazing. There is also evidence that orchards were planted in the northern section of the study area.

In 1906 Weemala and the surrounding land was offered to the NSW Home for the Incurables. From 1911 additions and improvements on the original homestead began with nurses quarters and new wings being constructed. In the early 1920s Moorong Cancer Home was constructed in the northern section of the study area where it stands today.

During the late 1900s development of the Rehabilitation Centre and its grounds progressed rapidly. The Weemala homestead was subject to major refurbishments in the late 1960s. New buildings, car parks, a riding centre for the disabled and other facilities were constructed.



Figure 4: Map of Ryde showing early land grants. Study area bounded in black. Sourced from City Plan Heritage 2007:14.

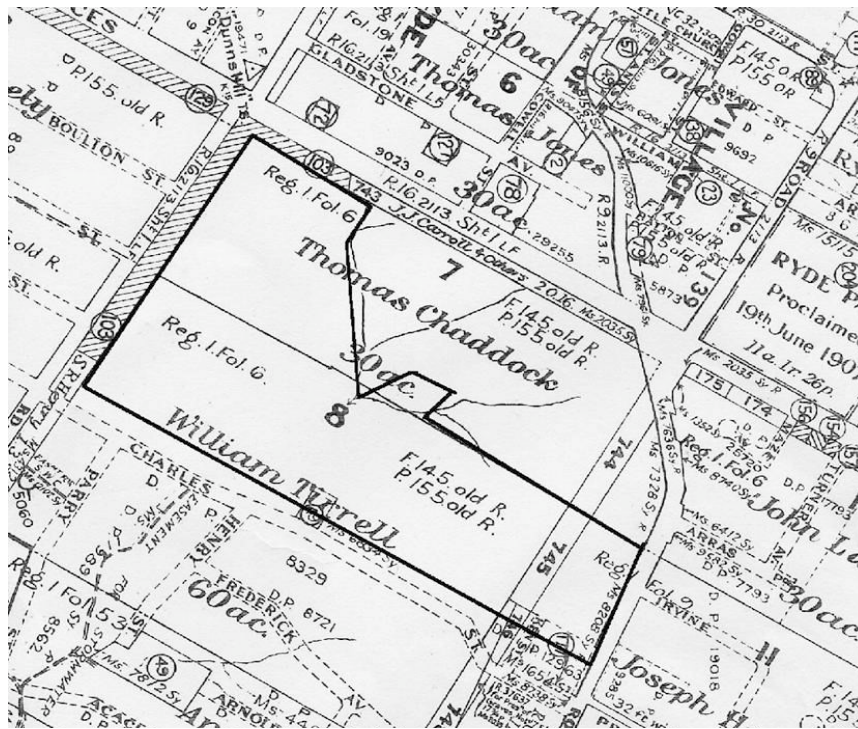


Figure 5: Sourced from Austral 2007: 7 - 1895 photograph by J. Black from Parramatta, titled "Looking towards village of Ryde from Meikle's Hill".



Figure 6: 1943 aerial. Department of Lands. North to top of page.



In 1993 a Development Application was lodged and approved for a sports oval and track for disabled athletes, which would also serve as a detention basin. Construction began in the centre of the site within the area that is currently subject to a separate PA. The work was never completed although the disturbance would have impacted any existing archaeological deposit. This area is mostly outside the current study area.

Ongoing development throughout the study area has led to large-scale landscape modification and ground disturbance, which would have impacted any existing archaeological deposit. The only area of the site in which a slightly lesser degree of disturbance is evident is in the northern section adjacent to Victoria Rd. The remnant old growth tree and several stumps indicate that the general topography is fairly intact. It was noted however that landscaping seems to have occurred flattening sections of the slope, and several modifications such as a cricket pitch, an access road and tree plantings along the drive, were noted during the survey.

3. Archaeological Context

3.1 Aboriginal material culture

Aboriginal people have lived in the Sydney area for more than 20,000 years. The oldest securely dated site in the greater Sydney region is 17,800 years before present (yBP), which was recorded in a rock shelter at Shaw's Creek (Nanson et al 1987). Evidence of Aboriginal occupation has been found dated to 50-60,000 yBP at Lake Mungo in NSW, so it is likely that Aboriginal people have lived in the Sydney region for even longer than indicated by the oldest recorded dates we have at present. The archaeological material record provides evidence of this long occupation, but also provides evidence of a dynamic culture that has changed through time.

The existing archaeological record is limited to certain materials and objects that were able to withstand degradation and decay. As a result the most common type of Aboriginal objects remaining in the archaeological record are stone artefacts. Archaeological analyses of these artefacts in their contexts have provided the basis for the interpretation of change in material culture over time. Technologies used for making tools changed, along with preference of raw material. Different types of tools appeared at certain times, for example ground stone hatchets are first observed in the archaeological record around 4,000yBP in the Sydney region (Attenbrow 2010:102). It is argued that these changes in material culture were an indication of changes in social organisation and behaviour.

The Eastern Regional Sequence was first developed by McCarthy in 1948 to explain the typological differences he was seeing in stone tool technology in different stratigraphic levels during excavations such as Lapstone Creek near the foot of the Blue Mountains (McCarthy 1948). The sequence had three phases that corresponded to different technologies and tool types (the Capertian, Bondaian and Eloueran). The categories have been refined through the interpretation of further excavation data and radiocarbon dates (Hiscock & Attenbrow 2005, JMcDCHM 2005). It is now thought that prior to 8,500 yBP tool technology remained fairly static with a preference for silicified tuff, quartz and some unheated silcrete. Bipolar flaking was rare with unifacial flaking predominant. No backed artefacts have been found of this antiquity. After 8,500 yBP silcrete was more dominant as a raw material, and bifacial flaking became the most common technique for tool manufacture. From about 4,000yBP to 1,000yBP backed artefacts appear more frequently. Tool manufacture techniques become more complex and bipolar flaking increases (JMcD CHM 2006). It has been argued that from 1,400 to 1,000 years before contact there is evidence of a decline in tool manufacture. This reduction may be the result of decreased tool making, an increase in the use of organic materials, changes in the way tools were made, or changes in what types of tools were

preferred (Attenbrow 2010:102). The reduction in evidence coincides with the reduction in frequency of backed blades as a percentage of the assemblage.

After European colonization Aboriginal people often continued to manufacture tools, sometimes with new materials such as bottle glass or ceramics. There are a number of sites in Sydney where flaked glass has been recorded, for example at Prospect (Ngara Consulting 2003) and Oran Park (JMcD CHM 2007).

3.2 Aboriginal Occupation and Site Types

Material traces of this long occupation exist throughout the landscape and are known as Aboriginal sites. The primary site types that may be present in the study area are as follows.

- Stone Artefacts – Flaked and ground stone artefacts are the most common trace of Aboriginal occupation in the Sydney region. Aboriginal people used particular techniques to flake stone and these changed over time. The approximate age of a tool can often be diagnosed by the way that it was made. Stone artefacts are most often found in scatters that may indicate an Aboriginal campsite was once present. Stone tools in the Sydney region are most often made from raw materials known as silcrete, tuff and quartz. These are all easily flaked and form sharp edges, which can be used for cutting or barbing spears. It is possible that stone artefacts, either on the surface, or buried, exist within the study area.
- Rock shelters with deposit – Rock shelters were used by Aboriginal people for habitation, rest places and as art or ceremonial sites. Deposits can build up on the floor of these shelters over time and bury traces of Aboriginal occupation. If these deposits are not disturbed, rock shelters can provide an intact stratigraphy that can tell us about the way Aboriginal occupation changed through time. Rock shelters are the site type most likely to occur within the study area. Sandstone outcrops occur commonly within Hawkesbury sandstone geologies, and it is possible that a shelter may have retained a protected area of intact deposit.
- Shell middens – Shell middens are remains of campsites in which the primary traces are shell and/or bones of fish. Shell middens are often found close to rivers or streams and are either along banks or within enclosed shelters. The majority of shell middens in the Sydney region were destroyed when they were mined for lime in the early days of the colony. It is unlikely that any major shell midden remains in the study area, although it is possible that remains of shellfish or fish could be found in an archaeological deposit.

- Rock engravings/Rock art – Rock engravings are often found in Hawkesbury geologies on flat sandstone platforms. Shapes of animals, ancestor figures or other symbols were carved into the sandstone. Weathering has affected the visibility of many rock engravings. Other rock art of various forms has also been recorded in the Sydney basin. Stencils and charcoal drawings are examples of the techniques used by Aboriginal people. Rock art is relatively rare, but is more common on sandstone geologies than on the plains of western Sydney. It is unlikely that art or engravings are located within the study area.
- Axe grinding grooves – Axe grinding grooves are created when axe blanks (often basalt cobbles) are shaped by rubbing the stone across an abrasive rock such as sandstone, often using water. Sharpening axes and other tools also forms them. Axe grinding grooves are often found on the banks of streams or rock pools. It is unlikely that axe-grinding grooves remain within the study area as there are unlikely to have been sandstone outcrops near the ephemeral waterway.
- Scarred trees – Aboriginal people practiced tree marking or scarring for a variety of reasons. Large scars are often the result of a tree being debarked for a canoe blank and smaller scars may have been the result of making shields or coolamons (storage vessels). Tree marking may have been the result of ritual practices, or associated with burial. Scarred trees that remain today would be over 150 years old and the scar would retain certain characteristics that enable its identification as cultural. It is unlikely that scarred trees remain in the study area, as intensive logging would have removed most trees old enough to bear cultural scars.
- Post-Contact sites – Sites where evidence of early interaction between Aboriginal people and Europeans are known as contact sites. Artefacts found at contact sites may include flaked glass or ceramic. It is possible that a contact site was located within the study area, as Europeans settled Ryde very early in the colonization of Sydney.
- Potential Archaeological Deposit (PAD) – Areas are classified as PADs if there is a likelihood of archaeological material existing below the ground surface or on the ground surface but obscured from view. An Aboriginal object does not need to be recorded for an area of PAD to be specified.

3.3 Ethnohistory of the Local Area

Prior to the appropriation of their land by Europeans, Aboriginal people lived in small family or clan groups that were associated with particular territories or places. It seems that territorial boundaries were fairly fluid, although details are not known. The language group spoken in the Ryde area is thought to have been 'the Sydney language', which has sometimes been referred to as Eora, but was not named at contact (Smith 2005). It is possible that the Ryde area was near the border with the speakers of the Darug language group, which has been described as extending to the Lane Cove River (Attenbrow 2010).

British colonization had a profound and devastating effect on the Aboriginal population of the Sydney region, including Darug speakers. In the early days of the colony Aboriginal people were disenfranchised from their land as the British claimed areas for settlement and agriculture. The colonists, often at the expense of the local Aboriginal groups, also claimed resources such as pasture, timber, fishing grounds and water sources. Overall the devastation of the Aboriginal culture did not come about through war with the British, but instead through disease and forced removal from traditional lands. It is thought that during the 1789 smallpox epidemic over half of the Aboriginal people of the Sydney region died. The disease spread west to the Cumberland Plain and north to the Hawkesbury. It may have in fact spread much further afield, over the Blue Mountains (Butlin 1983). This loss of life meant that some of the Aboriginal groups who lived away from the coastal settlement of Sydney may have disappeared entirely before Europeans could observe them, or record their clan names (Karskens 2010:452).

The study area is within the territory of the Wallumedegal (or Wallumattagal) clan. The exact boundaries of the territory are not known, and may have been fluid, but the Wallumedegal area is thought to have extended around Sydney Harbour from Lane Cove along the northern bank of the Paramatta River (Smith 2005: 1, Attenbrow 2010: 23).

European appropriation of Wallumedegal territory occurred very early in the colonization period. Boats were sent along the harbour up the Lane Cove and Paramatta Rivers within days of the arrival of the First Fleet. Numerous overland parties quickly arrived to explore the potential of land surrounding the harbour. Information about the way that Aboriginal people lived before white settlement can be gained from observations of these early parties of explorers.

Lieutenant William Bradley wrote on his observations of Aboriginal people during an expedition up the Lane Cove River in February 1788. He noted that Aborigines were plying the river in canoes, but it is not known what their activities were.

'We did not meet with any Natives again 'till this day, at day light saw several canoes in the Cove we were surveying; they all fled, some out of the Cove and others up to a Cove above' (Bradley 1969: 74)

The first reference to the people of the Ryde area was by Governor Philip on 13 February 1790. He wrote:

'The South side of the Harbour from the above-mentioned Cove [now Darling Harbour] to Rose-Hill, which the natives call Par-ra-matta , the district is called Wann, and the tribe, Wanngal. The opposite shore is called Wallumetta, and the tribe, Wallumedegal' (Smith 2005:1 quoting Philip).

In May 1788 Surgeon George Worgan described the landscape of Wallumedegal country. He describes ' the trees are small and grow in almost regular rows so that together with the evenness of the land to a considerable extent it resembles a beautiful park' (Worgan quoted in Smith 2005:11). Aboriginal people through selective use of fire had shaped the countryside described. This 'fire stick farming' was designed to modify the landscape to attract game, which was seen to be plentiful and to is said to have supported a pre-contact population of approximately 3000-5000 people in the Sydney region.

The small pox epidemic of 1789 has a profound effect on the population of the Sydney region, and would have decimated groups in the Ryde area. From 1790 any Aboriginal people remaining in the Ryde area would have been further disenfranchised, as convicts were moved in to harvest the timber and lime resources of the area.

Further information can be obtained in *Wallumedegal: An Aboriginal History of Ryde* which was prepared for Ryde Council by Keith Vincent Smith (2005) and is available on the council's website.

3.4 Registered Aboriginal sites in the local area – AHIMS search

A search of the Aboriginal Heritage Information Management System (AHIMS) was conducted on 2 March 2011. The search took in a 2km radius of the study area (Zone 56, Easting from 323900 to 335900, Northing from 6255200 to 6257200). Three registered Aboriginal sites were located within this area. Site 45-6-0031 is a rock engraving with site 45-6-2557, a shell midden and site 45-6-2558 and open artefact site within Bremner Park. The locations of these sites are not disclosed in this report, as this is culturally sensitive information. No registered Aboriginal places are located within the study area.

Table 1: Frequency of site types from AHIMS data

Site Type	Frequency	Percentage
Shell midden	1	33
Artefact (Stone tools)	1	33
Rock engraving)	1	33

The Ryde LEP, the State Heritage Register or Register of the National Estate do not list any areas within the study area as of Aboriginal heritage significance.

3.5 Previous Archaeological Studies in the Local Area

There have been a number of archaeological studies in the vicinity the local area, especially along the banks of the Lane Cove River, and in the Lane Cove River National Park to the northeast of the study area. It is understood that no previous survey for Aboriginal heritage has taken place within the study area.

An amateur archaeologist, Michael Guider, recorded the three sites registered with AHIMS. These were one open site (artefact), one shell midden and one rock engraving.

During an archaeological survey along the route of the F2-Castelreagh Freeway in 1989 Laila Haglund located two rock shelters with deposit 3km to the to the northeast of the current study area. Both shelters (AHIMS #45-6-1855 and AHIMS #45-6-1854) contained middens with oyster and whelk shell recorded, while the later also had possible remnants stencil art along the back wall.

In 1990 Conyers conducted a comprehensive survey of the Lane Cove River State Recreation Area, now known as Lane Cove National Park. Approximately one third of the SRA was surveyed during a twelve-day survey. Seven previously unrecorded Aboriginal sites were located - two engraving sites, two middens, and three rock shelters with deposit. Five potential habitation site were also recorded along with three engraving sites which had previously been recorded

In 1995 Wirrima Consulting conducted a survey for Aboriginal sites for the widening of Delhi Rd, Ryde by the RTA. A rock shelter with midden (AHIMS #45-6-2211), which was first recorded by Conyers, was relocated.

In 1997 Tessa Corkhill conducted an excavation of rock shelter with potential archaeological deposit (CSIRO PAD1) at Riverside Corporate Park, approximately 4km to the northeast of the current study area. The PAD was first located in 1991 and it was recommended at that time that further

investigation would be required if the site was to be affected by development. Ten test pits were excavated to bedrock at depths varying from 47cm to 18cm. Fourteen stone artefacts were recovered although the deposit was found to be relatively disturbed with evidence of European material throughout much of the profile.

In 2000 Bobbie Oakley completed a survey for a proposed sewerage upgrade within Lane Cove National Park. Two new Aboriginal sites were located in the southern portion of the National Park. Both new sites (LCRM1 and LCRM2) are shell midden scatters and associated areas of potential archaeological deposit (PAD). It was recommended that the sewer line should be redirected to avoid these sites, or if this was not possible that further archaeological work, such as a test excavation, should be conducted.

In 2011 Artefact Heritage conducted a survey of an area along the northern edge of Stringybark Creek in Lane Cove West. A previously recorded rock shelter with a charcoal drawing of two fish was relocated. Although the shelter had been disturbed by construction of a sewer pipe, the art remained in good condition. No new Aboriginal sites were located during the study.

3.6 Site Prediction

Based on the distribution of known Aboriginal sites provided by previous studies and an AHIMS register search; and the types of landform units found in the study area, statements can be made about the likelihood of archaeological sites being present within the study area, and what they may constitute.

Beth White and Jo McDonald have recently contributed to the debate over site prediction on the Cumberland Plain in their discussion on the nature of Aboriginal site distribution as interpreted through lithic analysis of excavated sites in the Rouse Hill Development Area (RHDA) (White and McDonald 2010). This analysis brings together data from 631 dispersed 1mx1m test squares from nineteen sample areas, which yielded 4,429 stone artefacts in total. The findings of this study generally support earlier models that predicted correlations between proximity to permanent water sources and site location, but also highlighted the relationship between topographical unit and Aboriginal occupation.

The major findings of the study were that artefact densities were most likely to be greatest on terraces and lower slopes within 100m of water. The stream order model was used to differentiate between artefact densities associated with intermittent streams as opposed to permanent water. It was found that artefacts were most likely within 50-100m of higher (4th) order streams, within 50m of second order streams, and that artefact distribution around first order streams was not significantly affected by distance from the watercourse (White and McDonald 2010: 33). Overall

landscapes associated with higher order streams (2nd order or greater) were found to have higher artefact densities, higher maximum densities, and more continuous distribution than lower order intermittent streams. The analysis also concluded that while there were statistically viable correlations that demonstrated a relationship between stream order, land form unit and artefact distribution across the RHDA, the entire area should be recognised as a cultural landscape with varied levels of artefact distribution (White and McDonald 2010: 37). Although this analysis is relevant to a different landscape, its general conclusions may be transferred to the Ryde area.

Site prediction models suggest that the most likely locations for Aboriginal sites are within 100m of permanent fresh water, on a terrace or lower slope. As permanent water is not available within the study area the likelihood of Aboriginal sites declines. Shell middens, and axe grinding grooves are most likely to occur alongside permanent water sources. It is therefore unlikely these site types will exist within the study area. Rock shelters and rock engravings/art are most common in sandstone geologies where sandstone is visible at the surface. No sandstone shelters or platforms were observed within the study area. It is unlikely that any rock engravings or shelters with archaeological deposit exist within the study area.

4.0 Survey Methodology and Results

4.1 Background

The site survey was undertaken by Dr Sandra Wallace (Artefact) and Kevin Telford (MLALC) on 11 March 2011.

4.2 Sampling Strategy

The study area was divided into two survey units. The first unit comprises the southern portion of the study area from the Charles St entrance northwest to the area surrounding Weemala. This area was designated Survey Unit 1. Survey Unit 2 comprised of land to the north of the detention basin, which is currently approved under a separate PA. Survey Unit 2 extends around Moorong and north to Victoria Road

Figure 7: Survey Units



4.3 Site definition

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

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

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

4.4 Survey Methodology

Both survey units were covered on foot. Portions of the study area within the grounds of the buildings were inaccessible but were too disturbed to contain remaining intact archaeological deposit.

The survey was undertaken in accordance with best practice standards. A handheld Global Positioning System (GPS) was used to track the path of the surveyors, and to record the co-ordinates of sites, features and location of landform units along the route.

All ground exposures were examined for stone artefacts, shell, or other traces of Aboriginal occupation. Mature trees within the study area were examined for cultural scarring or marking that may have been the work of Aboriginal people. A photographic record was kept for both survey units. Photos were taken to represent the landform unit, vegetation communities, objects of interest and levels of disturbance. Scales were used for photographs where appropriate.

4.5 Effective Survey Coverage

Ground visibility was very low throughout the study area. Thick grass covered the ground much of the area that were not impacted by car parks and buildings. Weeds and vegetation obscured visibility along the northeastern margin of the study area and in patches, especially to the south of Moorong.

4.6 Site Survey Observations

Survey Unit 1

Survey Unit 1 includes the area around Weemala along with the area just to the north of the Coorabel complex. Survey Unit 1 has been highly disturbed. Modification of topography has been severe with land built up around Weemala especially to its west (Plate 1) and north. The building, car parks and roads cover much of this Survey Unit and would have disturbed any existing archaeological deposit during their construction. The treed area to the east of Weemala was also modified with a steep slope down to an artificial drainage line (Plate 2). The immature trees are also an indication of recent disturbance.

Plate 1: Survey Unit 1 to the east of Weemala looking up towards Morrison Rd.



Plate 2: Artificial slope to the west of Weemala.



The area to the south of the Charles St access road, and to the north of the Coorabel complex is also highly disturbed. Landscaping works along with a car park would have impacted on any existing archaeological deposit. Immature trees are also an indication of disturbance levels.

No archaeological objects, places or areas of potential archaeological deposit were located in Survey Unit 1 during the site survey.

Survey Unit 2

Survey Unit 2 extends from the northern edge of the current work area (where the detention basin will be constructed under a separate PA) north around Moorong and to the site boundary along Victoria Road.

The area to the south of Moorong is highly disturbed. Earth mounds are evident and clay is visible at the surface in some areas (Plate 6). Along the western side of Moorong landscaping is clearly defined with an artificial slope grading down towards a drainage line (Plate 4).

Plate 3: The western side of Moorong showing land disturbance.



Plate 4: Large gum in the north of the study area. Facing east.



Plate 5: Clay at the surface to the south of Moorong.



To the northeast of Moorong an access road and turning circle has disturbed the study area. To the north of the building complex gardens tree plantings and a double tennis court have caused disturbance. The cleared area to the north the tennis court and turning circle the least disturbed section of the study area. It measures approximately 80m x 80m and encompasses a large gum tree and several stumps of large trees. Some disturbance has occurred in this area in the form of the construction of a cricket pitch. It is likely that other disturbance has occurred in the form of landscaping and vegetation clearing.

No archaeological objects, places or areas of potential archaeological deposit were located in Survey Unit 2 during the site survey.

4.7 Assessment of archaeological potential

The study area is generally disturbed. No archaeological sites were located and it is improbable that any archaeological deposit remains intact.

The majority of Survey Unit 1 has been heavily landscaped with terracing and cut and fill evident around Weemala. It is unlikely that there are any areas that have not been subjected to heavy ground disturbance. Survey Unit 1 has low/no archaeological potential. The majority of Survey Unit 2 also has no archaeological; potential with landscape modification disturbing subsurface deposits. The only area that does not show evidence of extensive disturbance is the northern section of Survey Unit 2. The old growth gum tree and several in situ stumps show that landscaping has not modified topography extensively. There is evidence of land surface disturbance as noted in Section 4.6. Although it is possible that some archaeological deposit may remain directly around the old growth trees it is unlikely that it would be intact or extensive. The area north of Moorong has a low archaeological potential with the areas around the building and car parks having no archaeological potential.

The study area as a whole has **low/no archaeological potential**.

4.8 Archaeological significance assessment

This significance assessment is limited to archaeological significance. This significance assessment reflects best practice as outlined in the ICOMOS Burra Charter as amended 1999.

Considering the archaeological potential of the study area discussed above it is concluded that the study area as a whole has a **low archaeological significance**. It is within a broader area of intensive Aboriginal land use, and within the vicinity of important Aboriginal sites. The site itself is has high levels of disturbance and is not rare in the local context.

5.0 Discussion

5.1 Management Principles

Management principles aid in the formulation of impact assessments and recommendations on whether further investigation is required. Jo McDonald CHM (JMcD CHM 2010) outlines the following principles, which have also been used in this assessment.

- Sites and/or landscapes with high archaeological potential or Aboriginal significance (particularly in threatened landscapes) should be identified as worthy of conservation, and development impacts on these should be avoided.
- Sites and/or landscapes with moderate archaeological potential or Aboriginal significance (particularly in threatened landscapes) should be avoided if possible by development proposals. If impacts are unavoidable then these features should be the subject of further investigation to ensure that information is retrieved prior to their destruction;
- Sites and/or landscapes of low or no archaeological potential or Aboriginal significance do not require planning consideration or further archaeological investigation in relation to the proposed development.

5.2 Impact Assessment

The study area has a low/no archaeological potential. The majority of the development area has been highly disturbed by development, from initial clearing and construction of early residences, to the current stripping and modification of the centre of the development area.

Impacts from the proposed development will be extensive. As there is a low potential for archaeological deposits to remain this impact will not be adverse for the Aboriginal heritage values of the study area.

6.0 Recommendations

The following recommendations are based on consideration of:

- Statutory requirements under the *National Parks and Wildlife Act 1974* as amended;
- The Director General's Requirements as specified for the Aboriginal heritage Component of the Environmental Assessment for this project;
- The results of the background research, site survey and assessment;
- The interests of the Metropolitan Local Aboriginal Land Council (MLALC) and other Aboriginal stakeholders; and
- The likely impacts of the proposed development.

It was found that:

- No Aboriginal archaeological sites or places have been located within the study area;
- The area was found to be highly disturbed and to have a low/no archaeological potential;
- The study area was found to have a low archaeological significance. The Aboriginal representative will address the cultural significance of the study area in their report.

It is therefore recommended that:

- No Aboriginal archaeological constraints exist for the proposed development within the Royal Rehabilitation Centre study area;
- If any Aboriginal objects are located during construction, work should stop immediately and the Department of Environment, Climate Change and Water (DECCW), an archaeologist, and the MLALC, should be contacted. Although permits are not required to disturb Aboriginal objects under a Part 3A approval, it is important that correct procedures are adhered to in regards to Aboriginal heritage;
- All contractors should attend an Aboriginal heritage induction so they can identify any Aboriginal material if it is uncovered;
- A copy of this report should be sent to
The Aboriginal Heritage Manager
Lane Cove Council
PO Box 20 Lane Cove NSW 1595
- A copy of this report should be sent to :
The Chairperson
Metropolitan Local Aboriginal Land Council
PO Box 1103
Strawberry Hills NSW 2012

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