EDMONDSON PARK SOUTH
PART 3A STAGE 1 PROJECT APPLICATION
ENVIRONMENTAL ASSESSMENT

Aboriginal Cultural Heritage Assessment Report

Prepared for J. Wyndham Prince
on behalf of Landcom

Final Report
November 2010

Ref. 9011

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Executive Summary

Landcom is proposing to deliver a new diverse and sustainable urban community at Edmondson Park South within the Edmondson Park Release Area in the South West Growth Centre, south west Sydney. The Edmondson Park South project is the subject of a Part 3A Concept Plan and proposal to list Edmondson Park South as a State significant site under SEPP Major Development 2005. The Stage 1 Project Application (submitted concurrently with the Concept Plan) relates to early works, infrastructure and subdivision for the initial phases of the development and will enable site works to begin in 2010. An Aboriginal Cultural Heritage Assessment has been a key component of the Part 3A Environmental Assessment for the Stage 1 Project Application, in accordance with the Director General's Requirements issued for the Edmondson Park South project.

The Aboriginal Cultural Heritage Assessment Report (CHAR) has been prepared according to the draft *Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC, July 2005) as per the Director General's Requirements.

Edmondson Park South, including the Stage 1 Project Application area, has been the subject of extensive and broad strategic planning investigation and environmental assessment as part of the rezoning process. An Aboriginal Heritage Management Plan was adopted for the area, which has formed the basis for the development of the Stage 1 Project Application and CHAR.

Consultation with the local Aboriginal community has identified that the broader Edmondson Park Release Area holds considerable cultural value. It was considered to be representative of a greater landscape used by Aboriginal people over time, rather than simply a number of individual sites.

Five Aboriginal heritage sites have been identified within the Stage 1 Project Application area. The majority of the Stage 1 Project Application impacts on archaeological sites of low significance. Two significant sites (DD3 and DD4) are impacted by the Stage 1 Project Application.

Overall, the proposed project offers an opportunity for a positive outcome for Aboriginal heritage. Information obtained through the salvage excavation of the archaeologically significant locations DD 3 and DD 4 will greatly enhance our cultural and archaeological understanding of the area and allow for significant interpretation of past events within this cultural zone.

In conclusion, the CHAR establishes specific procedures and strategies for the management of archaeological sites impacted by the Stage 1 Project Application.

Contents

Figures

Tables

1 Introduction

1.1 Project Introduction

This Aboriginal Cultural Heritage Assessment Report (CHAR) has been prepared by Kelleher Nightingale Consulting Pty Ltd to accompany a Project Application under Part 3A of the Environmental Planning & Assessment Act, 1979 (EP&A Act) for Stage 1 of Edmondson Park South.

Landcom is proposing to deliver a new diverse and sustainable urban community at Edmondson Park South. Once complete, Edmondson Park will accommodate a mix of land uses, a diversity of housing (approximately 3,200 dwellings), a new town centre incorporating 35,000 – 45,000m^2 retail, business and commercial floor space with employment opportunities for 1,000 people, multi-purpose community and education facilities, a new 150 hectare Regional Park, a number of other local parks and environmental conservation areas.

The new urban community at Edmondson Park South will meet the State Government's objectives to increase housing supply, provide community benefits and create jobs.

The Edmondson Park South project is the subject of a Part 3A Concept Plan and proposal to list Edmondson Park South as a State significant site under SEPP Major Development 2005. The purpose of the Concept Plan is to secure statutory approval for the overall planning framework for the site and to further resolve a number of remaining site-wide infrastructure delivery and land use planning issues. The Stage 1 Project Application (submitted concurrently with the Concept Plan) relates to early works, infrastructure and subdivision for the initial phases of the development and will enable site works to begin in 2010.

This CHAR has specifically been prepared to support the Project Application for Stage 1 early works. It is consistent with the CHAR for the overall development of Edmondson Park South.

1.2 The Subject Site

The Stage 1 Project Application site (study area) comprises an area of approximately 40 hectares and forms part of the larger Edmondson Park Release Area within the South West Growth Centre. It is located within the southernmost portion of the larger development site to the north of the M5 Motorway and to the east of Zouch Road and is approximately 40 km to the south west of Sydney CBD. The site is wholly located within the Campbelltown LGA (refer to Location Plans at Figures 1 to 3).

The majority of the Stage 1 Project Application site is currently owned by the Commonwealth (Department of Defence) and was formerly used as an army camp and training facility (the Ingleburn Army Camp) up until the 1990s when it was identified as surplus to Defence requirements. Since this time it has been progressively vacated. The project is intended to be carried out once ownership or control of the former Ingleburn Army Camp land has passed to the State. Several roads within the site are owned by Campbelltown City Council.

The site is largely vacant. Remnants of military facilities associated with the site's former Defence use are scattered through-out the site.

The site falls gradually west to east in the area proposed for typical residential area from RL 77m AHD to RL 57 m AHD, with the proposed Environmental Living area falling steeply north to south from RL 75m AHD to RL 37m AHD.

The condition of existing vegetation on the site varies from exotic pasture with negligible ecological value to areas to areas of vegetation with low recovery potential. The existing cleared portions of the site generally contain non native species.

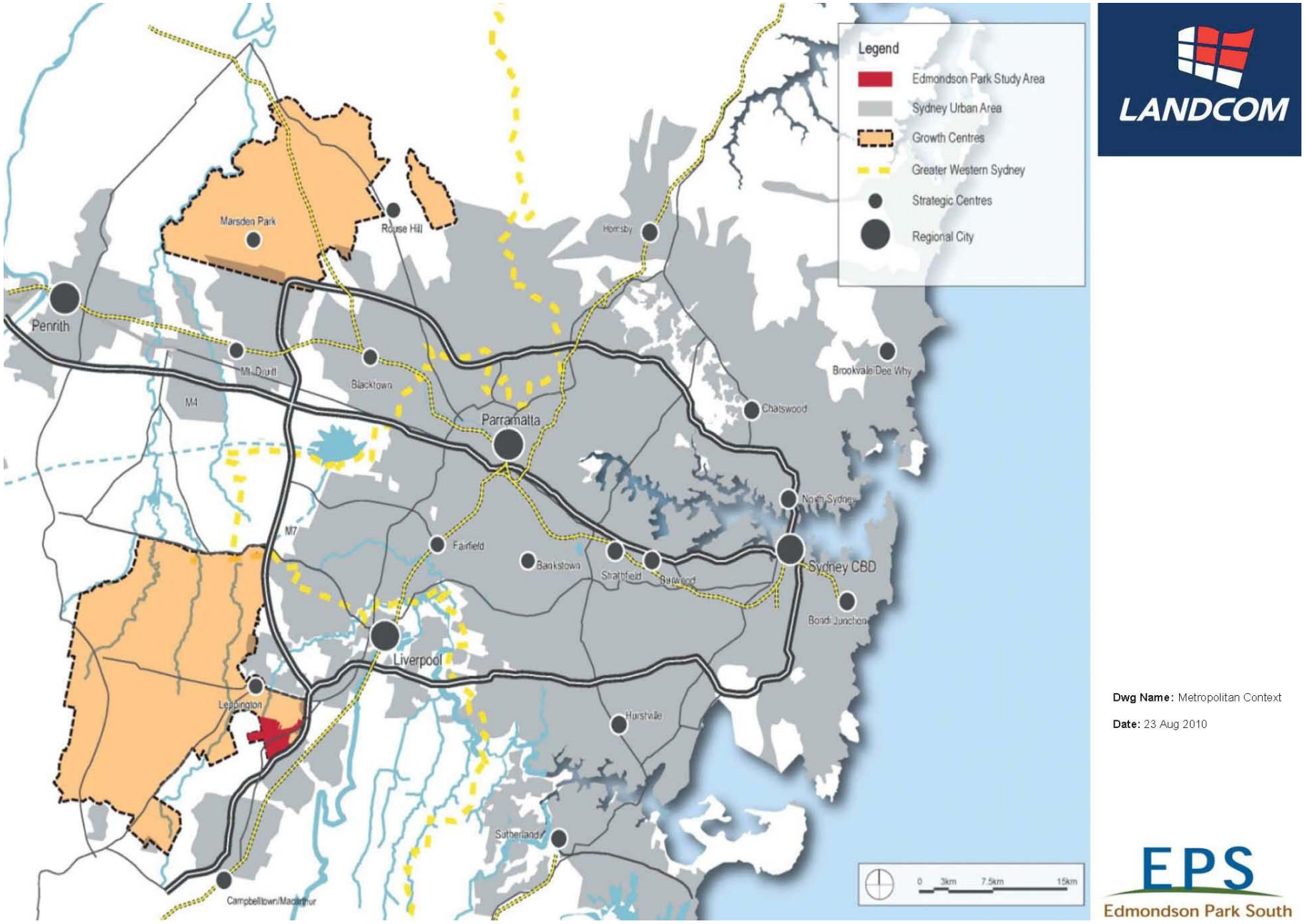

Figure 1. Locality Plan: Metropolitan Context

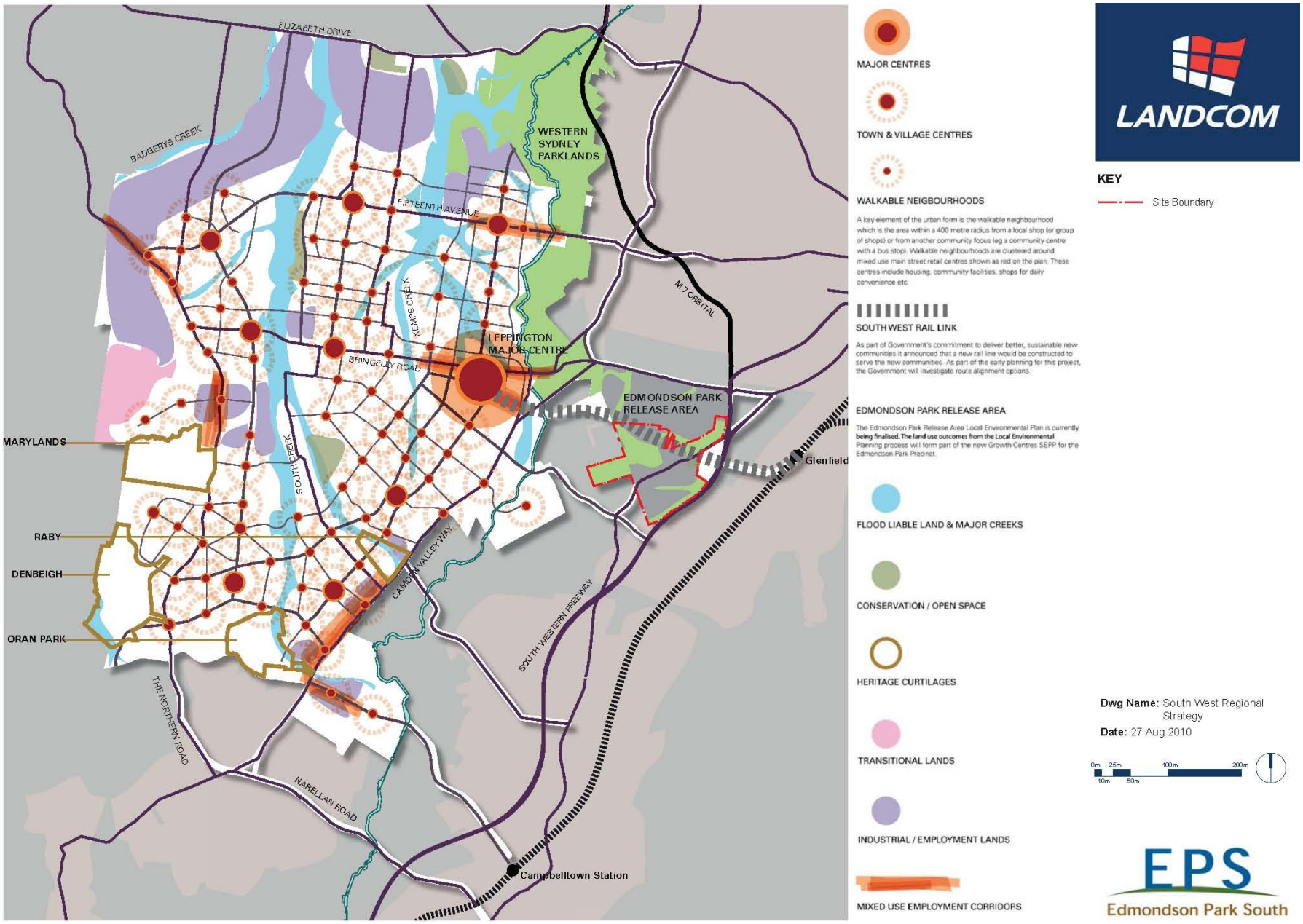

Figure 2. Locality Plan: South West Region

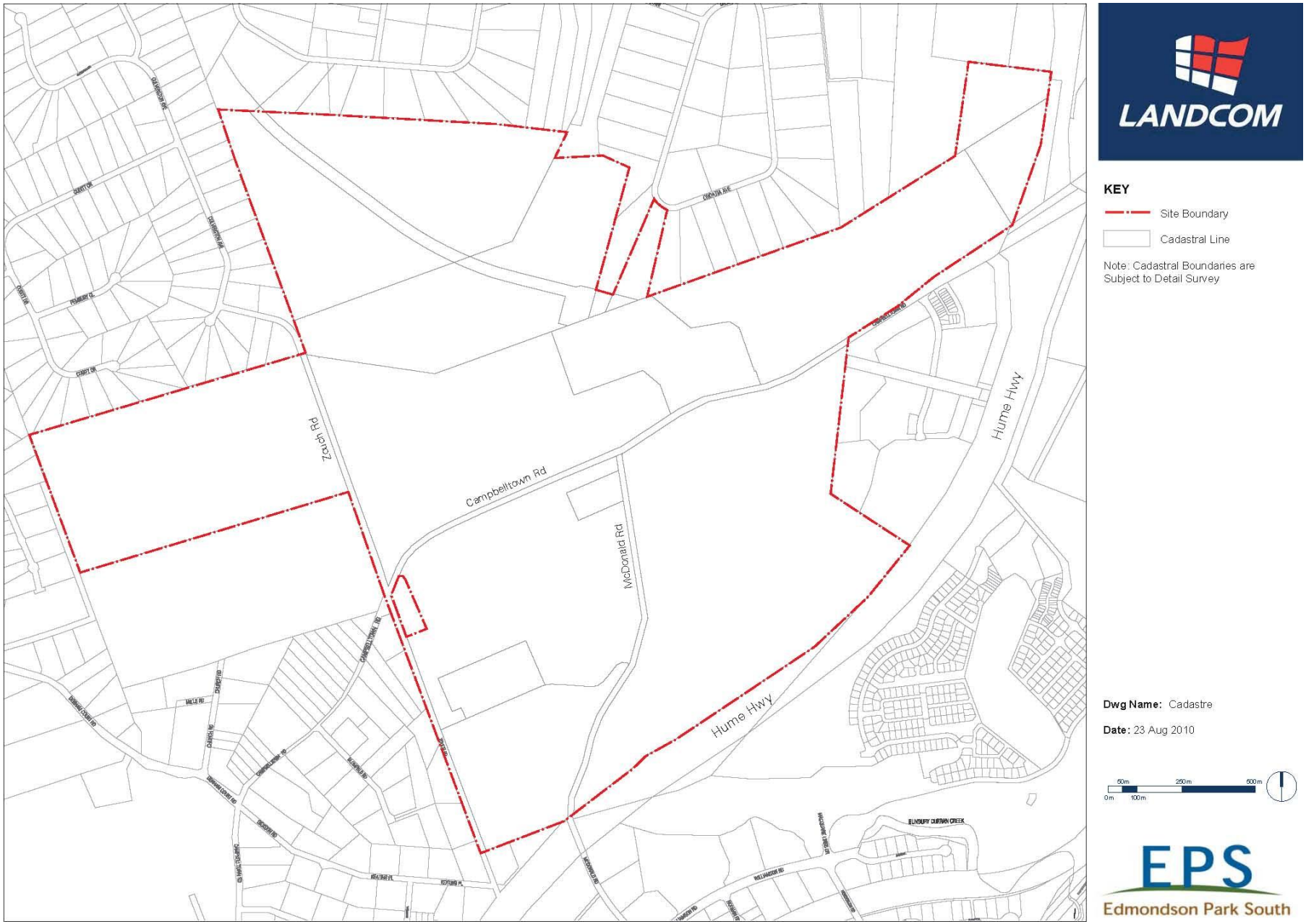

Figure 3. Locality Plan: Edmondson Park South

1.3 Concept Plan

The Concept Plan establishes the overall planning framework for the site, including:

- land use type and distribution;
- a mix of housing types and densities (approximately 3,200 dwellings);
- concept location of and approximately 35,000 – 45,000 m^2 of retail / business / commercial floor space within the new Edmondson Park Town Centre;
- identification and location of open space and drainage corridors, environmental conservation lands (to form the new Regional Park), and local active and passive recreation facilities, including levels of embellishment;
- expanded Ingleburn North Primary School and new combined Primary/High School to the north of the site;
- road network layout;
- pedestrian and cycleway network layout;
- pedestrian bridge over the south western railway;
- Campbelltown Road corridor including the establishment of key intersection locations and configuration;
- utilities (including power, telecommunications and gas), infrastructure strategy, potable water strategy, sewer concept plan and water cycle management plan;
- location and dimensions of Bushfire Asset Protection Zones;
- appropriate interpretation of European and Aboriginal heritage located on the site;
- erection of signage and billboards;
- remediation works;
- decommissioning of the existing Sewerage Treatment Plant (STP); and
- demolition.

The Concept Plan also sets out an approval framework that will enable the carrying out of the works necessary to remediate the site in accordance with a Remediation Strategy without the need for undertaking further environmental assessment.

A variety of housing types is proposed to be delivered. This will provide for a range of housing price points and will include moderate income housing and housing for seniors.

It is proposed to develop the Edmondson Park South site progressively in stages over a 15-20 year period. The Concept Plan will address the staging and delivery of the overall development having regard to the progressive delivery of necessary infrastructure, services and facilities; and market demand.

The Concept Plan is accompanied by a proposal with respect to the future developer contributions framework for the provision of local facilities and services within the Liverpool and Campbelltown LGAs as well as State Infrastructure.

1.4 Project Application

The residential subdivision Project Application comprises:

- the creation of 206 residential lots, 4 super lots for future subdivision 15 Environmental Living lots and 3 lots for dedication to Campbelltown City Council as Public Reserve in 5 stages*;
- the dedication of roads to Campbelltown City Council;
- On-site works comprising:
    - tree removal;
    - earthworks including excavation, cut and fill;
    - design and construction of physical infrastructure, including roads, stormwater drainage and utility reticulation, traffic management works, establishment of open space areas;

- retaining walls as determined during detailed design;
- design and construction of staged stormwater water quantity and quality infrastructure to achieve objectives required by the Water Cycle Management (WCM) strategy for the greater site;
- demolition of all existing structures;
- erosion and sediment control to areas of roadworks and bulk earthworks including provision of temporary sedimentation ponds and diversion drains;
- design and construction of an ornamental pond;
- landscaping of road reservations;
- erection of signage and billboards; and
- embellishment of open space.

- Off-site works comprising:
  - construction of the sewer lead in from the Sydney Water carrier main at Ash Road;
  - upgrade of overhead mains and construction of electrical lead-in feeders from the existing zone substation at Prestons;
  - connection to utility services, potable and recycled water, electricity, gas and telecommunications in Campbelltown and MacDonald Roads;
  - connection to existing stormwater drainage;
  - tree removal;
  - earthworks including excavation, cut and fill;
  - design and construction of physical infrastructure, including roads, stormwater drainage and utility reticulation, traffic management works, including the connection to the existing MacDonald Road;
  - design and construction of staged stormwater water quantity and quality infrastructure to achieve objectives required by the Water Cycle Management (WCM) strategy for the greater site;
  - erection of an acoustic wall;
  - erection of signage and billboards;
  - extension or relocation of existing services including potable and recycled water, gas, telecommunication, power;
  - demolition of all existing structures; and
  - proposed new intersection to existing Macdonald Road.

It is intended to seek staged Construction Certificates as necessary to facilitate the efficient delivery of each phase of the development works.

The first stage residential Project Application will include the proposed construction of a gravity sewer line through the future Regional Park.

* A number of residue lots will be created in undertaking the Project Application, the number of lots identified in the above description relate to the ultimate number of lots that will be created in the Project Application.

1.5 Planning Background

The Edmondson Park Release Area, including the site, has been the subject of broad strategic planning investigation and environmental assessment over a number of years by Liverpool and Campbelltown City Councils, the Department of Planning, the Department of Defence (the current landowner of the Ingleburn Army Base) and Landcom (owner of certain lands).

The whole of the Edmondson Park Release Area has been released for urban development by the Minister for Planning. Part of the site; the Ingleburn Army Camp, is currently the subject of a 'delayed' rezoning for urban purposes under Liverpool Local Environmental Plan 2008 and Campbelltown (Urban Area) Local Environmental Plan 2002.

In June 2010 the Minister for Planning considered a Preliminary Assessment Report for the Edmondson Park South Project that provided justification for the planning, assessment and delivery of the project to occur under Part 3A of the EP&A Act, having regard to the demonstrated contribution that the project will have to achieving State and regional planning objectives.

Subsequently, on the 23 July 2010, pursuant to Clause 6 of SEPP Major Development, the Minister for Planning formed the opinion that the Edmondson Park South Project constitutes a Major Project to be assessed and determined under Part 3A of the EP&A Act, and also authorised the submission of a Concept Plan for the site. In doing so, the Minister also formed the opinion that a State significant site (SSS) study be undertaken to determine whether to list the site as a State Significant site in Schedule 3 of SEPP Major Development.

The Part 3A process under the EP&A Act allows for the Edmondson Park South Project to be planned, assessed and delivered in an holistic manner, with a uniform set of planning provisions and determination by a single consent authority.

This report has been prepared to fulfil the Environmental Assessment Requirements issued by the Director General for the preparation of a separate Environmental Assessment to accompany the first stage residential Project Application.

Specifically, this report addresses the following requirements:

(2) Identify and assess the impacts of the proposal on Aboriginal heritage significance in accordance with the draft *Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC, July 2005).* Consultation requirements are to be informed by the *Interim Aboriginal Community Consultation Guidelines*.

(3) Assess the proposal against the Aboriginal Heritage Management Plan prepared for the Edmondson Park Precinct.

In accordance with the Director General's Requirements this Aboriginal Cultural Heritage Assessment Report has been prepared following consultation with the following agencies:

- Local Aboriginal Land Councils

1.6 Government Agency Requirements

The Director General's Requirements (DGRs) also specify consultation with government agencies. For the Aboriginal cultural heritage assessment this has included incorporation of comments provided by the Department of Environment, Climate Change and Water and the Heritage Branch of the Department of Planning.

1.6.1. Department of Environment, Climate Change and Water Assessment Requirements

The Department of Environment, Climate Change and Water (DECCW) provided comments to the Department of Planning (DoP) for consideration in the preparation of the DGRs (letter dated 26 July 2010). Comments were made on a number of issues to be addressed in the environmental assessment, including staging of development, biodiversity, noise, Aboriginal heritage, flooding, bushfire risk, land contamination, infrastructure and outstanding issues.

Specific to the assessment of Aboriginal cultural heritage, DECCW stated that:

> An Aboriginal Heritage Management Plan has been prepared for the precinct. This provides valuable contextual information for assessment of impacts on Aboriginal Cultural Heritage and is referenced in the PEA (Preliminary Environmental Assessment), but not the draft DGR's. It is recommended that this document be referenced in the DGR's.

DoP adopted this requirement for the environmental assessment. The DGRs included a requirement to "assess the proposal against the Aboriginal Heritage Management Plan prepared for the Edmondson Park Precinct".

This Aboriginal cultural heritage assessment report refers to the Aboriginal Heritage Management Plan (AMBS 2003) both as contextual information for identified Aboriginal cultural heritage values within the study area, as well as assessing the consistency of the project application and concept plan against the management plan.

DECCW also specified that:

> DOP should clarify for the applicants which consultation guidelines the applicant should follow in consulting with Aboriginal people – the superseded *DECCW Interim Guidelines*, or the current *ACH consultation requirements for proponents 2010*. The Part 3A *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC 2005)* refer to the interim guidelines, however all future AHIPS will be assessed in accordance with the current *ACH consultation requirements for proponents 2010*. On this basis, reference to the current guidelines is recommended.

The DGRs clarify that "consultation requirements are to be informed by the *Interim Aboriginal Community Consultation Guidelines*".

As such, the consultation process for this Aboriginal cultural heritage assessment has been undertaken in accordance with the Interim Community Consultation Requirements for Applicants.

1.6.2. Heritage Branch Assessment Requirements

The Heritage Branch of the NSW Department of Planning also provided a number of comments relating to both Aboriginal and Historical heritage for consideration in the preparation of the DGRs (letter dated 20 July 2010).

Specific to Aboriginal heritage, the Heritage Branch stated that the assessment should:

> (1) Identify and assess the impacts of the proposal on the heritage significance of the area in accordance with the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC, July 2005).

The DGRs adopted this requirement. As such, this Aboriginal cultural heritage assessment report has been prepared in accordance with the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC 2005).

The Heritage Branch also suggested the DGRs include the requirement to:

> (4) Assess the consistency of the proposal with the recommendations of the *Hoxton Park Recycled Water Scheme, Western Sydney, NSW – Ingleburn Army Camp – Archaeological Assessment and Statement of Heritage Impact*, prepared by Austral Archaeology (dated 2008) in terms of impacts on identified archaeological potential of this part of the study area.

While this requirement was not specifically referenced in the DGRs, the results of the Austral (2008) Aboriginal Archaeological and Cultural Heritage Assessment (Updated) were considered as part of this Aboriginal cultural heritage assessment (see section 6). In summary, Austral (2008) surveyed two small areas within the current study area (Austral 2008: Survey Units 4 and 5). Austral commented both areas were heavily disturbed and posed no Aboriginal archaeological constraints to the proposed Hoxton Park recycled water scheme.

The Heritage Branch also required the assessment to:

> (6) Assess the consistency of the proposal with the recommendations of *South West Rail Link – Glenfield to Leppington Rail Line: Aboriginal Heritage Assessment*, prepared by AMBS (dated 2010) in terms of identified Aboriginal heritage values of this part of the study area.

Similarly to the above point, this recommendation was not incorporated specifically into the DGRs. However, the findings of the AMBS (2010) report as they relate to the current study area have been incorporated in this Aboriginal cultural heritage assessment. Recommendations made by AMBS (2010) pertain to the impacts of the proposed rail link only. There are a number of Aboriginal heritage sites within the rail corridor that extend beyond the boundaries of the rail corridor into the study area. Therefore recommendations made by AMBS (2010) for those sites have been considered in relation to their consistency with the current proposal.

1.7 Project Scope

1.7.1. Aboriginal Cultural Heritage Assessment Requirements

The Director General's Requirements (DGRs) for the project specify that the assessment of Aboriginal cultural heritage is to be undertaken in accordance with the draft *Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC, July 2005).

These guidelines identify the important factors to be considered by proponents when assessing potential impacts on Aboriginal cultural heritage specific to development applications being assessed under Part 3A of the *Environmental Planning and Assessment Act 1979*. The guideline states that:

> The objective of the assessment process is to provide information to enable decision makers to ensure that developments have considered the following:
> - information regarding the significance to those Aboriginal people with a cultural association with the land of any Aboriginal cultural heritage values on which the proposed activity is likely to have an impact;
> - the views of those Aboriginal people regarding the likely impact of the proposal on their Aboriginal cultural heritage;
> - any measures which could be implemented to avoid, mitigate or offset the likely impact(s); and
> - any justification for any likely impact(s), including alternatives considered for the proposal (DEC 2005:1).

To achieve these objectives, the guideline establishes a number of steps in the assessment process. These are:

Step 1: Preliminary assessment
Undertake a preliminary assessment to identify whether there are Aboriginal cultural heritage values associated with the subject site and determine if the project is likely to have an impact on Aboriginal cultural heritage.

Step 2: Assessment information
Bring together various information sources relevant to an holistic assessment of Aboriginal cultural heritage values, including:
- social/cultural information;
- landscape information;
- archival documentation, including historical, ethnohistorical and heritage database sources; and
- archaeological information.

Step 3: Integration of information and identification of heritage values
Synthesise information gathered in above steps and through community consultation to provide an integrated description of the cultural landscape and the range of heritage values present on the subject site. This may include areas, places, landscapes, features and sites. This information provides the basis for the assessment of values (significance) to support the recommendations for avoidance, management and mitigation.

Step 4: Information regarding the proposed development
Identify the nature and extent of the development and impacts on the Aboriginal heritage values across the development area.

Step 5: Integration of assessment with proposed development
Assess cultural values in relation to impact of development to identify specific management outcomes.

Step 6: Management strategy for Aboriginal heritage
Outline specific management outcomes arising from the above assessment steps for the management of Aboriginal heritage in both the short and long term.

Aboriginal community consultation
Consultation with Aboriginal communities regarding the proposed development and management of Aboriginal heritage is ongoing throughout the assessment process. The DGRs state that "Consultation requirements are to be informed by the *Interim Aboriginal Community Consultation Guidelines*".

1.7.2. Report Structure

To meet the requirements of the guideline as per the DGRs for the Environmental Assessment, the Aboriginal cultural heritage assessment process and structure of the report reflects these various steps. As such the report includes:

- introduction, project background and scope of assessment (Chapter 1);
- overview of the Preliminary assessment (Chapter 2);
- Aboriginal community consultation process and description of social / cultural information and values (Chapter 3);
- landscape information (Chapter 4);
- archival documentation information (Chapter 5);
- archaeological investigation information (Chapter 6);
- integration of background information, identification of heritage values and significance (Chapter 7);
- information on the proposed development and assessment of impacts (Chapter 8);
- integration of assessment with proposed development to identify management outcomes and presentation of a management strategy for Aboriginal heritage (Chapter 9).

2 Preliminary Assessment

The Edmondson Park Release Area, including the subject site, has undergone extensive and broad strategic planning investigation and environmental assessment over a number of years to ascertain its suitability for rezoning and future urban uses. This has been engaged by Liverpool and Campbelltown City Councils, the Department of Planning, the Department of Defence and Landcom.

As part of the master planning process for the rezoning of the site a number of key environmental and land use planning issues have been assessed, including biodiversity and conservation, site suitability, urban design and structure, transport, access, infrastructure (both physical and social), contaminated land, geotechnical stability, noise, water management, flooding, bushfire and heritage.

An Aboriginal Heritage Management Plan was prepared for the whole of the Edmondson Park Release Area as part of the Master Planning process for Liverpool and Campbelltown City Councils (Australian Museum Business Services 2003). This built on the investigations previously undertaken in various parts of the release area, most notably the Defence lands, and identified additional archaeological sites and Aboriginal heritage values across the release area in consultation with the local Aboriginal community.

The Management Plan combined the processes and results of a preliminary Aboriginal heritage assessment (Phase One) and identified broad scale management outcomes to guide the future planning of the Edmondson Park Release Area (Phase Two).

The broad scale strategies as identified in the Management Plan were used in the formulation of the Master Plan for the Edmondson Park Release Area and adopted by Liverpool and Campbelltown City Councils to guide the future development of the release area in consideration of and appropriate measures in relation to Aboriginal cultural heritage.

The results of the preliminary assessment and broad scale Management Plan for the Master Planning process reveal that there are both archaeological and Aboriginal cultural heritage values associated with the Edmondson Park Release Area, including the subject site.

The Phase One preliminary assessment identified a number of previously recorded archaeological sites through desktop review and site inspection. The preliminary assessment incorporated the collation and examination of information on landscape, historical information, archival documentation, land use history, archaeological information and the cultural and social values attached to the Edmondson Park Release Area to form an understanding of the cultural landscape within the release area.

Most of the release area is cleared land, with remnant areas of regrowth. While much of the northern part of the release area has been cleared and farmed, including grazed and ploughed, resulting in some disturbance to the topsoils, by far the major land use of the area resulting in significant ground disturbance is the former Ingleburn Military Camp, which covers the majority of the part of the release area to the south of Campbelltown Road and between Zouch Road and Campbelltown Road. The Army Camp lands have been used for a variety of purposes resulting in a range of land use disturbances, including buildings, rifle range, grenade range and stripped tracks. Previously recorded sites had predominantly been identified within areas of lesser disturbance.

The degree of disturbance across the Edmondson Park Release Area was considered in the preliminary assessment and formed part of the Aboriginal heritage management plan (AMBS 2003). Following initial land grants in the early nineteenth century, the study area was predominantly used for rural activities. Vegetation clearance and associated localised surface sediment movement would have had the largest impact on the area during this period. The most dramatic land use change and large scale surface disturbance occurred with the establishment of the Ingleburn Military Camp in 1939.

The establishment of the military camp involved the construction of over three hundred buildings and associated infrastructure including roads, unsealed tracks, munitions firing areas, drainage, sporting fields, etc. As part of the Land Capability Assessment for the Edmondson Park Release Area, Geotechnique (2003) reviewed four aerial photos of the site dating from 1947, 1961, 1970 and 1986. The densely packed structures, roads, and numerous unsealed tracks are clearly visible across the centre of the current study area.

AMBS (2003) noted that land within the Ingleburn Military Camp had been severely impacted. Areas immediately bordering the camp infrastructure, such as Maxwells Creek in the southeast of the study area, were found to demonstrate low to moderate ground disturbance (AMBS 2003: Figure 2). Within the current study area, AMBS (2003) identified only land immediately bordering Maxwells Creek in the northeast and two isolated pockets towards the centre as exhibiting no apparent surface disturbance.

In addition to physical surface disturbance from the military camp infrastructure, Geotechnique (2003:20) listed some of the less obvious but quite significant disturbance/contamination across the study area including:

- unidentified buried waste and buried objects across the main site area;
- unexploded ordinance (UXO);
- small arms range;
- maintenance compounds, fuel storage and workshops;
- up to twenty underground storage tanks (UST);
- transformers and switchgears around the site;
- contamination from leaded paint and other poisons; and
- fly tipped materials.

As such, while not necessarily visible on the surface, large portions of the current study area have been severely impacted by the construction and activities within the Ingleburn Military Camp during its operation.

Portions of the Edmondson Park Release Area, including the subject site, have been the subject of previous archaeological assessment for planning purposes (Smith 1989 and Dallas 1999). Both assessments identified a number of Aboriginal archaeological sites across the release area. These were all open sites containing stone artefacts (either isolated artefacts or scatters) predominantly associated with Cabramatta Creek and Maxwells Creek. A total of 18 sites had been recorded within the release area prior to the Phase One preliminary assessment, comprising 13 open artefact scatters and five isolated artefacts.

As part of the preliminary assessment, a survey of landforms likely to yield archaeological sites across the Edmondson Park Release Area revealed an additional 15 archaeological sites. In addition, consultation with the local Aboriginal community revealed several areas of cultural significance, most notably along Cabramatta Creek in the north west and Maxwells Creek in the south west of the release area.

Based on the results of the preliminary assessment, a total of 23 Aboriginal heritage sites have been identified within Edmondson Park South. These are listed in the table following. Five of these Aboriginal sites are located in the Stage 1 Project Application study area (including related infrastructure). These five sites are shaded in the table following.

Table 1. Preliminary assessment: Aboriginal heritage sites in the study area

Site Name	AHIMS Number	Site Type	Summary Description	Recorded by
MC-3	45-5-0780	Open artefact scatter	Recorded as scatter of 14 artefacts on Maxwells Creek, very high significance and potential for in situ archaeological deposit.	Smith (1989)
MC-4	45-5-0781	Open artefact scatter	Recorded as scatter of six artefacts on Maxwells Creek, low significance and minimal archaeological potential.	Smith (1989)
MC-5	45-5-0782	Open artefact scatter	Recorded as scatter of 41 artefacts on Maxwells Creek, very high significance and potential for in situ archaeological deposit.	Smith (1989)
MC-6	45-5-0783	Open artefact scatter	Recorded as scatter of 15 artefacts on Maxwells Creek, high significance and potential for in situ archaeological deposit.	Smith (1989)
MC-7	45-5-0784	Open artefact scatter	Recorded as scatter of four artefacts on Maxwells Creek, moderate significance and some archaeological potential.	Smith (1989)
DD 1	45-5-2455	Open artefact scatter	Recorded as scatter of two artefacts in disturbed area near Maxwells Creek, poor site condition, low significance and minimal archaeological potential.	Dallas (1999)
DD 2	45-5-2456	Open artefact scatter	Recorded as scatter of 35 artefacts in disturbed area south of the Ingleburn Military Camp, poor site condition, low significance and minimal archaeological potential.	Dallas (1999)
DD 3 (Stage 1)	45-5-2457	Open artefact scatter	Recorded as scatter of 114 artefacts near Maxwells Creek, some disturbance however areas of low –moderate potential for undisturbed subsurface deposit. Test excavation recommended.	Dallas (1999)
DD 4 (Stage 1)	45-5-2458	Open artefact scatter	Recorded as scatter of two artefacts on tributary of Maxwells Creek, moderate to high significance and good archaeological potential. Test excavation recommended.	Dallas (1999)
DD 5	45-5-2459	Open artefact scatter	Recorded as scatter of 12 artefacts in vegetated Defence land west of Zouch Road, associated with Cabramatta Creek tributaries, poor site condition due to disturbance, some archaeological potential.	Dallas (1999)
DD 6	45-5-2460	Open artefact scatter	Recorded as scatter of 17 artefacts in vegetated Defence land west of Zouch Road, associated with Cabramatta Creek tributaries, good site condition, high significance and high archaeological potential. Conservation recommended.	Dallas (1999)
ISF 1	Not registered	Isolated artefact	Isolated artefact near Maxwells Creek, low significance, no archaeological potential.	Dallas (1999)
ISF 2	Not registered	Isolated artefact	Isolated artefact near Maxwells Creek, low significance, no archaeological potential.	Dallas (1999)
ISF 3 (Stage 1)	Not registered	Isolated artefact	Isolated artefact near tributary of Maxwells Creek, low significance, no archaeological potential.	Dallas (1999)
ISF 4	Not registered	Isolated artefact	Isolated artefact in vegetated Defence land west of Zouch Road, low significance, no archaeological potential.	Dallas (1999)
EPCS 3	Not registered	Open artefact scatter	Recorded as scatter of four on tributary of Maxwells Creek, high significance and potential for in situ archaeological deposit.	AMBS (2003)
EPCS 4	Not registered	Open artefact scatter	Recorded as scatter of three artefacts on low slopes above tributary of Maxwells Creek, high significance and potential for in situ archaeological deposit.	AMBS (2003)
EPCS 8	Not registered	Open artefact scatter	Recorded as scatter of two artefacts in disturbed area on tributary of Maxwells Creek, low significance and low potential for in situ archaeological deposit.	AMBS (2003)

Site Name	AHIMS Number	Site Type	Summary Description	Recorded by
EPCS 9	Not registered	Isolated artefact	Isolated artefact in disturbed area on low slopes above tributary of Maxwells Creek, low to moderate significance and potential for in situ archaeological deposit.	AMBS (2003)
EPCS 10	Not registered	Isolated artefact	Isolated artefact in disturbed area on low slopes above tributary of Maxwells Creek, low significance and no potential for in situ archaeological deposit.	AMBS (2003)
EPCS 11	Not registered	Open artefact scatter	Recorded as scatter of two artefacts in disturbed area on hill peak/ridge top above tributary of Maxwells Creek, low significance and no potential for in situ archaeological deposit.	AMBS (2003)
EPCS 12 (Stage 1)	Not registered	Open artefact scatter	Recorded as scatter of five artefacts in disturbed area on hill peak/ridge top south of the Ingleburn Military Camp, low to moderate significance and minimal potential for in situ archaeological deposit.	AMBS (2003)
EPCS 14 (Stage 1)	Not registered	Open artefact scatter	Recorded as scatter of two artefacts in disturbed area on hill slope above tributary of Maxwells Creek, low significance and minimal potential for in situ archaeological deposit.	AMBS (2003)

While many of the recorded sites represent low density artefact scatters, various landforms and areas of limited disturbance were identified as having higher sensitivity in relation to Aboriginal heritage. For the study area, these included high points overlooking more permanent creeklines associated with Cabramatta Creek and Maxwells Creek, the middle and southern arms of Maxwells Creek and the vegetated reserve to the west of Zouch Road.

Statements of cultural significance incorporated into the preliminary assessment confirmed these areas of high archaeological sensitivity were also areas of high cultural value. Specific recommendations were provided in relation to the cultural values associated with landscapes along Maxwells and Cabramatta Creeks incorporating sites MC-3 to 7, DD1 to 6 and EPCS 3, 4, 8, 9 and 10 (Stage 1 sites of higher value include DD3 and DD4).

Planning processes to date have considered identified Aboriginal heritage values and established management strategies to guide future development. Areas of high Aboriginal cultural heritage value have been retained where possible, within the proposed future Regional Park and local open spaces. The Preliminary Assessment and Management Plan also identified areas of opportunity for future development within the release area. The Preliminary Assessment has identified that the Concept Plan and detailed design of the first stage residential development will have an impact on Aboriginal cultural heritage. In accordance with the guidelines for Part 3A Environmental Assessment (DEC 2005), further stages of assessment and consultation is required to complete the Environmental Assessment process.

3 Aboriginal Community Consultation and Social / Cultural Information

3.1 Consultation Process

Consultation with the local Aboriginal community is a key part of the assessment process. Consultation with Aboriginal community groups and/or individuals registered as stakeholders for the project is essential for identifying the Aboriginal cultural heritage sites, values, constraints and opportunities for the proposed development of the study area. Results of consultation feed into the identification and assessment of cultural heritage values, assessment of impacts of the development layout and resultant recommendations for management and mitigation.

In accordance with the guidelines for Aboriginal cultural heritage assessment in the environmental assessment process for Part 3A projects (DEC 2005), consultation with Aboriginal communities occurs throughout all stages of the assessment process. The guidelines state that "Guidance on consultation with Aboriginal people and communities can be found in the Interim Aboriginal Community Consultation Guidelines" (DEC 2005:4).

The applicability of the consultation process as outlined in the interim requirements was reaffirmed in the DGRs for the environmental assessment which state that:

> Consultation requirements are to be informed by the *Interim Aboriginal Community Consultation Guidelines*.

The *National Parks and Wildlife Act 1974: Part 6 Approvals, Interim Community Consultation Requirements for Applicants* (DEC 2004) outlines a process for consultation with the Aboriginal community as an integral part of impact assessment, specifically in relation to obtaining approvals under Part 6 of the National Parks and Wildlife Act. The process and principles of the interim requirements can be applied to engaging with the Aboriginal community in the assessment of significance and impacts of development proposals.

In accordance with the interim requirements, the consultation process provides Aboriginal communities with the opportunity to:

- influence the design of the assessment;
- provide relevant information on the cultural significance and values of Aboriginal objects and places;
- contribute to the development of cultural heritage management recommendations; and
- provide comment on the draft assessment report.

As outlined in the interim requirements there are three key phases of Aboriginal community consultation for the assessment process:

1. notification and registration of interest (identifying stakeholders groups or individuals for consultation on the project);
2. preparing for the assessment (including informing Aboriginal people about the project; identifying cultural heritage sites, features and values present; consideration of significance and impacts; and identifying acceptable mitigation measures where impacts cannot be avoided);
3. provision of a draft Cultural Heritage Assessment Report for review and comment.

3.2 Stakeholder Identification

The first stage of the consultation process is to identify, notify and register Aboriginal stakeholder groups or people who wish to be consulted about the project. In accordance with the interim requirements Landcom has sought to do this through both an advertisement and written notification process.

Landcom placed an advertisement in the local newspapers circulating in the general location of the project, including The Liverpool Champion (distribution covers suburbs in the Liverpool LGA), with the notice also being printed in their syndicated paper the South West Rural Advertiser (distribution covers all the rural and rural residential lands in the region including Denham Court) on Wednesday 23rd June 2010 (refer Appendix A). The advertisement provided a brief overview of the proposed project, the name and contact details of the proponent, a statement of the purpose of Aboriginal community consultation, an invitation for Aboriginal people who hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places in the study area to register their interest in the consultation process and a closing date for registration of interest (14 days from the date it appeared). Landcom advised there were no responses to the advertisement.

Written notification was also provided to a number of organisations as listed in the interim requirements (DEC 2004) seeking to identify Aboriginal stakeholder groups or people to be consulted in the process. These included:

- Tharawal Local Aboriginal Land Council;
- the Registrar, *Aboriginal Land Rights Act 1983* for a list of Aboriginal owners;

- Native Title Services Corporation Limited (NTSCORP Limited);
- Liverpool City Council;
- Campbelltown City Council; and
- Department of Environment, Climate Change and Water (DECCW).

A response from the Office of the Registrar, *Aboriginal Land Rights Act* (1983) (letter dated 29 July 2010) advised that there are no Registered Aboriginal Owners pursuant to Division 3 of the *Aboriginal Land Rights Act* 1983 (NSW) for the project area. It was suggested the Gandangara and Tharawal Local Aboriginal Land Councils be contacted for the project.

NTSCORP Limited advised (via email, 26 July 2010) that they are unable to provide information or contact details of traditional owners in NSW due to privacy reasons. They offered to forward correspondence to any groups, organisations of individuals who they are aware assert traditional interests in the area inviting them to directly register any interest they may have in the project.

Liverpool City Council (letter dated 27 July 2010) provided a list of Aboriginal people within the Liverpool area, who may hold cultural knowledge of Edmondson Park South, including Tharawal Local Aboriginal Land Council (whose boundaries cover the study area) and a number of other local Aboriginal organisations.

DECCW (letter dated 26 July 2010) provided a list of Aboriginal stakeholders within the Liverpool LGA known to DECCW that may have an interest in the project.

Following compilation of advice on seeking registration of interest in the project, a number of Aboriginal groups have been identified which may have an interest in the project:

- Tharawal Local Aboriginal Land Council;
- Cubbitch Barta Native Title Claimants Aboriginal Corporation;
- Darug Tribal Aboriginal Corporation;
- Darug Custodian Aboriginal Corporation;
- Darug Aboriginal Cultural Heritage Assessments;
- Darug Land Observations;
- Darug Aboriginal Land Care Inc;
- Yarrawalk;
- Hoxton Park Elders Group;
- Miller Aboriginal Men's Group; and
- Liverpool Aboriginal Consultative Committee.

A draft of the Aboriginal cultural heritage assessment report (CHAR) has been provided to each Aboriginal group for their review and comment. The results of the draft CHAR were also presented at an Aboriginal Focus Group meeting held at Landcom's offices at Parramatta on Thursday 16th September 2010. Each group was invited to attend to seek confirmation regarding their interest in registering as an Aboriginal stakeholder for consultation on the project, provision of cultural information to be considered in the Aboriginal cultural heritage assessment of the study area, significance assessment, impact assessment and identification of appropriate management and mitigation strategies for incorporation into the final CHAR.

3.3 Consultation with the Local Aboriginal Land Council

The requirements for the environmental assessment (EA) for the Edmondson Park South Stage 1 Project Application (and Concept Plan) issued by the Director-General of the Department of Planning NSW specify that:

> During the preparation of the EA, the proponent must undertake an appropriate and justified level of consultation with relevant parties.

Listed relevant agencies include:

- Local Aboriginal Land Councils

The subject site is within the boundaries of the Tharawal Local Aboriginal Land Council (TLALC). Tharawal Local Aboriginal Land Council has been consulted and involved in all stages of planning-related Aboriginal heritage assessments of the subject site, including the preparation of the Aboriginal Heritage Management Plan for the Edmondson Park Release Area. A letter has been sent notifying the Land Council of the project, providing a brief project description and inviting Land Council provision of information for the assessment and consideration by Department of Planning in relation to the Project Applications and Concept Plan. No formal response has yet been received from the Land Council. The Land Council will continue to be consulted throughout the consultation and assessment process.

3.4 Aboriginal Cultural Heritage Values

Aboriginal community consultation has been a component of all previous assessments of the subject site for planning purposes. The Liverpool release areas (city-wide) assessment carried out in 1989 involved participation of both the Gandangarra and Tharawal Local Aboriginal Land Councils (Smith 1989:73-74). The preliminary archaeological assessment of the Department of Defence land (Dallas 1999) involved consultation with Tharawal Local Aboriginal Land Council and Cubbitch Barta Native Title Claimants Aboriginal Corporation. The Land Council representative "indicated that there were no previously known places of special Aboriginal or cultural significance, within the study area" (Dallas 1999:5). The attached Land Council report (Dallas 1999: Appendix 3) stated, however, that "Aboriginal sites, regardless of their type, location, stature, size and number are the windows that identify the relationship of Aboriginal People with Land and Country. This reflects on the responsibility in Cultural Heritage and Tharawal Local Aboriginal Land Council's policy is to maintain the integrity and respect of our Aboriginal Sites, Areas and Places. … We recognise the disturbance of the survey areas may reflect a poor or low scientific significance towards a assessment of them. This is not necessarily the assessment value acknowledged by the Land Council".

The Cubbitch Barta report appended to the assessment report of the Defence land (Dallas 1999: Appendix 3) also affirmed the cultural values of the area, both in association with recorded archaeological sites and documented historical values. It was stated that "All Aboriginal sites are a link to our past and present heritage and … our ancestors used every part of this land, therefore no site should be destroyed for any reason. These sites tell the story or (sic) our culture and our history" (Dallas 1999: Appendix 3). It was, however, indicated that the isolated artefacts and site DD 1 were not considered to have any further archaeological potential and if impacted by future development then they should be collected. Sites DD 2, 3, 4, 5 and 5 were considered to have further potential and were recommended for conservation, or test excavation if they were to be impacted. Cubbitch Barta also referred to an historically documented corroboree at nearby Denham Court, stating that "the area known as Denham Court lays within a very close proximity to this area of land for development, so has been well documented as being used by the local Aborigines as late as the 1850s's, as a meeting place for corroborees to take place" (Dallas 1999: Appendix 3).

The preliminary assessment of the Edmondson Park Release Area and development of the broad Aboriginal heritage management strategy for the rezoning and layout of the release area (AMBS 2003) involved consultation and participation of the Tharawal Local Aboriginal Land Council and Cubbitch Barta Native Title Claimants Aboriginal Corporation. The consultation process included on-site inception meeting and site familiarisation visit, discussion on how best to undertake a cultural assessment of the study area landscape to identify cultural values in addition to archaeological values and formulate the survey methodology. A four day field survey program was subsequently carried out with representatives of both the Land Council and Cubbitch Barta. The results of the survey were presented in a Phase One report and provided to the groups with a preliminary constraints map for review and comment and discussed to confirm areas of archaeological and cultural sensitivity. A draft of the Aboriginal heritage management plan (Phase Two report) was subsequently provided for a review and discussion, including two meetings, of proposed broad scale management zones for Aboriginal cultural heritage.

Input from the local Aboriginal community was fundamental to the development of the master plan for the Edmondson Park Release Area and the conservation of Aboriginal heritage was a key factor of consideration by Liverpool and Campbelltown City Councils for the rezoning of the land.

3.4.1. Consistency with Aboriginal Heritage Management Plan

From the consultation process for the preliminary assessment, it is clear that the Edmondson Park Release Area holds considerable cultural value. The Edmondson Park Release Area was considered to be representative of a greater landscape used by Aboriginal people over time, rather than simply a number of individual sites. Cubbitch Barta expressed that historically corroborees had taken place locally in the 1800s (AMBS 2003:22).

Some of the specific areas of value identified during the preliminary assessment included:

- landscapes along Maxwells Creek and Cabramatta Creek, associated with recorded archaeological sites;
- Maxwells Creek confluence, flats and low slopes associated with sites DD 1 and EPCS 4 was identified as having high cultural value and potential for subsurface deposits;
- the spread of artefacts along the southern arm of Maxwells Creek, associated with sites DD 2, 3 and 4;
- elevated potions of the study area in close proximity to water and associated resources; and
- the area west of Zouch Road containing sites DD 5 and 6, including ecological values

As a result of the preliminary assessments, it was generally recommended that Aboriginal cultural heritage values be weighed equally as important as other values such as ecological, social and development

principles. Ongoing involvement of the local Aboriginal community was recommended for future decision-making on the conservation and mitigation of Aboriginal heritage and recognition of Aboriginal cultural values associated with archaeological sensitive landscapes as well as their relevance to Aboriginal communities as a link with the past (AMBS 2003:27).

Preservation of larger areas which incorporate a variety of values (e.g. ecological, archaeological and cultural) was recommended through the retention of existing creeklines and surrounding rises where the most sensitive material was thought to occur (AMBS 2003:27). It was specifically noted that the corridor through which two major linear developments are proposed undermines the environmental and cultural values of that area (AMBS 2003:27).

As part of the preliminary assessment and preparation of the Aboriginal Heritage Management Plan (AMBS 2003) Tharawal Local Aboriginal Land Council (in a letter to Liverpool City Council dated 17 February 2003) recommended that:

- in general, impact on areas determined to be of moderate to high in significance including creek lines and associated flats and low slopes should be avoided;
- where avoidance of areas of high and/or moderate sensitivity was not feasible, further consultation was recommended to determine appropriate management strategies;
- targeted excavation should be undertaken to further define the extent and nature of the archaeological deposit (and or potential archaeological deposit);
- further survey of the EPCS was not warranted given the archaeological work previously undertaken on site; and
- in areas of low archaeological sensitivity (where recorded archaeological sites have been identified with little archaeological potential) it is recommended that, with the support of the local Aboriginal community groups, consent to destroy should be sought.

Cubbitch Barta also provided recommendations which were adopted into the preliminary assessment and Aboriginal Heritage Management Plan (AMBS 2003) for the Edmondson Park Release Area. Recommendations for Aboriginal heritage sites within the present study area are outlined below:

- sites DD3, DD5 and DD6 were considered to be significant and in recognition of their significance they had been included previously by Department of Defence in areas of conservation.
- In relation to sites MC 3, 4, 5 and 6, DD 1, 2, 3 and 4 and EPCS 12 and 14 (some of which are located within Stage 1) , it was stated that:

  "This area has a high cultural significance, and all attempts should be made to avoid this area. It would appear the site DD 1 will be impacted by the proposed rail line. The sites recorded as DD 2, DD 3 and DD 4, are spread in such a way that it is possible that this area is a continual line of visible artefacts along this creek line, and the another area with the sites recorded as MC 3, MC 4, MC 6 and MC 5, also appear to be on the same principle as the other sites in this zone. All these sites excepting EPCS 4 are also within the ecologically sensitive area.
  The sites identified as EPCS 12, 13, 14 & 15 are in a highly disturbed area" (G. Chalker in AMBS 2003: Appendix A).
- For sites MC 7, EPCS 3, 4, 9, 10 and 11 it was stated that:

  "This area has also been identified as having a high cultural significance, as well as ecologically sensitive, with the exception of EPCS 11, which is still within the medium sensitivity area identified. It would appear that most of this area is to be impacted by the proposed rail line. The site identified as EPCS 4 appears to be at the crossroads for the proposed rail line and the proposed transit way. There appears to be no way of avoiding this site, as per the present plan. The whole area should be avoided if at all possible, perhaps with further work within the area of EPCS 4 if it cannot be avoided" (G. Chalker in AMBS 2003: Appendix A).
- Site EPCS 8 was considered to be in a moderately significant area, on the fringe of a highly culturally significant area (which is outside the current study area).
- For sites DD 5 and DD 6 and the vegetated area in which they were situated, it was stated that:

  "This area has been identified as culturally and environmentally sensitive. As well as the two sites in this area, it also contains remnant Cumberland Plain Woodland … this area would remain intact, therefore the two sites would be preserved as they are" (G. Chalker in AMBS 2003: Appendix A).
- In conclusion, it was stated that:

  "The land which the proposed Edmondson Park is to be built, was the traditional land of the Dharawal people …. This area is important to the Dharawal people, because this is where one of the last recorded corroborees in the Sydney Region took place in 1850. Corroborees probably took place in this area on a regular basis, and the creek lines were used for camping by peoples from other groups, such as the Dharuk and Gundungurra, and from the North, South & West of the area" and that
  "This is just not a map with sites along the creek beds, this is a whole landscape that was used by Aboriginal people, who lived their lives in this landscape and left behind remnants of their lives and possibly deaths, that are yet to be discovered.
  These sites tell our history, and if we lose it all, what do we tell our children and grandchildren in the future" (G. Chalker in AMBS 2003: Appendix A).

These previously expressed cultural heritage values have been reflected in the zoning plans developed by Liverpool City Council and Campbelltown City Council as a result of the preparation of the Aboriginal Heritage Management Plan. The rezoning of the Edmondson Park Release Area and preparation of the Local Environmental Plans (LEPs) was based on comments and recommendations made at the time by the local Aboriginal community. The zoning requirements of the LEPs remain generally embodied in the Stage 1 Project Application (and Concept Plan) for the development of Edmondson Park South.

3.5 Cultural Heritage Assessment Report Review and Written Comments

Aboriginal community consultation regarding the project application for the first stage of development has been undertaken in accordance with the guidelines. The formal consultation process has included:

- advertising for registered stakeholders in local media (refer Appendix A);
- notification of closing date for registration;
- ongoing compilation of registrants list, through continuing to register individuals and groups for consultation on the project;
- Aboriginal Focus Group (AFG) meeting held at Landcom's offices in Parramatta on Thursday 16th September 2010; and
- ongoing consultation with the local Aboriginal community.

The details of the proposed future development and results of the assessment and draft CHAR were presented at the Aboriginal Focus Group meeting held on Thursday 16th September 2010. Each Aboriginal stakeholder group was invited to attend the meeting to discuss the development proposal and assessment. Discussions were centred around both the Concept Plan and Stage 1 development application area. The significance of the Edmondson Park South area culturally was expressed and specifically the importance of retaining some of the landscape particularly for future generations. Impacts and associated mitigation actions and the Part 3A process were discussed. A number of other topics were raised by Aboriginal stakeholders, associated with future employment opportunities, involvement in landscape design and future management of conservation areas including the regional park, opportunities for interpretive signage and where artefacts would go following recommended salvage excavation and collection activities. A specific issue was raised regarding the impact of the Stage 1 project application on site DD3. This site has been considered by some stakeholders as very important and that impact is not acceptable, even should salvage activities be undertaken. The proposed water facility which affects site DD3 was explained in that the aim is to remediate and revegetate this area as an artificial swamp/wetland to make it a more natural basin which will capture water to stop flooding further down the creek, assisting in water quality, rather than an unnatural basin of standing water. In addition, Landcom explained that the majority of work is above ground. The location of DD3 is also in an area used previously as a grenade range and has been significantly disturbed. Nevertheless, there remains an extensive spread of artefacts along the creek in that location and a salvage excavation has been recommended for the site. Stakeholders reiterated they would like to continue to be consulted and involved in the project.

The guidelines also require that "documentation from the Aboriginal community must be included in the final assessment report" (DEC 2005:4).

A draft of the Aboriginal cultural heritage assessment report (CHAR) was provided to each Aboriginal stakeholder for their review and comment. For those stakeholder groups that have been involved in the previous assessment, a request for any further comments was made. Written comments for incorporation into the final CHAR were requested, in accordance with DEC (2005) guidelines. Written comments specific to the Stage 1 project application were provided by three of the Aboriginal stakeholder groups: Cubbitch Barta Native Title Claimants Aboriginal Corporation, Darug Custodian Aboriginal Corporation (DCAC) and Darug Aboriginal Cultural Heritage Assessments (DACHA).

Cubbitch Barta (letter dated 3rd September 2010) specifically addressed the importance of the Edmondson Park area and disappointment that sites would be impacted by the development proposal. Of particular importance was site DD3:

> No one understands and acknowledges the extent and significance of some of the sites and especially the site known as DD3. I have been a part of what has been happening with this site now for a number of years …. This is the most important site in Edmondson Park, and I have said that now for many years. It should not just be culturally significant to Aboriginal people, but to the whole of the wider non-Aboriginal people.

Consequently, the impact to site DD3 was not supported by Cubbitch Barta.

Cubbitch Barta also stated that:

> some of the other sites warrant more than surface collection. The thinking seems to be that if we salvage the recommended sites, then the rest will not matter. That is not the case. There seems to be within this plan, no conservation at all.

Cubbitch Barta has requested amendments be made to the plan, increasing the conservation of sites. It was recommended:

> the whole of the landscape should be kept in context for educational purposes.

Following on from Cubbitch Barta's comments it should be noted that the overall development of Edmondson Park South does contain large sections of interconnected conservation areas in the form of a regional park (to be managed by DECCW). Several quality archaeological sites (e.g. MC3, MC5, MC6, DD1,and DD6) are located within the regional park and offer a long term conservation and educational outcome.

DCAC (letter dated 30th September 2010) confirmed that:

> the area of the Edmondson Park is a well known important area of Darug sites.

Following the review, DCAC concluded:

> we support the findings and recommendations set out in this report, we also support the proposed methodology for the management of sites within this development.

DCAC also expressed a recommendation for consideration as the development proceeds that:

> Darug heritage be included in the final stages of development, including signage, names and educational brochures and awareness where possible.

DCAC concluded by stating that:

> The recommendations within this report have listed outcomes for educational strategies and our group is pleased that this will be part of this project, it is standard practice for our group to also recommend this as one of our main aims is education on Darug areas, these are very important outcomes for Darug people.

DACHA (letter dated 27th September 2010) confirmed its interest as a stakeholder in the project.

DACHA member, Gordon Morton, is:

> a Native Title Claimant and this area is recognised as being part of my claim – Darug Country.

Based on a review of the report and proposed methodology for the salvage excavation program, DACHA expressed its support for the proposed works. Specifically, it was commented that:

> We are pleased to note the combination of open area and target area program as we have found from experience that flexibility is important for a good result.

DACHA confirmed that it would like to:

> be consulted at all times and … participate in all field work.

All written stakeholder comments provided throughout the assessment process are attached in full in Appendix B.

4 Landscape Information

4.1 Geology

The study area is located on the Cumberland Plain, a large low-lying and gently undulating landform in the Sydney Basin. The Sydney Basin is a large geological feature that stretches from Batemans Bay in the south, Newcastle in the north and Lithgow in the west. The formation of the basin began between 250 to 300 million years ago when river deltas gradually replaced the ocean that had extended as far west as Lithgow . The oldest, Permian layers of the Sydney Basin consist of marine, alluvial and deltaic deposits that include shales and mudstone overlain by Coal Measures. By the Triassic period the basin consisted of a large coastal plain, with deposits from this period divided into three main groups: the Narrabeen Group, Hawkesbury Sandstone and the Wianamatta Group (Clark and Jones 1991, Pickett and Alder 1997).

The underlying geology of the study area consisted of Bringelly Shale, Ashfield Shale, Minchinbury Sandstone and Quaternary deposits. Bringelly Shale, Ashfield Shale and Minchinbury Sandstone are late Triassic deposits from the Wianamatta Group – a sequence of deposits overlying the older Triassic Hawkesbury Sandstone and Narrabeen group deposits.

Bringelly Shale, the youngest deposit within the Wianamatta Group, occurs across the majority of the study area. Bringelly Shale consisted of shale, carbonaceous claystone, claystone, laminite, fine to medium-grained lithic sandstone, rare coal and tuff. The thin layer of Minchinbury Sandstone between Bringelly Shale and Ashfield Shale consisted of fine to medium-grained quartz-lithic sandstone. Ashfield Shale, the oldest layer of the Wianamatta Group, underlies the steeper slopes in the southwest corner of the study area. Ashfield Shale consisted of dark-grey to black claystone-siltsone and fine sandstone-siltstone laminite.

The Quaternary deposit was laid by fluvial activity during the late Pleistocene and early Holocene periods. This deposit occurred across the lower sections of Maxwells and Cabramatta Creeks within the study area, and consisted of medium grained sand, clay and silt. Archaeologically alluvial geology is conducive to artefact survivability and we can expect increase frequency of artefacts in such areas.

4.2 Soils and Landform

The study area was contained in three separate drainage systems divided by several low-lying ridge lines. The ridge lines originated from a system of higher, more prominent ridges to the west / southwest of the study area. The three drainage systems included Maxwells Creek, 1st and 2nd order tributaries of Cabramatta Creek and the headwaters of a tributary of Bunbury Curran Creek.

Soils across the study area were largely developed *in situ* from the underlying shale geology. The higher, steeper, southwest portion of the study area formed part of the erosional Luddenham soil landscape, a shallow to moderately deep soil with high erodibility (Bannerman and Hazelton 1990: 63).

The lower, undulating northern and western portions of the study area formed part of the residual Blacktown soil landscape, a shallow to moderately deep soil characteristic of the gently undulating terrain across the Wianamatta Group on the Cumberland Plain (Bannerman and Hazelton 1990: 28). Erosion across the Blacktown soil landscape was uncommon and limited to minor sheet wash and gully erosion in areas of vegetation removal.

The lower northeastern portion of the study area associated with Maxwells Creek, and southern portion associated with Bunburry Curran Creek, consisted of the fluvial South Creek soil landscape. This soil landscape was characteristic of many active floodplains across the Cumberland Plain, and consisted of Quaternary alluvium generally derived from the underlying Wianamatta Group shales (Bannerman and Hazelton 1990: 68). Archaeologically fluvial soils are conducive to artefact survivability and we can expect increase frequency of artefacts in such areas

4.3 Surface Disturbance

Large sections of the study area have been subject to extensive surface disturbance since the establishment of the Ingleburn Army Camp in 1939. The establishment of the army camp marked a dramatic change in land use, from largely pastoral activities since 1809, to an area covered with hundreds of structures, infrastructure and munitions firing areas. The construction and development of the army base has transformed much of the landscape in the central and southern portions of the study area, with widespread erosions associated with unsealed tracks, clearings, and extensive surface disturbance associated with built structures and munitions testing areas.

5 Archival Documentation Information

5.1 Historical Observations

The interaction between early British settlers and the local Aboriginal people varied between friendly and inquisitive to outright hostility. The official British policy was to gather information about the local inhabitants of the Sydney region, including scientific information, about what role they could play in the colony (Attenbrow 2002:13). The reality of the situation was the colony's expansion and establishment of farmland subsumed the traditional areas used to gather and hunt subsistence needs (Attenbrow 2002, Brook and Kohen 1991).

After their arrival in Sydney Cove in 1788, the British set about exploring the surrounding area. In the first three years of settlement this included visits to Broken Bay, Botany Bay, Rose Hill (Parramatta), Prospect Hill, and overland to the Nepean, Hawkesbury and Georges Rivers – essentially across most of the Cumberland Plain. During these explorations some of the British Officers, including Governor Phillip and Captain Watkin Tench, made a number of written observations regarding the local Aboriginal people that they met and travelled with (Attenbrow 2002:13).

These observations describe a number of named groups of Aboriginal people associated with particular areas of land around Port Jackson (Attenbrow 2002:22). These groups were described as 'tribes' in many of these observations, when in fact they were more likely small territorial clans or local clans consisting of extended family groups, forming larger land-using bands linked through marriage and communal participation in subsistence gathering activities (Attenbrow 2002:22, Brook and Kohen 1991:2). The British also noted a difference between the subsistence activities and dialect of the Aboriginal people along the coast compared with those further inland on the Cumberland Plain. Captain Tench observed when two Aboriginal men from the coast conversed with an Aboriginal man further inland 'they conversed on a par and understood each other perfectly, yet they spoke different dialects of the same language; many of the most common and necessary words used in life bearing no similitude, and others being slightly different' (Tench 1793:122).

The study area was located in somewhat of a transitional area between different language groups. The Georges River/Appin/Camden area has been used an arbitrary boundary between the Darug, Dharawal and Gundungurra language groups (Attenbrow 2002: 34). The Darug language was divided between coastal and hinterland dialects, and spread from Port Jackson west to the Cumberland Plain, the Gundungurra language was predominantly associated with the hinterland, and spread from the southern Cumberland Plain across the southern Blue Mountains, and the Dharawal language was largely associated with coastal groups, and spread from Botany Bay south to the Shoalhaven River and west to the Georges River area (Attenbrow 2002: 34).

None of the British observations from the late 18th and early 19th Century make reference to any name for the different dialects or wider language groups that they noted (Attenbrow 2002:33). It was only in the late 19th Century that the names Dharawal (also referred to as Turuwal, Thurrawal, and Thur'rawal), Gundungurra (also referred to as Gun'dungur'ra, Gun'-dung-ur'ra and Gun'-dung-ur-ra) and Darug (also referred to as Dhar'-rook, Dharrook, Dhar'rook, Dharruk, Dharook and Dharuk) was used to refer to the language of the traditional inhabitants of the Cumberland Plain (Attenbrow 2002:31). Attenbrow (2002: 34-35) notes that the boundaries of 'languages or dialects can only be indicative at best', partly because 'boundaries between language groups are not always precise lines'.

As well as differences in the dialect spoken between the coastal inhabitants and those further inland, the British also observed differences in subsistence activities. Brook and Kohen (1991:3) noted that 'the Dharug people were apparently divided into two distinct sub-tribes: those along the coast, who lived on fish; those inland, who were frequently referred to as the 'woods tribes''. Captain Tench recorded differences in the food eaten and methods used to acquire these resources between the inhabitants of the coast and those to the west of Rose Hill (Parramatta). On one occasion Tench observed a method of climbing trees for animals that involved cutting notches in the trunk and using these as toe-holds to climb the tree (Tench 1793:82). The ease with which the individual carried out this activity impressed the British and, Tench noted, also the two Aboriginal men from the coast who 'allowed that he was a capital performer, against whom they dared not to enter the lists; for as they subsist chiefly by fishing they are less expert at climbing on the coast than those who daily practice it' (Tench 1793:82).

Kohen (1986:77) explains that the Aboriginals who lived between Parramatta and the Blue Mountains were not as dependant on fish and shellfish as groups closer to the coast, but relied on small animals and plant foods in addition to seasonally available freshwater mullet and eels. Tench (1793:230) observed that 'they depend but little on fish, as the river yields only millets, and that their principal support is derived from small animals which they kill, and some roots (a species of wild yam chiefly) which they dig out of the earth'. These wild yams were found in considerable quantities along the banks of the Nepean and Hawkesbury Rivers. Berries, Banksia flowers and wild honey were also recorded as foods of the local inhabitants (Collins 1798 [Kohen 1985:9]). A particularly important plant food was the Burrawong (*Macrozamia communis*), which

provided a nutritious nut that was pounded and soaked in running water to leach out toxins before the flour-like extract was made into small cakes and baked over a fire (Kohen 1993:8).

Small animals provided the protein component of the Aboriginal diet on the Cumberland Plain, with hunting comprising a major economic role of the men. Along the river, traps and snares were set for bandicoots and wallabies, while decoys for snaring birds were also a commonly employed technique, 'these are formed of underwood and reeds, long and narrow, shaped like a mound raised over a grave, with a small aperture at one end for the admission of the prey' (Tench 1793 [Kohen 1985:9]). Possums and gliders were particularly common in the open woodland across the Cumberland Plain, and probably formed the main sources of animal food. These were hunted in a number of ways, including smoking out the animal by lighting a fire in the base of a hollow tree, burning large tracts of land and gathering the stranded animals, as well as cutting toe-holds in trees mentioned above (Kohen 1993:10; Tench 1793:82).

5.2 Local Ethnohistory

Some of the earliest British interest in the vicinity of the study area revolved around a herd of runaway cattle that escaped from the colony in July 1788. The cattle were extremely valuable to the fledgling colony, and after numerous attempts to locate them they were finally tracked down in 1795 to an area south of the Nepean (Liston 1988: 4). It was evident that in the seven years the cattle were missing from the colony, the local Aboriginal inhabitants of the Nepean area had come into contact with the cattle numerous times. There was a reported sighting of the cattle with Aborigines in 1790, and large paintings of cattle in a rock shelter site near Campbelltown, called 'Bull Cave' (Liston 1988: 3-4).

The search for the cattle revealed to the colony administration the quality of grazing land in the area, and the area became known as 'The Cow Pastures' (Liston 1988: 5). The first land grant in the area was in 1805 to Lieutenant John Macarthur, who was given a grant of 5,000 acres to breed sheep and export wool to England. The grant in an area bordering the Nepean River at what is now called 'Camden Park'. The next land grants in the area were four years later in 1809 when 34 land grants were issued in the vicinity of Georges River at Minto.

There were numerous interactions between the local Aboriginal population and the first European farmers in the region, with tension increasing during periods of drought, when conflict arose because traditional hunting and gathering areas were subsumed by the expansion of farmland. Many officials, including Governor Macquarie, often recognised that these issues were started by the settlers, but with the colony on a tentative footing, especially during periods of drought, he was more inclined to protect the interests of the farmers.

Violence escalated between settlers and the local Aboriginal people during a drought through the years 1814 – 1816 (Brook and Kohen 1993). Each case of violence reported from farms dotted around the Sydney region at Bringelly, Appin, along the Nepean and the Hawkesbury Rivers was similar, in that the local Aboriginal people had gone to their traditional food gathering areas, and when they found their usual resources gone, they used the resources that had replaced them, namely crops such as corn, and animals including sheep and cattle. The settlers, seeing this as theft, often shot the Aborigines. In retaliation, a number of settlers were also killed.

In response to the violence between the settlers and the local Aboriginal people across the Sydney region, in April 1816 Governor Macquarie ordered a punitive expedition to capture or kill those Aborigines involved in the skirmishes with settlers (Brook and Kohen 1993: 23). Three groups of soldiers were sent from Sydney to Cowpastures, the Airds and Appin district and to Parramatta, Windsor, the Grose and the banks of the Nepean respectively (Brook and Kohen 1993: 23).

Following the punitive expeditions of 1816, the Dharawal stayed in the Cowpastures, south of the Nepean River, where the country remained largely grazing land not as populated as the Minto area north of the river (Liston 1988: 24). Friendly contact was maintained between the Dharawal and a number of the local landholders, especially the Macarthurs. One of the landholders, Throsby (immediately northeast of the study area), had even defended some of the Dharawal during the indiscriminate harassment of local Aborigines that was particularly severe during the years 1814 – 1816. Throsby was 'concerned that the fears and aversions of the ignorant white people would lead to indiscriminate attacks against innocent Aborigines', which in turn 'would provoke retaliation killings of isolated stockmen' (Liston 1988: 21).

This documented contact between the Dharawal and local landholders provides evidence of direct links between the Dharawal and the Minto area as well as continued traditional activities in the years following first settlement. The Macarthur's documented corroborees taking place on their property, and Liston (1988: 24) noted that there were also corroborees taking place at Denham Court, bordering the southwestern boundary of the study area. Liston (1988: 24) also noted that 'in March 1818 James Meehan marked out some land on the Macarthur estate for Aborigines who wanted to live there under the protection of the Macarthurs'.

5.3 Database Sources

A search of the Department of Environment, Climate Change and Water (DECCW) Aboriginal Heritage Information Management System (AHIMS) was conducted on 29th June 2010 to identify any registered (known) Aboriginal sites within or adjacent to the study area, as well as to determine the type and distribution of recorded sites in the area. The AHIMS database search was conducted within the following coordinates (AMG):

299000E to 305000E
6236013N to 6242000N
Number of site within the AHIMS database: 56

The frequencies of site types within the AHIMS database search area are provided in Table 2 below. Registered sites within the study area are discussed in Section 6.

Table 2. Frequency of site types from DECCW AHIMS database search

Site Type	Frequency	(%)
AFT (artefact)	50	89
PAD (potential archaeological deposit)	5	9
TRE (scarred or carved tree)	1	2

6 Archaeological Investigation Information

6.1 Previous Archaeological Investigations in the Study Area

A number of archaeological investigations have taken place within or near the study area. The majority of the recorded Aboriginal sites within the study area were recorded over the course of two archaeological investigations. These two studies included an investigation by Dallas (1999) who conducted an archaeological assessment of the Department of Defence Land and the Australian Museum Business Services (AMBS) who conducted an archaeological investigation in 2003 for LCC and Campbelltown City Council (CCC) to guide future planning policies for the Edmondson Park Release Area. AMBS also conducted an investigation of the proposed South West Rail Link (SWRL), a small portion of which crosses the study area (AMBS 2010).

Relevant studies for understanding the archaeology of the Stage 1 Project Application area are summarised below.

Smith (1989)
Smith (1989) identified five Aboriginal artefact scatters within the study area. These sites, named MC-3 through MC-7, were all located within 100 m of Maxwells Creek in the northeast portion of the release area. The sites were generally identified across disturbed exposures, such as vehicle tracks and creek banks. However, Smith suggested that site MC-3, 5 and 6 were likely also contain areas of undisturbed *in situ* deposits, and as such were highly archaeologically sensitive. Smith's predictive model of site distribution suggested that the availability of water influenced site location, and that sites would be more common along permanent creeks and swamp margins. The location of sites MC-3 to MC-7 demonstrated that high archaeological potential of the Maxwells Creek margins and bordering raised landforms.

Dallas (1999)
The study area for Dallas' (1999) investigation encompassed a portion of the infrastructure (sewer line) associated with Stage 1 Project Application as well as the Stage 1 subdivision. Dallas recorded ten Aboriginal sites across the central and western portions of the study area. Six of these sites were artefact scatters named DD1 through DD 6. Four of the sites were isolated finds named ISF 1 through ISF 4. The four isolated artefacts were not registered on the AHIMS database.

Of the six artefact scatters, Dallas (1999) noted that four of them (DD 1, 2, 3 and 5) as low-medium density scatters in moderately disturbed contexts. Accordingly these four sites were assessed as demonstrating low or moderate archaeological significance and research potential. Site DD 3 was the largest artefact scatter recorded by Dallas, but she noted that the site area had been heavily disturbed by recent activities, including the use of the area as a grenade range. Dallas suggested that subsurface investigation would be appropriate at site DD 3 in an attempt to identify undisturbed areas. Sites DD 4 and DD 6 were recorded in more intact contexts, the sites areas were assessed as demonstrating considerable potential for undisturbed subsurface archaeological deposits.

Three of the Dallas (1999) sites are within the Stage 1 Project Application boundaries for infrastructure: DD3, DD4 and ISF3.

AMBS (2003)
AMBS (2003) conducted an archaeological investigation of the Edmondson Park Release Area that included the current study area as well as the lands to the north, stretching from the F5 in the south to Camden Valley Way in the north. Fifteen areas of archaeological interest were recorded by AMBS (2003), numbered EPCS 1 through EPCS 15, of which three contained only non-artefactual silcrete material. The remaining twelve sites consisted of five isolated finds and seven artefact scatters. Of those twelve sites, ten occur within the current study area. AMBS (2003) also revisited two previously recorded sites in the area, site MC-7, recorded originally by Smith (1989) and DD3, originally recorded by Dallas (1999).

A number of the sites recorded by AMBS did not appear on the AHIMS register search (see section 6.2). Of the twelve sites recorded by AMBS (2003), only five (EPCS 4, 5, 7, 8 and 11) appear on the AHIMS register. Of those five sites, only two site cards were available, and those two sites cards were actually additional information cards submitted following the survey in the same area by AMBS (2010). Additionally, of those five sites registered in the AHIMS database, three of the sites (EPCS 7, 8 and 11) were registered with exactly the same coordinates. The sites are in separate locations (AMBS 2003) and have been registered incorrectly in the AHIMS register.

Two of the AMBS (2003) sites are located within the Stage 1 Project Application boundaries: EPCS12 and EPCS 14.

Austral (2008)
Austral surveyed a small section of Campbelltown Road, within the current study area, as part of a proposed recycled water scheme for Sydney Water. No sites were identified by Austral and the area that they surveyed was described as heavily disturbed.

Biosis (2008)
Investigation of three proposed school sites in the area, one of which, the proposed Campbelltown High School, was within the study area. The proposed school site was located on a flat, gentle slope down to the north east. The school site was described as disturbed by vegetation clearance, and buildings, car parks, roads and other infrastructure associated with the former Ingleburn Army Camp. Vegetation consisted of isolated trees and dense grass cover. Surface visibility was generally low. One artefact scatter (site ED 1 AHIMS 45-5-3570) was identified outside the proposed school site on an unsealed vehicle track. The site was assessed as having low archaeological significance.

AMBS (2010)
AMBS (2010) conducted an Aboriginal Heritage assessment of the proposed South West Rail Link (SWRL), following from Heritage Concepts (2006). The proposed SWRL passed through the centre of the current study area. Within the proposed rail easement in the current study area, AMBS revisited six previously recorded sites (DD1, EPCS 4, EPCS 8, EPCS 10, SW3 and SW4,) as well as recording an additional three sites (SWRL 1, SWRL 2 and SWRL 5). Two other previously recorded sites within the AMBS (2010), ISF 1 and SW2, could be identified during their investigation. Additional site extent information was added to those four previously recorded sites revisited by AMBS (2010).

Sites SW3 and SW4 were considered by AMBS (2010) to form part of site EPCS 8. As such, these three sites were combined into an area that was considered by AMBS to demonstrate moderate archaeological significance with some likelihood of intact subsurface deposit. More artefacts were identified at site EPCS 4, and the site area extended. EPCS 4 was considered to demonstrate moderate archaeological significance. Sites SWRL 1 (artefact scatter) and SWRL 2 (isolated find), were located immediately north of the proposed rail corridor. SWRL 5 consisted of an artefact scatter in the vicinity of DD1 and ISF 1. Sites SWRL 1, 2 and 5 were considered by AMBS to demonstrate moderate archaeological significance.

6.2 Recorded Sites in the Stage 1 Project Application Study Area

5 archaeological sites have been recorded in the area covered by the Stage 1 Project Application and related infrastructure. These are described individually as follows:

DD3 (AHIMS 45-5-2457)

Site DD3 consisted of a large artefact scatter across alluvial flats bordering the southern margin of Maxwells Creek. A total of 114 artefacts were counted across a series of disturbed surface exposures areas. The site area measured over 200 x 300 m. Disturbance across the site was the result of road construction and the former use of the area as a grenade range. Archaeological potential of site DD3 was considered low to medium, based on the large extent of the site and the potential for relatively undisturbed areas. Dallas (1999) suggested that the disturbance level across the site would need to be tested through subsurface investigation. AMBS (2003) revisited site DD3 and observed a similar level of disturbance as noted by Dallas (1999), though AMBS assessed the *in situ* archaeological potential of the site as high.

DD4 (AHIMS 45-5-2458)

Site DD4 consisted of two mudstone artefacts identified across a surface exposure bordering the southern margin of Maxwells Creek. The site area was immediately upstream of a confluence of Maxwells Creek and a tributary. Surface disturbance across the site included sheet wash erosion and track construction. Overall the site was considered to have moderate to high potential for intact archaeological deposits.

ISF 3

One silcrete flake identified on a scoured surface immediately north of a sealed road. Site not registered on the AHIMS database.

EPCS 12

Site EPCS 12 consisted of a scatter of artefacts in an upper slope context. The artefacts were identified across am erosion scour measuring approximately 20 x 40 m. Archaeological potential in the area was consisted low to moderate, based on the close proximity of building remnants, and the likelihood that the topsoil would be relatively thin. Six artefacts were recorded, consisting of silcrete and mudstone materials. Site not registered on the AHIMS database.

EPCS 14

Site EPCS 14 consisted of one mudstone and one silcrete artefact identified on an eroded track in a lower slope context. The artefacts were identified immediately north of building remnants, and the area was considered to demonstrate low archaeological potential (AMBS 2003). Site not registered on the AHIMS database.

The locations of recorded Aboriginal heritage sites within the study area are shown on Figure 4.

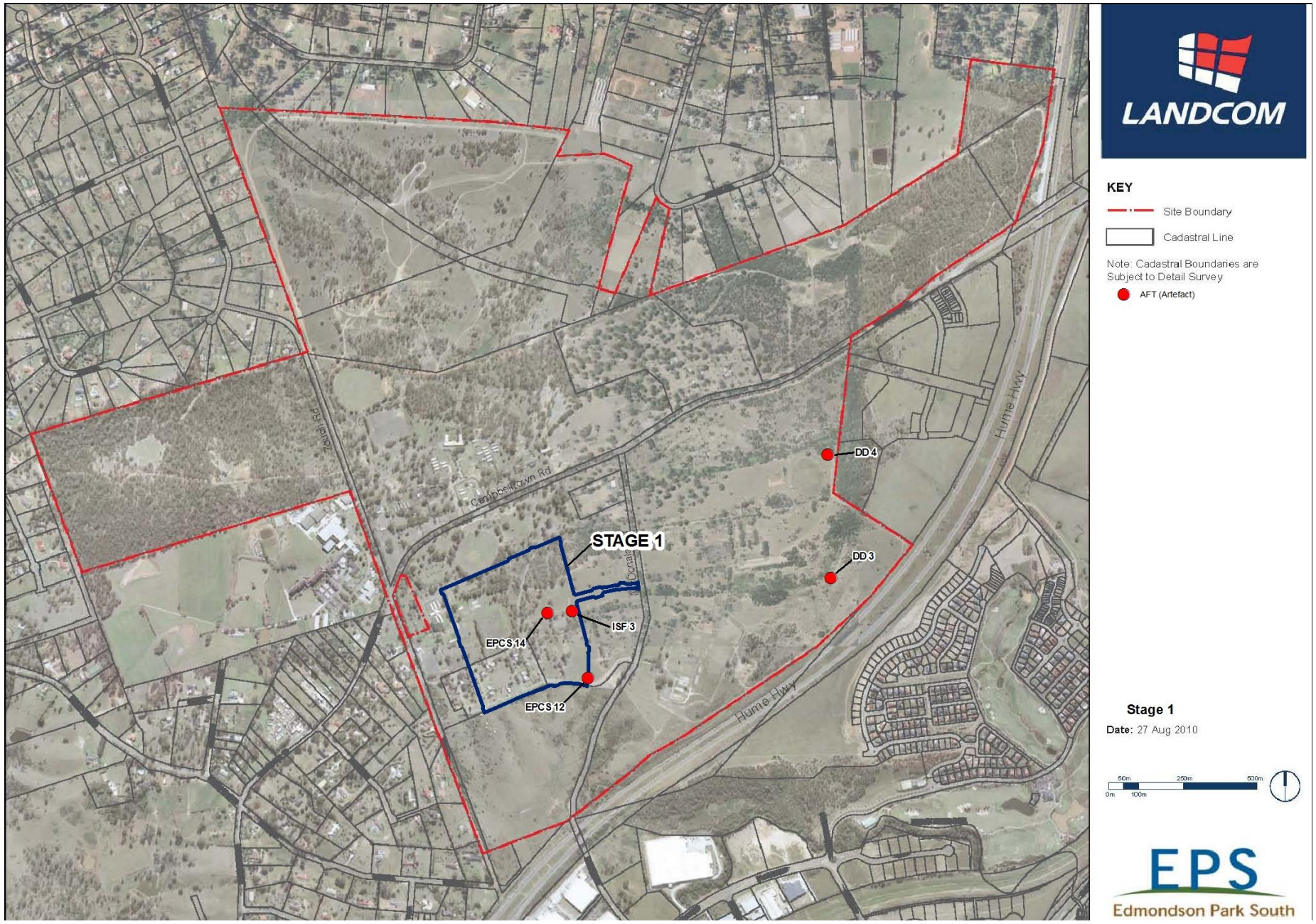

Figure 4. Aboriginal heritage sites in the Stage 1 Project Application study area

7 Integration of Information and Identification of Heritage Values

The archaeology of Edmondson Park South is the story of Aboriginal culture and creek catchments. Portions of the upper catchment of Cabramatta Creek and Maxwells Creek are both found in the release area and are separated by a centrally located low ridge running north south. Most of the recorded archaeology shows a direct spatial relationship to one of the creeks. Models of archaeological density for the Cumberland Plain indicate that sites in these upper creek catchments, that is 1st and 2nd order creeks, are generally representative of low density artefact deposits. Survey and excavations within the Edmondson Park South area (see section 6) seem to confirm this assessment, as most of the recorded artefact scatters appear to represent discrete low density sites. In most locations, either side of the ridge, the archaeology mirrors the environment and can be characterised as pockets of cultural activity, rather than a landscape wide cultural environment. In sum, we are seeing dots of activity dispersed across the area instead of large overlapping polygons of cultural activity. However, the archaeological story is never as simple as a generic model would like us to believe. First, much of the Edmondson Park South lands have been disturbed by contemporary land use and clearing which has increased erosion and literally washed away much of the archaeology. Second, catchments are susceptible to flooding which also decreases the survivability of the archaeological record. In this light it is difficult to be certain we are seeing the true archaeological picture and not simply the aftermath of long term geomorphic processes capped off by recent land use. It is true that for most of the area we will never know the true story, because the archaeological record is simply missing, regardless of the cause. However, in a few select locations the archaeological record has successfully resisted the combined impacts of time, military and farmers. Sites along Maxwells Creek show a collective value greater than the sum of individual artefact recordings. Within the study area site DD 3-4 illustrate a corridor of cultural activity which contrasts purely environmental models. Cultural interactions along the corridor are likely to have pushed the boundaries of sites and indeed we find artefact scatters covering long tracts of land within the creek corridor (e.g. DD 3 and DD 4). Investigations of this interconnected landscape are likely to add insights into how Aboriginal people perceived their landscape as opposed to reacting to the environment.

7.1 Heritage Values: Significance Assessment Criteria

Heritage value is a question of significance. One of the important primary steps in the process of cultural heritage management is the assessment of significance. Not all sites are equally significant and not all are worthy of equal consideration and management (Sullivan and Bowdler 1984, Pearson and Sullivan 1995:7). The determination of significance can be a difficult process as the social and scientific context within which these decisions are made is subject to change (Sullivan and Bowdler 1984). This does not lessen the value of the heritage approach, but enriches both the process and the long-term outcomes for future generations as the nature of what is conserved and why, also changes over time.

Significance assessment can generally be described under three broad headings (Pearson and Sullivan 1995:7):

- value to groups such as Aboriginal communities;
- value to scientists and other information gatherers; and
- value to the general public in the context of regional, state and national heritage.

Professional guidelines for the assessment of significance (NPWS 1997) discuss two types of significance relevant to the assessment of Aboriginal sites: social significance and archaeological significance.

Cultural / Social Significance
This area of assessment concerns the value/s of a place, feature or site to a particular community group, in this case the local Aboriginal community. Aspects of social significance are relevant to sites, objects and landscapes that are important or have become important to the local Aboriginal community. This importance involves both traditional links with specific areas as well as an overall concern by Aboriginal people for sites generally and their continued protection. Aboriginal cultural significance may include social, spiritual, historic and archaeological values.

In this document cultural significance is given a relative ranking of Very High, High, Medium or Low. This ranking has been developed in consultation with key knowledge holders. All listed places hold Aboriginal cultural heritage significance and the relative ranking is designed only to assist future planning.

Scientific / Archaeological Significance
For archaeologists, scientific significance refers to the potential of a site to contribute to current research questions. Alternately, a site may be an in situ repository of demonstrably important information, for example rare artefacts of unusually high antiquity.

Scientific significance is assessed using criteria to evaluate the contents of a site, state of preservation, integrity of deposits, representativeness of the site type, rarity/uniqueness and potential to answer research questions on past human behaviour (NPWS 1997). DECC guidelines recommended criteria for assessing archaeological significance include:

- Archaeological Research Potential - significance may be based on the potential of a site or landscape to explain past human behaviour and can incorporate the intactness, stratigraphic integrity or state of preservation of a site, the association of the site to other sites in the region (connectivity), or a datable chronology;
- Representativeness - all sites are representative of those in their class (site type/subtype) however the issue here relates to whether particular sites should be conserved to ensure a representative sample of the archaeological record is retained. Representativeness is based on an understanding of the regional archaeological context in terms of site variability in and around the study area, the resources already conserved and the relationship of sites across the landscape; and
- Rarity – which defines how distinctive a site may be, based on an understanding of what is unique in the archaeological record and consideration of key archaeological research questions (i.e. some sites are considered more important due to their ability to provide certain information). It may be assessed at local, regional, state and national levels.

High significance is usually attributed to sites which are so rare or unique that the loss of the site would affect our ability to understand an aspect of past Aboriginal use/occupation of an area. In some cases a site may be considered highly significant because it is now rare due to destruction of the archaeological record through development. Moderate/Medium significance is attributed to sites which provide information on an established research question. Low significance is attributed to sites which cannot contribute new information about past Aboriginal use/occupation of an area. This may be due to site disturbance or the nature of the site's contents.

7.2 Significance of Aboriginal Sites

The scientific significance of the 5 recorded Aboriginal archaeological sites ranges in significance from low to high, with 2 having been assessed as being of moderate to high significance (DD 3 and DD 4). This assessment is based on a consideration of the research potential, connectivity (association with other sites), representativeness and rarity, in accordance with DECCW guidelines (NPWS 1997). The general level of moderate to high significance is predominantly driven by site location and a relatively low level of disturbance. Sites which are less disturbed and grouped together (DD 3 and DD 4) are more representative of a cultural context. Their research potential differs, as this has been affected by the condition of the site (i.e. the more disturbed a site context is, the less research potential it has), nevertheless this body of sites has scientific and cultural value.

The integration of the cultural and archaeological information has led to an assessment of the area being of low-moderate Aboriginal cultural heritage significance. The majority of the Stage 1 Project Application impacts on archaeological sites of low significance. Two significant sites (DD3 and DD4) are impacted by the Stage 1 Project Application.

The proposed project offers an opportunity for a positive outcome for Aboriginal heritage. Information obtained through the salvage excavation of the archaeologically significant locations DD 3 and DD 4 will greatly enhance our cultural and archaeological understanding of the area and allow for significant interpretation of past events within this cultural zone.

8 Information Regarding Proposed Development

All identified Aboriginal cultural places and archaeological sites recorded within Edmondson Park South have been considered by Landcom in relation to the proposed development and associated activities (Figure 5). Where significant archaeological or cultural sites were identified, where possible the project application limits the impact. Early information obtained from the preliminary assessment (AMBS 2003) made possible these design considerations. Elsewhere, much of the area displays substantial ground disturbance from previous land use. Archaeological sites located in these disturbed locations exhibit low levels of archaeological significance; however Aboriginal knowledge holders made it clear that most of these sites still hold cultural value. While conservation is the best approach when considering Aboriginal heritage, some level of impact is unfortunately unavoidable for such a large development. Best practice is to try to limit most impacts and where appropriate mitigate impacts. Because of the impacts to Aboriginal heritage a mitigation strategy has been provided in Table 3. Furthermore the impacted sites (outlined below) which require mitigation will be able to offset the loss of information for increasing our understanding, strengthening our interpretation and bettering our recognition of Aboriginal culture and heritage within an area where little previous documented information exists. Overall, it can be argued that this represents a positive outcome for Aboriginal heritage.

8.1 Impacts: Stage 1 Project Application

5 Aboriginal archaeological sites will be impacted by the project application. Specific mitigation strategies for each site are outlined in Table 3.

8.2 Impacts: Consistency of Project Application against the Aboriginal Heritage Management Plan prepared for the Edmondson Park Release Area

Impacts to each site are also rated against the previously adopted Aboriginal Heritage Management Plan (AHMP) prepared for the Edmondson Park Release Area (AMBS 2003). 19 sites are included in the AHMP. 11 sites have been identified post the adoption of the AHMP. All of the sites associated with the Stage 1 Project Application are consistent with the AHMP. Consistency meaning that a conserved site in the AHMP is also conserved in kind within the Stage 1 Project Application; likewise, an impacted site in the AHMP is impacted in the project application.

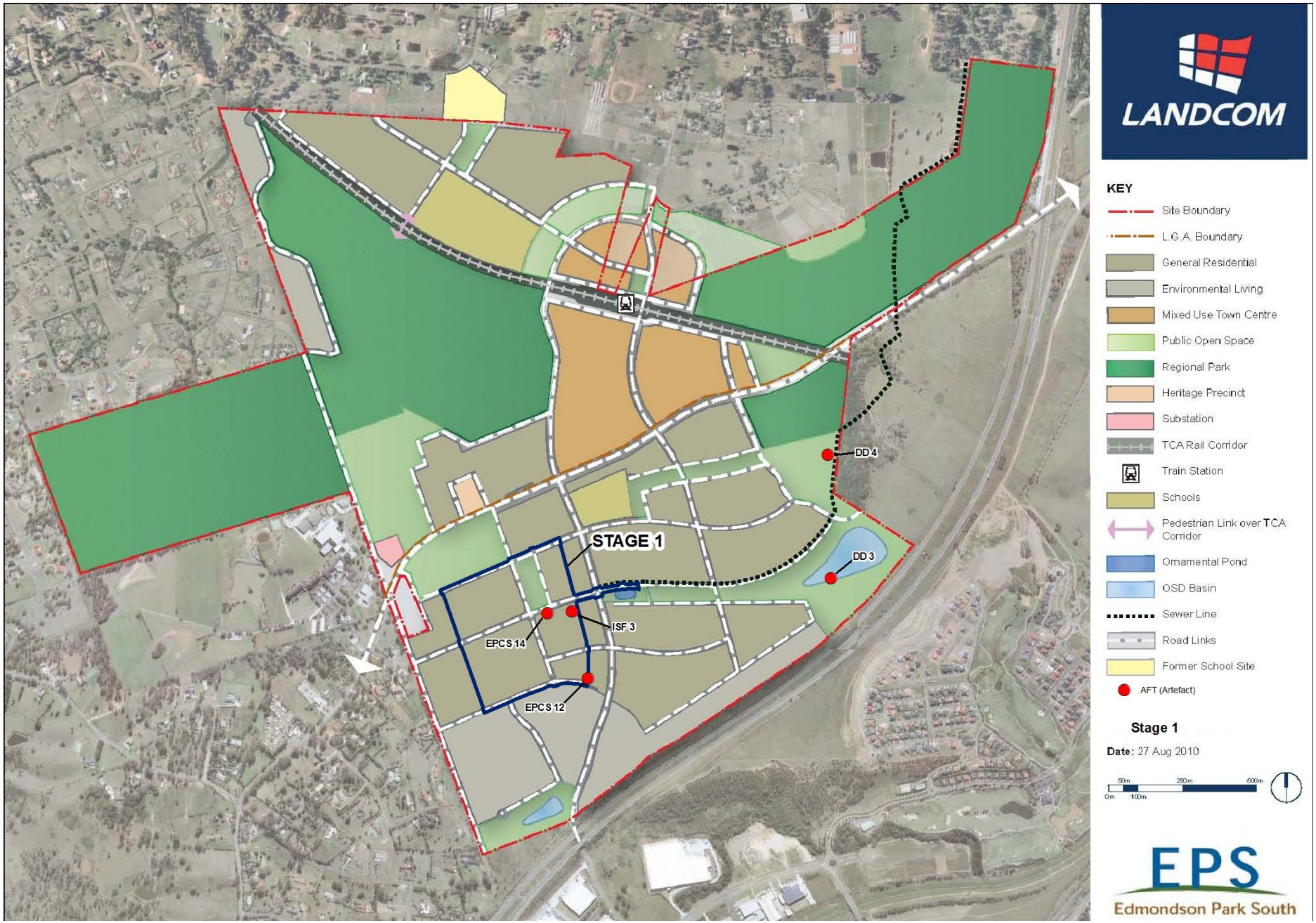

Figure 5. Aboriginal heritage sites and the Stage 1 Project Application study area

Table 3. Impacts and Mitigation for Edmondson Park South Stage 1 Project Application

Site	Type	Description	Significance	Impact Assessment	Consistent with Management Plan	Mitigation Strategy
DD 3	Artefact Scatter	Site is located on an extensive open area along a low order stream of Maxwells Creek. A wide area contained over 100 artefacts and exhibits good pockets of subsurface deposit. This site is related to DD2 and is part of an extensive archaeological area associated with the creek system.	Moderate	Will be impacted (partial)	Yes	Currently the site is impacted by public open space and drainage installation. These drainage works will impact on a portion of the site. Mitigation through salvage excavation will be required if the significant portion of the site can not be conserved.
DD 4	Artefact Scatter	Site is located within the Maxwells Creek corridor. The site covers part of a wooded area and open ground. The site has a relatively intact soil profile and is part of a much larger complex of sites (DD 2-4) along the creek corridor.	Moderate-High	Will be impacted (partial)	Yes	Currently the site is impacted by public open space and service infrastructure. These infrastructure works will impact on a portion of the site. Mitigation through salvage excavation will be required if the significant portion of the site can not be conserved.
ISF 3	Isolated Find	Isolated find associated with EPCS 14. The artefact was found in a disturbed context on a moderate hillslope above the Maxwells Creek corridor.	Low	Will be impacted	N/A	No further archaeological works required. Artefacts should be salvaged by surface collection within the impact area with Aboriginal stakeholders. Site can only be impacted after project approval obtained.
EPCS 12	Artefact Scatter	This site is located on the edge of a low ridge near the remnants of former buildings. The site has a mixed significance with the surface deposit displaying evidence of a deflated and eroded soil with little archaeological integrity, while the elevated location is of scientific interest. Too much disturbance is evident to warrant salvage.	Low-Moderate	Will be impacted	Yes	No further archaeological works required. Artefacts should be salvaged by surface collection within the impact area with Aboriginal stakeholders. Site can only be impacted after project approval obtained.
EPCS 14	Artefact Scatter	This site is located on the slopes of a ridge which extends north towards a tributary of Maxwells Creek. Artefacts were found near the remnants of former buildings. The surface deposit displays evidence of a deflated and eroded soil with little archaeological integrity.	Low	Will be impacted	Yes	No further archaeological works required. Artefacts should be salvaged by surface collection within the impact area with Aboriginal stakeholders. Site can only be impacted after project approval obtained.

9 Conclusions and Recommendations

The Stage 1 Project Application has been developed around the zoning requirements for the Edmondson Park Release Area established by the Liverpool and Campbelltown Local Environmental Plans (LEPs), taking into account the Aboriginal cultural heritage values as identified in the Aboriginal Heritage Management Plan.

Much of the study area displays substantial ground disturbance as a result of previous land use, most notably as Defence lands. Archaeological sites located in these disturbed locations exhibit low levels of archaeological significance but may still hold cultural value. In recognition of this, the Stage 1 Project Application has aimed to limit most impacts and where appropriate mitigate impacts.

Most of the sites impacted by the project application are located in highly disturbed context and exhibit low archaeological significance. Where significant sites are impacted suitable mitigation, such as salvage collection or excavation, will offset the loss of information and increase our understanding to better interpret and recognise Aboriginal culture and heritage within the broader area.

Based on an integration and assessment of identified Aboriginal cultural heritage values with the proposed development as well as consistency with the Aboriginal Heritage Management Plan for the release area the following general management outcomes will be implemented in accordance with the management policy for the Project as outlined in section 8. This resulting management strategy includes:

- archaeological salvage excavation to mitigate impacts on significant archaeological sites;
- salvage collection of surface artefacts for other impacted sites;
- management policy for Aboriginal heritage;
- procedures for handling human remains;
- procedure for proposed changes to approved projects; and
- process for continued consultation with Aboriginal stakeholders.

9.1 Archaeological salvage excavation required to mitigate impacts on significant archaeological sites

The archaeological sites in Table 4 are of moderate to high Aboriginal heritage significance and require archaeological salvage excavation to mitigate the impacts. All excavation can only occur after project approval is obtained.

Table 4. Aboriginal archaeological sites requiring salvage excavation

Salvage excavation of archaeological sites	
Archaeological Sites	DD3, DD4

9.2 Salvage through the collection of surface artefacts

Salvage would be undertaken at the sites in Table 5 through collection of surface artefacts within the impact area. Surface collection can only occur after project approval is obtained. Collection can be undertaken concurrently with the bulk earthworks program (consistent with 9.4 clause 4).

Table 5. Aboriginal archaeological sites requiring salvage collection

Salvage collection of archaeological sites	
Archaeological Sites	ISF3, EPCS12, EPCS14

9.3 Proposed Changes to Approved Projects

Landcom recognises that in the course of undertaking the development, design alterations or other changes to the Approved Project may be required.

Sections 9.4 – 9.7 below outline the processes that the Proponent must follow to ensure that any changes to the Approved Project which may impact on Aboriginal cultural heritage are dealt with consistently and with ongoing consultation with Aboriginal stakeholders and relevant government agencies.

9.4 Management Policy for Aboriginal Heritage

The policy for the management and conservation of Aboriginal heritage in relation to salvage activities and construction activities (or fencing, investigative drilling, minor clearing, establishing site compounds, adjustment to services/utilities etc) is described below:

Responsibility for compliance with Management Policy

1. The Proponent must ensure all of its employees, contractors and subcontractors and agents are made aware of and comply with this management policy.
2. The Proponent must appoint a suitably qualified and experienced environmental manager who is responsible for overseeing the activities related to this management policy.
3. The Proponent must appoint a suitably qualified and experienced Archaeologist who is responsible for overseeing, for and on behalf of the Proponent, the salvage activities relating to the project.

Operational constraints

4. Where salvage activities have been nominated for impacted sites, no construction activities (or fencing, investigative drilling, minor clearing, establishing site compounds, adjustment to services/utilities etc) can occur on the lands to be salvaged until the relevant salvage activities at the nominated site have been completed. This restriction only relates to the specifically identified portion of an archaeological site to be salvaged and not the entire archaeological site (unless specified). Construction activities may proceed on the portion of a site not designated for salvage provided they do not impact or impede the salvage excavation and that the area to be salvaged is fenced in consultation with the Archaeologist prior to the commencement of those construction activities.
5. Prior to the commencement of early works activity (e.g. fencing, minor clearing, establishing site compounds etc) a construction heritage site map identifying Aboriginal sites to be excavated must be prepared. The construction heritage site map should be prepared to the satisfaction of Landcom.
6. All employees, contractors, subcontractors and agents carrying out construction activities (e.g. fencing, minor clearing, establishing site compounds etc) must undertake a Project induction (including the distribution of a construction heritage site map) to ensure that they have an understanding and are aware of the Aboriginal heritage issues affecting the activity.

Aboriginal archaeological sites and objects to be impacted

7. The archaeological sites identified as being impacted by construction activities are listed in sections 9.1-9.2.

Human Remains

8. This management policy does not authorise any damage of human remains.
9. If potential human remains are disturbed the Proponent must follow the procedures outlined in section 9.5 below.

Salvage Activities

10. The archaeological salvage excavation and surface collection must be carried out in accordance with the methodology specified in Appendix C of this report.

Involvement of Aboriginal groups and/or individuals

11. Opportunity must be provided to the approved applicants from the local Aboriginal community to be involved in the following activities:
    a. assist with the salvage excavation and collection as outlined in sections 9.1-9.2.

Salvaged Aboriginal objects

12. Any salvaged Aboriginal objects must be relocated as soon as practicable to a temporary storage location pending discussions with Landcom and Aboriginal stakeholders in relation to a permanent storage location or reburial.
13. In the event that Aboriginal stakeholders choose to undertake a care agreement for the salvaged Aboriginal objects the Proponent must assist in the permit application process.
14. In the event that a suitable storage location or reburial area cannot be identified the Proponent must request in writing that DECCW identify a suitable storage location or reburial area.

15. If reburial occurs, pursuant to s.91 of the *National Parks and Wildlife Act 1974* the location of each reburial area must be notified in writing to the DECCW as soon as practicable after reburial occurs.

Reporting requirements

16. A written archaeological excavation report must be provided to Landcom within a reasonable time following the completion of the archaeological program.

Notification and reporting about incidents that breach this management policy

17. Incident reporting requirements in accordance with the Project Approval is to include Aboriginal heritage.
18. Where Landcom reasonably suspects that an incident has occurred that contravenes the management policy presented here the Proponent must prepare a written report within 5 days detailing that incident. The report must describe
    a. the nature of the incident
    b. the notification of the environmental manager, and specialist where required
    c. the nature and location of relevant Aboriginal sites with reference to and provision of maps and photographs where appropriate
    d. the impact of the incident on Aboriginal sites with the appropriate specialist input where required
    e. the measures which have been taken or will be taken to prevent a reoccurrence of the incident.

9.5 Procedures for Handling Human Remains

- **Note that Project Approvals do not include the destruction of Aboriginal remains**

This section outlines the procedure for handling human remains in accordance with the Skeletal Remains – Guidelines for the Management of Human Skeletal Remains under the *Heritage Act 1977* (NSW Heritage Office 1998) and the Aboriginal Cultural Heritage Standards and Guidelines Kit (NPWS 1997). In the event that construction activity reveals possible human skeletal material (remains), the following procedure is to be followed:

1. as soon as remains are exposed, all work is to halt at that location immediately and the Project environmental manager on site is to be immediately notified to allow assessment and management;
    i. stop all activities; and
    ii. secure the site.
2. contact police, the discovery of human remains triggers a process which assumes that they are associated with a crime. The NSW Police retain carriage of the process until such time as the remains are confirmed to be Aboriginal or historic;
3. once the police process is complete and if remains are not associated with a contemporary crime contact DECCW's Environment line on 131 555 and the Heritage Office on (02) 9873 8500;
    i. if the remains are identified as Aboriginal, the site is to be secured and DECCW and all Aboriginal stakeholders are to be notified in writing; or
    ii. if the remains are identified as non-Aboriginal (historical) remains, the site is to be secured and the Heritage Office is to be contacted.
4. once the police process is complete and if the remains are identified as not being human work can recommence once the appropriate clearances have been given

9.6 Procedure for proposed changes to Approved Projects

A proposed change to the Approved Project (such as an alteration of the current alignment, the location of ancillary facilities) within the project corridor may result in a:

- Reduced impact to Aboriginal cultural heritage; or an
- Increased impact to Aboriginal cultural heritage.

Note: the use of the word impact in this section is defined as an impact on the significance of Aboriginal cultural heritage rather than simply an increased physical impact.

To ensure consistency with the Approved Project and this document any change in the overall impact on Aboriginal cultural heritage will need to be considered. The process to determine consistency is outlined in section 9.6.1 below.

Where a proposed change to the Approved Project occurs outside of the project corridor considered for the EA further heritage assessment will be required to determine if there would be an impact on Aboriginal cultural heritage and whether this represents a modification to the Approved Project (outlined below).

9.6.1 Changes in heritage impact

Where the Proponent seeks to make a change to the design and construction of the Approved Project which changes the assessed impact on Aboriginal cultural heritage the Proponent will need to prepare an assessment of the new impacts of this work in consultation with the appointed Archaeologist. The continued involvement of the Aboriginal stakeholders in this process is outlined in section 9.7.

- New impacts consistent with previously identified impacts

If a proposed change to the Approved Project is considered to have a neutral or lesser significant impact on Aboriginal cultural heritage than that identified in this document it would be considered a consistent impact.

If the proposed change is considered to be consistent with the Approved Project Landcom may approve the change with no requirements to seek further approval. However, in certain circumstances, further consultation with Aboriginal stakeholders may still be required (see section 9.7 below).

- New impacts inconsistent with previously identified impacts

If a proposed change to the Approved Project is considered to have a more significant impact on Aboriginal cultural heritage than that identified in the EA it would be considered an inconsistent impact.

If the proposed change is considered inconsistent with the assessed impact on Aboriginal cultural heritage, as detailed in sections 9.1-9.2 of this document, Landcom would require an amendment to the mitigation measures agreed in this report. If this proposed change is considered inconsistent with the Approved Project Landcom would require a modification of the Approved Project. Further consultation with Aboriginal stakeholders will be undertaken (see 9.7 below).

9.7 Process for continued consultation with Aboriginal stakeholders

The extent to which Landcom will continue to consult with Aboriginal stakeholders is dependent upon the level of impact and whether the area was assessed as part of the EA. The types of potential impacts are identified as reduced impacts, neutral impacts, increased impacts or unknown impacts. Assessment of the impact to an Aboriginal heritage item is rated against the overall heritage significance of the study area (i.e. the cumulative impact.).

a) Reduced or neutral impact

If as a result of alterations to the project design a previously identified impact to an Aboriginal heritage item is reduced or neutral then no further consultation is required.

b) Increased Impact

Where as a result of alterations to the project design an impact on Aboriginal heritage is considered to be greater than identified by the Approved Project further consultation will be undertaken. This consultation will either entail a phone call and phone log of comments received or the provision of a report for comment (10 working days).

c) Unknown impacts: Assessment process

Where a proposed change is an area located outside of the project area assessed as part of the Approved Project the impact on Aboriginal cultural heritage is considered to be unknown. This area would require preliminary assessment to determine any impacts upon Aboriginal heritage. Should no impacts be identified then no consultation with Aboriginal stakeholders is required. Should potential impacts be identified consultation with Aboriginal stakeholders will be undertaken. This consultation will entail the provision of a report for stakeholder comment (10 working days) detailing the impacts and mitigation strategies proposed.

Appendix A Advertisement

2120258

notice for registration of interest

Landcom is proposing to develop part of the Edmondson Park release area. The staged development will include a mix of land uses, including approximately 3,300 dwellings, retail and commercial space within the future town centre, community and educational facilities, open space and environmental conservation lands. Landcom seeks the registration of Aboriginal groups and/or Aboriginal people with cultural knowledge relevant to determining the significance of Aboriginal objects and/or places in Edmondson Park.

Information obtained from this consultation may be used in the preparation of the environmental assessment of the impact of the project and any future requirements for impact approvals. This assessment will assist the Department of Planning in the consideration and determination of the Concept Plan and any Project Application(s).

Registrations must be received by phone or in writing by 7 July 2010.

To register your interest, please contact:

Mr David Schofield
Senior Development Manager, Landcom
PO Box 237 Parramatta NSW 2124

or by phone 9841 8751.

LANDCOM

www.landcom.com.au

The Liverpool Champion: Wednesday, June 23, 2010— 71

Appendix B Aboriginal Stakeholder Comments

DARUG CUSTODIAN ABORIGINAL

CORPORATION

PO BOX 81 WINDSOR 2756

PH: 45775181 MOB: 0415770163 FAX: 0415770163

ABN: 81935722930

mulgokiwi@bigpond.com

30th September 2010.

Attention: Matthew Kelleher.

SUBJECT: Edmonson Park South: Part 3A Stage 1 Application environmental Assessment- Aboriginal Cultural Heritage Assessment Report.

Dear Matthew,

The Darug Custodian Aboriginal Corporation have been involved in Darug Cultural Heritage for many years within Darug Boundaries. We have experience in the care of Darug landscapes and sites in our areas, the area of the Edmonson Park is a well known important area of Darug sites.

Our group has been involved in this project from the start, this area has had sites identified during the assessments carried out during this proposed development.

We have received and reviewed the concept plan we support the findings and recommendations set out in this report, we also support the proposed methodology for the management of sites within this development. Our group would also like to recommend that Darug heritage be included in the final stages of development, including signage, names and educational brochures and awareness where possible.

The recommendations within this report have listed outcomes for educational strategies and our group is pleased that this will be part of this project, it is standard practice for our group to also recommend this as one of our main aims is education on Darug areas, these are very important outcomes for Darug people.

Please contact us with all enquires on 0245775181 or 0415770163.

Regards

LWat

Leanne Watson

Darug Aboriginal Cultural Heritage Assessments

ABN 51734106483

Gordon Morton & Associates

Mob: 0422 865 831
Fax: 45 677 421

Celestine Everingham
90 Hermitage Rd., Kurrajong Hills, 2758
Ph/Fax: 45677 421
Mob: 0432 528 896

24. 9. 10

Attention
Matthew Kelleher
Kelleher Nightingale Consulting

re Edmonson Park South Part 3A Stage 1 Project application.

I wish to register as a Primary Stakeholder in the above Project. I am a native Title claimant and this area is recognised as being part of my claim — Darug country. DECCW have reviewed your Excavation Program and proposed methodology for the salvage for a Section 87 from DECCW We are pleased to note the combination of open area and target area program as we have found from experience that flexibility is important for a good result. DHCHA wish to be consulted at all times and wish to participate in all field work.

Yours Sincerely,
G Morton

Cubbitch Barta Native Title Claimants
Aboriginal Corporation,
55 Nightingale Road,
PHEASANTS NEST. N.S.W. 2574.
3rd September, 2010.

Kelleher & Nightingale Consulting Pty Ltd.
Suite 911-912 155 King Street,
SYDNEY. N.S.W. 2000.

Dear Allison,

RE; EDMONDSON PARK SOUTH
STAGE 1.

Thank you for the opportunity of commenting on this report. I will be unable to attend the meeting on the 16th September, 2010, but hope that Rebecca can attend in my place.

It was upsetting to read that there are currently proposals to destroy sites within Edmondson Park, when some of these areas have been promised to be retained as Conservation Areas now for some years. No one understands and acknowledges the extent and the significance of some of the sites and especially the site known as DD3. I have been a part of what has been happening with this site now for a number of years, as has Rebecca. This is the most significant site in Edmondson Park, and I have said that now for many years. It should not just be culturally significant to Aboriginal people, but to the whole of the wider non-Aboriginal people.

There must be some way of making this not happen. I do not and never will agree to the salvage (destruction) of DD3, and some of the other sites.

I also believe that some of the other sites warrant more than a surface collection. The thinking seems to be that if we salvage the recommended sites, then the rest will not matter. That is not the case. There seems to be within this plan, no conservation at all. Why does everything have to go. We do not want to salvage the sites that are recommended in this report at all. They should be conserved for the future, not just artefacts in a box somewhere. The whole of the landscape should be kept in context for educational purposes, salvaging only increases the knowledge of archaeologists. It destroys what little heritage there is left in most areas of the Sydney Region.

Will this take an appeal or even laying in front of a bulldozer to stop the destruction. There has been recently sampling of small areas along the South West Rail Link, and some of these sites are more than what is on the surface, and are within other lands outside the rail easement.

My next question would be , can this concept plan be changed to accommodate the conservation of some of these sites, not just destroy them for further information. Somewhere this has to stop, so why not now. Change the plan.

Yours in Conservation of Aboriginal Sites,

G. Chalker

Glenda Chalker
Hon. Chairperson
Phone/Fax 0246841129 0427218425

Appendix C Salvage Methodology

Methodology

Research Aims

The main aims of the proposed salvage excavation program are:

- To salvage representative samples of identified archaeological activity areas, landforms and/or archaeological resources at key locations within Edmondson Park Release Area prior to development impact.
- Analysis of the salvaged archaeological material to gain and conserve knowledge and understanding of the scientific and cultural information exhibited by the activities associated with the Aboriginal heritage from the Edmondson Park Release Area.
- Use the excavation results to gain insight into the subsurface archaeology of the adjacent areas not being impacted by the development (i.e. sites in the adjoining regional park). This will allow an increase in future educational opportunities and a more informed management of the area's Aboriginal heritage.

The further scientific aim of the salvage excavation program would be to determine the subsurface integrity, extent, spatial distribution and nature of the cultural deposits in varying landscapes and the specific types of associated archaeological/cultural activities.

- Determining the integrity of the deposit involves assessing the degree of disturbance which is present.
- Determining the extent of the sites and/or activity areas involves identifying the boundaries associated with the identified archaeological deposit.
- Assessing the spatial distribution involves identifying the presence/absence of archaeological material across identified land forms (e.g. crest, slope, creek flat).
- The nature of the site refers to the type of activities indicated by the artefactual material (e.g. primary production, domestic knapping, hunting camps). The goal would be to retrieve entire assemblages from specific activities if such activities were present.
- Retrieved assemblages would be compared with the results from other relevant archaeological projects in order to assess significance.

The archaeological program proposed in this research design will salvage the significant archaeology, but equally important is the aim to use this information to bring the Aboriginal story back to the forefront of knowledge. Furthermore as part of the archaeological program, KNC will continue to bolster the recovered archaeological information with geomorphic data designed to offer a glimpse of the physical stage and timeline associated with the cultural story. It is envisioned that this complete archaeological program will be an important part for the area's future cultural, educational and management opportunities.

Conservation is a primary goal of all Aboriginal heritage management. All archaeological excavation undertaken during the proposed program will be restricted to the actual construction footprint (construction clearing area) associated with the impacted sites. The construction footprint includes all associated impacts such as support vehicle tracks or drainage works.

Archaeological Salvage Areas

Salvage excavation will focus on two areas (outlined in sections 8 and 9):

- DD3
- DD4

Salvage excavation of DD3 and DD4 (described in section 6) will focus on the extraction of collections of artefacts related to activity areas. In practice this means undertaking large open area excavation on the order of 150-300m^2. All of these sites appear to be part of a single archaeological corridor along Maxwells Creek. Subsurface conditions in this are variable, but large portions appear intact. A strategic excavation program informed by a preliminary geomorphic assessment will assist in targeting salvage works to high yield locations. The mechanics of the excavation program are outlines in the field methods section.

Surface Collection

Construction of the Edmondson Park Release Area will impact several surface artefact scatters. Prior to construction surface artefacts from all known archaeological sites impacted by the project should be collected (see section 9.2) if the sites cannot be avoided.

Field Methods

The goal of the field excavation program is to recover significant assemblages of artefacts from each salvage area which will characterise the site and offer comparable information with other sites along Maxwells Creek and further afield in the Cumberland Plain. The field methods reflect this goal and will use a standard (comparable) methodology often used by archaeologists and one which has been previously utilised on the Cumberland Plain.

Combined Program

In order to achieve the most robust and comparable result, KNC advocates a combination target program and open area excavation program. The initial excavation of each salvage location (i.e. the target program) will be to lay out a series of excavation squares in transects across land formations in order to locate specific activity areas and then open area excavations will be undertaken around these initial squares yielding higher (or otherwise significant) artefact densities. The advantages of this combined program are both statistical and practical. Statistically, the target program will allow for a direct comparison with test data from other excavations undertaken where salvage excavation was not warranted. This statistically sound information will create a baseline for the region and inform future management and research studies. In addition, the geoarchaeological data covering this same extensive transect will enhance our archaeological assessment by demonstrating the relationship between Aboriginal cultural heritage and the geomorphic process (e.g. climate change). The practical side of the combined program means that we will be 1) finding and 2) salvaging the most relevant archaeological deposits impacted by the development. Experience has shown that the most fruitful salvage of open areas involves the need to fully assess the deposit (i.e. subsurface integrity, extent, spatial distribution and nature) in order to demonstrate that the material recovered is truly representative.

Excavation Process

The mechanics of the excavation follow the same standard approach adopted by previous successful excavation methodologies on the Cumberland Plain. Excavation squares measuring 1m x 1m will be hand excavated in bulk or (where possible) stratigraphic units. Squares will be excavated until the basal layer or culturally sterile deposit is reached (past experience indicates that the depth is variable but the cultural deposit is usually contained in the upper 25-35cm). The initial excavation squares at each location will be excavated well into the sterile unit to confirm the absence of artefacts before commencing open area salvage.

Initial excavation will involve around 25-50 squares per salvage area. The precise number of squares would depend on the archaeological deposit and geology. Excavation grids (transects) will be established using AMG coordinates for each square. Squares will be placed at 15m intervals along sampling transects. The squares in adjoining transects will be staggered (at five metre intervals) to achieve maximum sampling coverage. This approach is consistent (and directly comparable) with previous excavations.

Where salvage is required, open area excavation will follow from the results of the initial target program. It is anticipated that around 75-100 additional squares will be excavated per salvage area. Open area excavation will follow a standard cuneiform approach and expand to encompass identified activity areas. On average it is anticipated that two open areas (c. $50m^2$ – $150m^2$) will be salvaged per location, although where feasible an effort will be made to connect identified activity areas into a single open area.

All of the deposit will be wet sieved on 5.0mm and 2.5mm nested sieves. All artefacts would be collected and bagged. Excavated squares will be backfilled where required (by the Proponent).

The location of each excavated square would be identified on a surveyed plan of the site. Stratigraphic sections detailing the stratigraphy and features within the excavated deposit would be drawn and all squares would be photographed. Soil and carbon samples would also be collected. The stratigraphy of all excavated areas will be fully documented and appropriate records will be archived.

Analysis

Artefacts would be analysed on a comparable level with previous analyses of excavated assemblages (KNC 2008, 2007; AMBS 2000; 2006; Jo McDonald Cultural Heritage Management 2003, 2004; Attenbrow 1981). Information derived from this analysis; in particular the identification of specific artefact types, and their distributions and associations; will be used to put together interpretations about how sites were used, where sites were located across the landscape, the age of sites, and to assess cultural heritage values. By comparing different areas it will be possible to determine whether there were differences in the kinds of activities carried out and if different activities were related to different landforms. Sufficient information will be recovered from each excavation in order to assess how people and the land work together to create a social landscape. Differences could be expected if different aspects of settlement organisation varied in relation to the landscape units as defined.

A range of stone artefacts may be present across the salvage areas and the analysis would expand accordingly to account for artefact variability. All information would be recorded in database form (MS Excel). Various types of evidence would be used to determine the kinds of activities that were carried out. A short description of the proposed analysis in outlined below.

- Field analysis would record basic data, such as material type, number, and any significant technological characteristics, such as backing or bipolar techniques; added to this would be any provenance data such as pit ID and spit number. The purpose of the field recording is twofold: 1) establish a basic recording of artefacts retrieved and 2) to allow on-going assessment of the excavation regime (e.g. whether higher stratigraphic resolution is required while digging).

- Detailed (laboratory) analysis would entail recording a larger number of characteristics for each individual artefact. These details would be recorded in matrices suitable for comparative analysis (e.g. multivariate and univariate) of the excavated assemblage on a local and regional basis.
- Lithic characteristics to be recorded cover a range of basic information but are not limited to these categories (see example below). For transparency, terms and category types would in large part be derived from Holdaway and Stern (2004).

Sample Categories		
Record Number	% Cortex	Flake Type
Pit ID	Length	Termination Type
Spit Number	Width	Core Type
Count	Thickness	Number of Scars (Core)
Raw Material	Weight	Scar Type (Core)
Colour	Modification	Shape of Flake
Quality	Reduction Type	Platform Type

- A detailed explanation and glossary would be provided with the final excavation report.
- Minimum Number of Flake (MNF) calculations formulated by Hiscock (2000, 2002) will be undertaken where applicable (although past experience indicates MNF calculations will not be required for this excavation program). The main outcomes of the analysis would be to investigate: the type of activities being carried out across the subject area; stone materials used and quantity; technology; and modification/retouch (type and quantity).

The analysis of artefacts recovered during the excavation program would be undertaken in a transparent and replicable fashion so as to permit the comparison of the entire excavated assemblage with data from other regions. This would also allow for an interpretation of the study area's archaeological significance.

Field Team

KNC directors, Dr Matthew Kelleher and Alison Nightingale, would be responsible for the salvage excavation program. Dr Matthew Kelleher would direct the excavation component of the Aboriginal archaeological assessment. Matthew has extensive experience in managing large scale archaeological excavations and research projects. Alison is the principal contact for the overall Aboriginal archaeological assessment for Edmondson Park South.

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