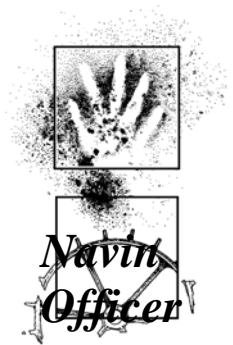


Intermodal Logistics Centre at Enfield

Environmental Impact Statement

Assessment of Indigenous Heritage

June 2005



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1. SUMMARY

Sydney Ports Corporation is planning to develop an intermodal logistics centre at Enfield within the area known as the “former Enfield Marshalling Yards”, adjacent to the existing RailCorp Rail Yard known as the “new Enfield Marshalling Yards”.

The aim of this study was to assess the likelihood of the study area containing indigenous heritage sites or potential archaeological deposits.

The former Enfield Marshalling Yards have been subject to a high degree of disturbance since the early 20th Century, including the construction and dismantling of structures and the bulldozing of deposits, modification to drainage lines and removal of topsoil.

No indigenous heritage sites were identified within the study area and it is considered that there is no archaeological potential for sites to exist. No Potential Archaeological Deposits (PADs) were identified relating to Aboriginal occupation and use of the area. Borehole logs indicated that no topsoil remained intact across the site. Close inspection of the banks of the Coxs Creek Canal reinforced the picture provided by the two nearest bore holes which indicated that there was no sealed remnant topsoil beneath the fill.

It is recommended that there are no indigenous heritage constraints to the development proceeding and there is no requirement for further indigenous heritage assessment within the study area.

2. INTRODUCTION

2.1 Background to the Project

Sydney Ports Corporation is planning to develop an intermodal logistics centre at Enfield within the area known as the “former Enfield Marshalling Yards”, adjacent to the “new Enfield Marshalling Yards”.

The site is located approximately 15 km southwest of Sydney CBD (see shaded area in Figure 1 for location). The proposed ILC site would include rail siding, container terminal, empty container storage, warehousing and other development (see Figure 2 for concept plan).

Sydney Ports Corporation has already carried out an historic heritage assessment that focussed on the remaining built heritage relating to the period of use of the site as a railway marshalling yard. The brief for the current study was to provide a stand-alone report dealing with the indigenous heritage of the study area.

2.2 Report Outline

This report provides an overview of available site disturbance information and an assessment of the potential of the study area to contain Aboriginal sites or potential archaeological deposits (PADs).

2.3 Personnel

The initial report detailing the results of the field investigations for the study area was conducted and prepared by Susan McIntyre-Tamwoy. The present report detailing the indigenous heritage assessment was written by Matthew Barber, using information obtained from previous investigations and the files held in the consultant’s office.

2.4 Limitations of the Study

This study was conducted using information from secondary sources and the field assessment of the previous archaeologist.

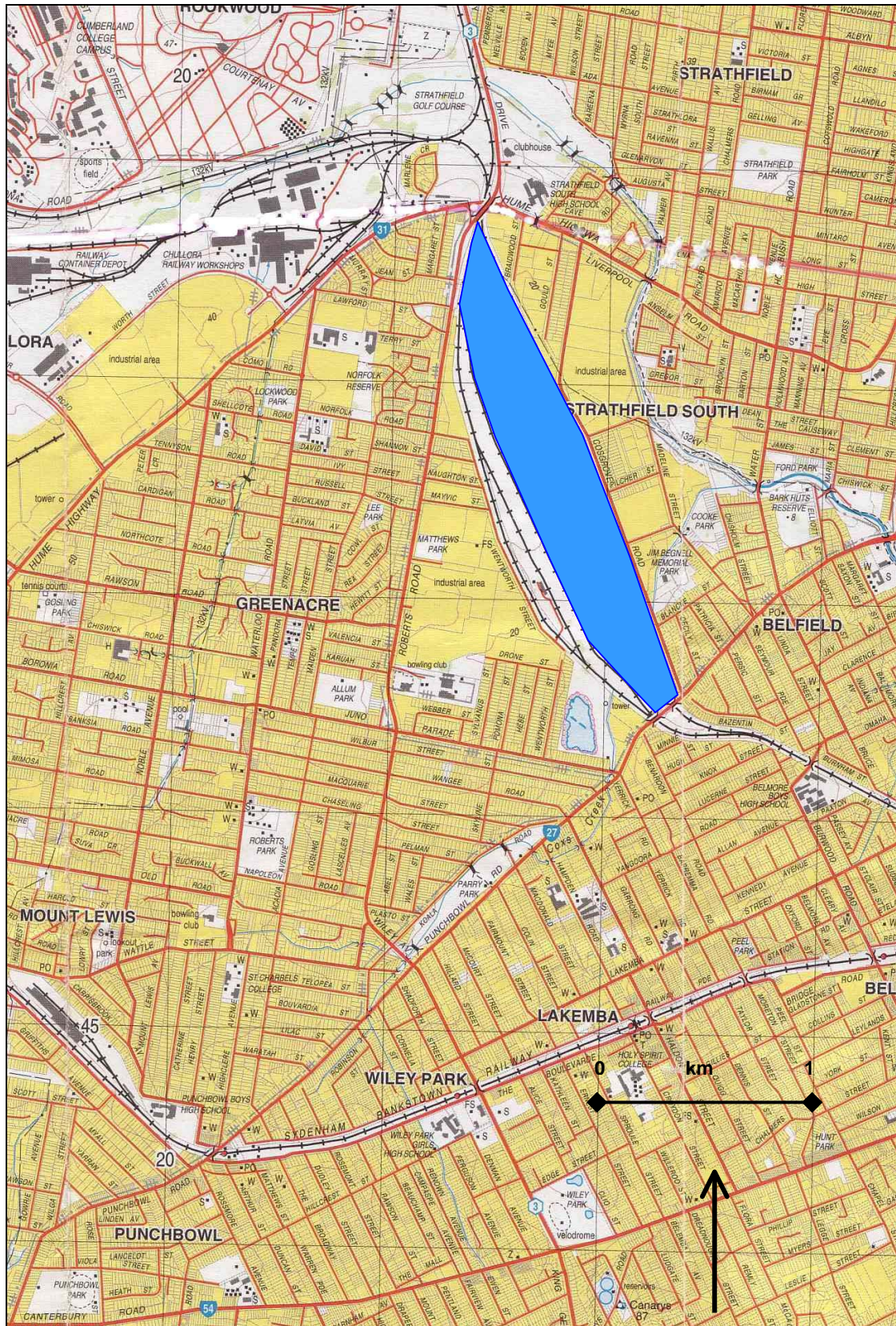


Figure 1 The Study Area (shaded) (base map: CMA Botany Bay 1:25,000 topographic map)

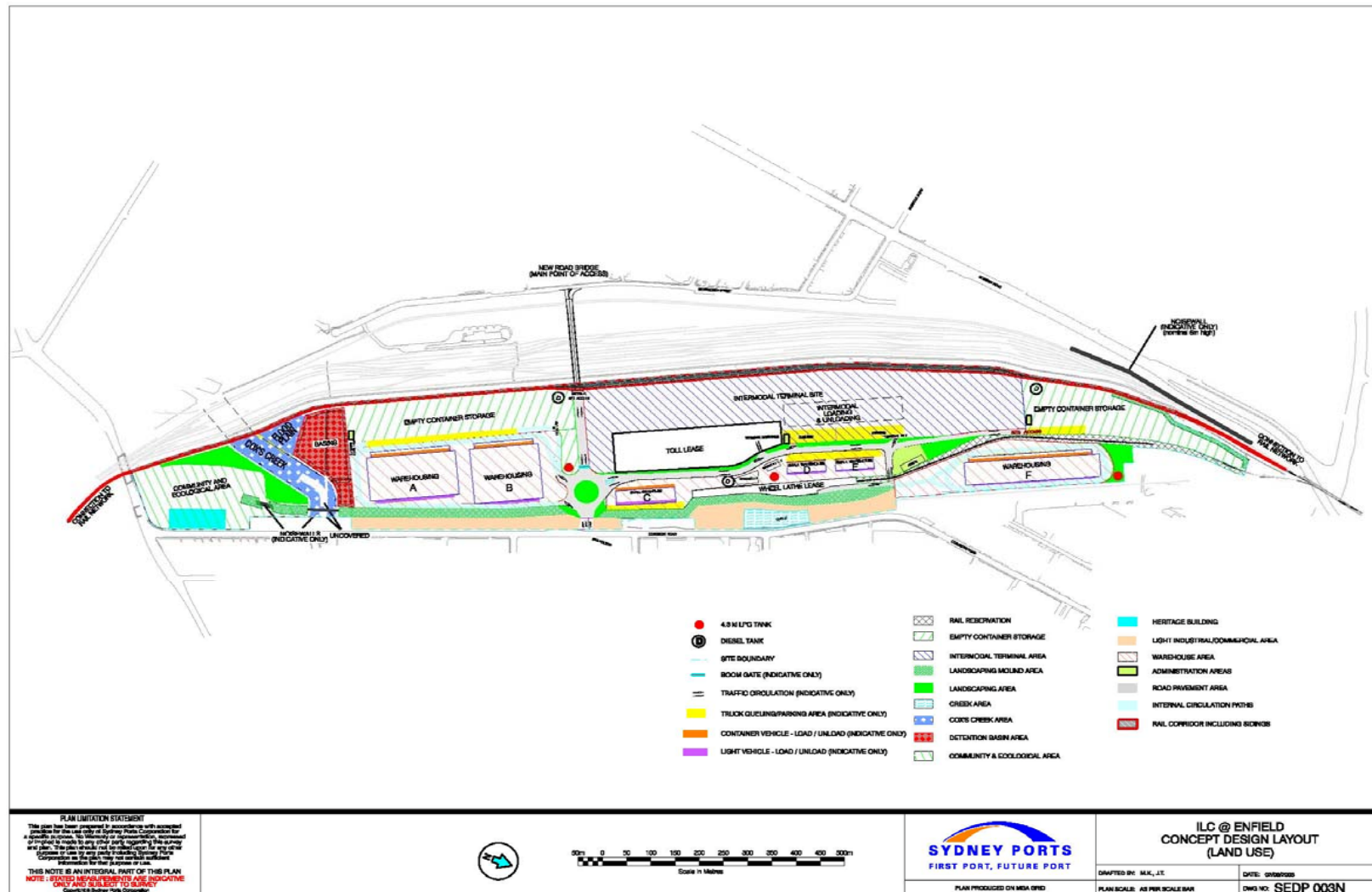


Figure 2 Concept Plan

3. ABORIGINAL CONSULTATION AND PARTICIPATION

The proposed Intermodal Logistics Centre at Enfield lies within the external boundary of the Darug Tribal Aboriginal Corporation Native Title Claim (Federal Court File No. NG6061 of 1998). However, it is not within the 'Area of Application subject to claim'. The details of the claim are provided in Appendix A. It should be noted that the application covers '*specifically identified parcels of Crown Land within an external boundary*'. The study area is not within one of these 'identified parcels of land'. The area has been subject to land uses which would not only have modified the total surface area of the study area since the time of Aboriginal occupation and use but which can be expected to have curtailed any traditional Aboriginal use of the area.

Aboriginal consultation was not required as part of this study because the area contained no known Aboriginal sites and the past landuse effects of the longstanding industrial developments on the site mean that any evidence of pre-contact Aboriginal occupation will have been removed. Sections 5 & 7 provide more information on past landuse and disturbance. As required by the Director-General, SKM contacted the Metropolitan Local Aboriginal Land Council (MLALC) and provided a draft of this report for its review.

4. STUDY METHODOLOGY

As this study aims to assess the likelihood of significant indigenous archaeological deposits remaining at the site the methodology focuses heavily on understanding the landuse history and disturbance across the study area and the impact that these might have on archaeological deposits.

As a routine step, during the previous study, a search was made of the AHIMS Sites Register of DEC and the National Native Title Tribunal. A review of the Aboriginal and archaeological history of the general area was also conducted.

A review of documentation provided by Sydney Ports was undertaken with a view to understanding previous work undertaken on the study area and specifically to develop an understanding of the evidence for subsurface disturbance and landscape modification. The reports reviewed included:

- Enfield Marshalling Yards: Part A Environmental Contamination Assessment March 1999 by CH2MHILL
- Enfield Marshalling Yards: Part A Contamination Assessment Vol 2 Appendices. by CH2MHILL
- Enfield Marshalling Yards: Part B Environmental Contamination Assessment by CH2MHILL
- Enfield Marshalling Yards: Part B Contamination Assessment Vol 2 Appendices by CH2MHILL
- Graham Brooks and Associates Architects and Heritage Consultants 2005 Sydney Ports Corporation. Proposed Intermodal Logistics Centre at Enfield. Assessment of Heritage Impact.

A field inspection was made by Susan McIntyre-Tamwoy in 2001. Based on this documentary review and the field inspections, conclusions were made about the indigenous archaeological potential of the study area.

4.1 Potential Archaeological Deposits

This study focuses on an assessment of the likely archaeological heritage resources remaining within the study area. The consultants' brief specifically excluded the assessment of standing structures and ruins as these have been the subject of a separate study by Graham Brooks and Associates

(2005). In assessing the archaeological resource within the study area the following methodology was used.

Firstly the history of the site since European settlement is used to understand the range of places and activities that may be represented archaeologically in the study area. Secondly, The description and assessment of the extant historic structures has been reviewed to determine the likelihood that such activities would result in archaeological deposits forming. Thirdly, and most importantly, the level of surface and subsurface disturbance is analysed to determine if and where intact deposits might remain. In this regard the project has benefited greatly from the extensive data available on fill and disturbance to deposits contained in the bore logs relating to the geotechnical and contamination studies undertaken by CH2MHILL.

Once this information is analysed then zones or areas of potential will be mapped and then checked against field observations before the final assessment. The results of this analysis will be a range of Potential Archaeological Deposits (PADs) which are zoned according to the potential that they have to contain significant deposits. These may range from areas of no potential to areas zoned as having high potential to contain significant archaeological deposits.

5. ENVIRONMENTAL CONTEXT

Generally the study area slopes from Roberts Road in the northwest towards Cosgrove Road in the southeast. Over the entire study area there is a drop of about 15 m. There are a series of large grassed stockpiles on the eastern side of the study area towards the south. The bulk of the site has been levelled. The western side of the site still operates as a goods yard and has been redeveloped for the new Enfield Marshalling Yards. The DELEC facility and wheel lathe area, located on the north-eastern side of the site, are still operational, and two other areas are in use, namely the site operated by the Toll Group and a fence storage area leased by ATF Pty Ltd.

The entire landscape of the study area has been totally modified by human intervention at some point after European settlement in NSW. Most of the disturbance has probably occurred during the initial construction and subsequent redevelopment of the former Enfield Marshalling Yards area. However inspection of a current excavation for drainage works on the opposite side of Cosgrove road in the vicinity of Coxs Creek suggest that the surface disturbance goes well beyond the boundaries of the former Enfield Marshalling Yard. The exposed cutting revealed that topsoil had been removed sometime in the past consistent with bulldozing/clearing in these shallow topsoil Ashfield clay areas.

Extensive investigation has been undertaken to assess the deposits, associated hydrology and potential contamination. The results of the contamination assessment study (CH2MHILL 1999) provide a comprehensive review of the subsurface deposits. The most relevant point to note in relation to archaeological potential is that although approximately 63 locations were tested in that study no topsoil was found either on the current surface or sealed beneath fill. As the contamination assessment provides the most thorough assessment and description of the physical landscape of the site the following sections on soils and geology have adopted this background information for the archaeological assessment.

5.1 Soils and Geology

Chapman and Murphy (1989) describe the soils in the area as Blacktown, Birrong or disturbed terrain type soils (CH2MHILL 1999:Part A:9). These soils range from moderately deep (50-150 cm) to deep (>250 cm). On the crests, upper slopes and well-drained areas the soils are typically red and brown podzolic soils. On the lower slopes the soils are typically yellow podsolic soil grading to soloths in areas of poor drainage. In areas of disturbed terrain, the soils are typically turfed fill areas commonly capped with up to 40 cm of sandy loam or up to 60 cm of compacted clay overlying fill or waste material. The soils typically have low permeability and poor drainage.

The underlying geology consists of Bringelly Shale in the north, Minchinbury Sandstone through the central section of the site and Ashfield Shales in the southern portion of the site. The Bringelly/Ashfield Sales and the Minchinbury Sandstone are part of the Wianamatta Group and may be up to 48 to 54m thick. The sequence coarsens upwards from siltstone to laminite and culminates in the fine-grained overlying Minchinbury Sandstone. The Ashfield Shales unconformably overly the Mittagong Formation Intrusive basaltic dykes in the Ashfield Shale are comparatively fresh and unweathered. The surrounding country rocks are little affected by the thermal alteration. Contact metamorphic effects are generally restricted to a few centimetres of indurated shale in the Ashfield Shale.

6. ARCHAEOLOGICAL CONTEXT

6.1 Tribal and Cultural Affiliations

The exact boundaries between Aboriginal groups that existed in 1788 are impossible to reconstruct because of the lack of reliable data available from that time. There have been numerous attempts at mapping the pre-contact and contact territories of Aboriginal people in the Sydney region (Capell 1970, Eades 1976, Kohen 1986, 1988, Mathews 1901a and b, Ross 1988, Tindale 1974). The primary data is limited, as the early observers (members of the First Fleet and settlers) did not document how Aboriginal people perceived of their own groups or how they differentiated themselves from one another.

The linguistic and tribal boundaries and size of areas attributed to the various Sydney region Aboriginal groups vary between different interpreters. Tindale (1974) places the Tharawal tribe in the area south from Botany Bay and Port Hacking to the Shoalhaven River and inland to Campbelltown, Picton and Camden. To the west of this tribal area, Tindale placed the Gandangara tribe, and to the north the Daruk tribe. Tindale has an Eora tribe, which was closely linked to the Tharawal tribe, extending from the northern shores of Port Jackson to the edge of the plateau overlooking the Hawkesbury River and south to Botany Bay and the Georges River. Tindale earlier referred to the Aborigines on the northern side of Botany Bay as the Kameraigal horde, while others refer to this group as the Cadigal or Biddigal.

6.2 The Sydney Basin

The Sydney Basin has been the subject of intensive archaeological survey and assessment for many years. This research has resulted in the recording of thousands of Aboriginal sites and a wide range of site types and features. The most prevalent sites or features include: isolated finds, open artefact scatters or camp sites, middens, rock shelters containing surface artefacts and/or occupation deposit and/or rock art, open grinding groove sites, and open engraving sites. Rare site types include scarred trees, quarry and procurement sites, burials, stone arrangements, carved trees, and traditional story or other ceremonial places.

Archaeological studies in the Sydney Basin have generated hundreds of reports and monographs and a number of academic theses. Studies generally fall into four categories - projects which have been carried out within a research-oriented academic framework, larger scale planning and management studies (eg. regional heritage studies) archaeological surveys carried out by interested amateurs, and impact assessment studies which have been carried out by professionals within a commercial contracting framework. The latter deal with specific localities subject to development proposals and constitute a large proportion of the archaeological research carried out to date.

Aborigines have lived in the Sydney region for at least 20,000 years (Stockton & Holland 1974). Late Pleistocene occupation sites have been identified around the fringes of the Sydney Basin at Shaws Creek (13,000 BP [Before Present]) in the Blue Mountain foothills (Kohen et al 1984), and at Mangrove Creek (11,000 BP) at Loggers Shelter (Attenbrow 1981). Nanson et al (1987) have suggested that artefacts found in gravels of the Cranebrook Terrace indicate Aboriginal occupation over 40,000 years ago, however there is some doubt as to the contextual integrity of these artefacts.

The majority of both open and rockshelter sites in the Sydney region date to within the last 3,000 years. A similar trend in occupation age occurs in dated deposits in NSW coastal sites. This has led many researchers to propose that population and occupation intensity increased from this period (Attenbrow 1987, Kohen 1986, Smith 1986, McDonald & Rich 1993, McDonald 1994). The increased use of shelters postdates the time when sea levels stabilised after the last ice age around 5,000 years ago (the Holocene Stillstand). Following the stabilisation of sea levels, the development of coastal estuaries, mangrove flats and sand barriers would have increased the resource diversity, predicability, and the potential productivity of coastal environments for Aborigines. In contrast, occupation during the late Pleistocene (prior to 10,000 BP) may have been sporadic and the Aboriginal population relatively small.

The stone technologies used by Aborigines within the Sydney Basin have not remained static and a sequence of broad scale changes through time have been consistently identified. This is known as the Eastern Regional Sequence and can be applied with various degrees of success and allowances for regional differences, to sites throughout eastern seaboard of Australia. Within the Sydney Basin the Sequence can be characterised using the following terminology and phases (based on McDonald 1994):

The Capertian: Artefacts from this period consist mostly of large heavy artefacts including unifacial pebble tools, scrapers, core tools, denticulate saws, and hammer stones. Some bipolar tools and burins also occur. The Capertian is present up to around 5,000 years BP.

The Early Bondaian: Within this phase characteristics of the Capertian continue but tools on smaller blades are introduced and become predominant. Blades that are backed (one edge blunted by fine trimming) and ground edge implements are notable introductions. There is a major shift in the type of rocks used for tool manufacture to fine-grained siliceous materials (such as silcrete, chert and tuff/indurated mudstone). The Early Bondaian has been identified in deposits dating between around 5,000 and around 3,000 years BP.

The Middle Bondaian: In this phase the percentage of Bondi points (a type of backed blade) increases and remains greater than the percentage of bipolar artefacts. Edge ground artefacts are present in higher proportions as are quartz artefacts. This phase dates from around 3000 to as late as 1,000 years BP.

The Late Bondaian: This phase is characterised by quartz either becoming the predominant rock type used or markedly increasing in proportion. Bondi points and most types of backed blades become rare or are no longer found. Eloueras, bipolar artefacts and edge ground hatchets are the dominant tool types. Bone and shell implements including fishhooks appear in this phase, particularly in some coastal sites. This phase dates from around 1,600 (Attenbrow 1987), or 1,000 years BP (McDonald 1994), to the cessation of stone working following contact with European Society.

McDonald notes that the introduction of ground implements around 4,000 BP and shell fishhooks in the last 1,000 years were major technological innovations (McDonald 1994:69). The significance and possible reasons for the technological changes in the Eastern Regional Sequence have been the subject of considerable research and debate since their identification. Contemporary theories postulate various changes in social behaviour, group interactions, and population dynamics either as contributing causes or as consequences of these technology changes (eg Attenbrow 1987, Beaton 1985, Lourandos 1985, Walters 1988, McDonald 1994). McDonald for example interprets the introduction of the Bondaian in the Sydney Basin as a manifestation of social change brought about by population pressure promoted by sea level rise (1994:347).

6.3 Botany Bay/South Sydney Region

The southern Sydney/Botany Bay area within which the current study area is situated has been the subject of considerable archaeological investigation over the last few years. To date over seven hundred Aboriginal sites have been listed in the DEC Site Register as occurring within the catchment areas of Botany Bay, Bate Bay and Port Hacking. Site types include shell middens, shelters with art/deposit/midden, rock engravings, open artefact scatters, scarred trees and burials. The sites have been variously recorded by professional archaeologists and interested amateurs, and it appears that multiple recordings have been made of some sites.

The majority of Aboriginal sites on the NSW coast date to within the last 6,000 years when sea levels eventually stabilised around the present level (the Holocene stillstand). Following the stabilisation of sea levels, the development of coastal estuaries, mangrove flats and sand barriers would have increased the resource diversity, predicability, and the potential productivity of coastal environments for Aborigines. In contrast, occupation during the late Pleistocene (prior to 10,000 BP) may have been sporadic and the Aboriginal population relatively small. Sites older than 6,000 years are rare, as most of these would have related to previous shorelines which have now been destroyed or submerged by rising seas. The majority of sites along the Sydney coast date to within the last 2500 years.

Excavations of sites have been carried out at a number of locations around the Botany Bay and Port Hacking areas. Megaw (1966, 1968, 1974) excavated several sites in the course of a general survey of the South Sydney region. Dickson (1974a & b) excavated a midden at Boat Harbour on the Kurnell Peninsula.

In the south Sydney region only three excavated sites have provided dates prior to 5000 BP (before present). One of these is an Aboriginal hearth comprising over thirty sandstone cobbles and charcoal which has been dated to 7,800 BP (before present). The hearth was located in the course of investigations at the Prince of Wales Hospital Destitute Children's Asylum Cemetery (Godden Mackay/Austral Archaeology 1997).

A range of site types is known to occur in the general region of the study area. These occurrences are typically associated with extensive dune systems, various subsurface contexts and rock formations along the coastline. In the early 1900s Etheridge (1907) noted that numbers of Aboriginal stone 'workshops' were to be found in the sand dunes at Maroubra. These sites were described as concentrations of large numbers of stone artefacts exposed in blow-outs, often in association with dead coastal woodland that had been covered by the dunes. Unfortunately, no detailed maps were published and the exact location of the sites is unknown. Artefacts described include 'tomahawks' (hatchets), grindstones, 'knives', scrapers, graters, drills, spear points and a 'lancet-like surgical knife or scarificator' (Etheridge 1907: 234-235).

Illustrations from Etheridge (1907: 238) show the 'scarificator' to be an elongate asymmetric backed blade. Numerous middens have been recorded along the edge of Botany Bay and along the open coastline, engraving sites are found on sandstone outcrops at Malabar and axe grinding grooves have been recorded (Dallas 1999). Aboriginal burials are found along the Botany Bay shoreline and are often associated with middens (Dallas 1997: 5-6). Donlon (1991, 1995) undertook a study of Aboriginal burials within the Sydney Basin and examined 32 skeletons in the Australian Museum which had been found at La Perouse and concluded that most burials occurred singularly and were most likely to be found eroding from beach sands.

During the construction of the Alexandra Canal at Sheas Creek in the late 1800s, three Aboriginal hatchets were recovered from subsurface contexts approximately 700 metres upstream of the Ricketty Street Bridge. The bones of a dugong (*Dugong dugong*) showing possible signs of Aboriginal butchering were also excavated in the vicinity, approximately 200 metres above the bridge. The site and its contents were subsequently investigated and described by Etheridge (et al 1896) and appears on the DEC Register as site No. 45-6-751.

The hatchets were found at an approximate depth of two metres below low water and were associated with a lens of peat and an overlying bed of estuarine clay mixed with shell. These artefacts were described as being of the 'oblong ovate type' (Etheridge et al 1896: 174). The dugong bones were found at an approximate depth of 1.3 to 2.3 metres below low water level, within a bluish estuarine deposit directly overlying a shell rich horizon. Also evident within the exposed section were a number of *in situ* tree stumps (*Banksia* and *Eucalyptus* sp), occurring in at least three horizons. These subsurface features were carefully drawn in two sections illustrating the horizontal and vertical relationships between the artefacts, bones and deposits prior to site destruction. It was suggested at the time that the site was representative of palaeoenvironmental change in step with sea level fluctuation along northern Botany Bay (Etheridge et al 1896). Supporting evidence for this has been more recently uncovered in adjacent St Peters where comparable natural deposits yielded radiocarbon dates of just under 6000 BP and have been interpreted as the result of late fluctuation in sea level (Haglund 1994: 15).

McIntyre investigated an eroded Aboriginal midden at Frenchmans Bay, La Perouse in 1985. The midden, approximately 50 x 20 metres in area at the time, was situated in a blow-out in the dunes adjacent to the Aboriginal settlement at La Perouse. Midden contents included stone artefacts (mainly debitage), shell and some wallaby teeth, all of which were assumed to have been eroded from an *in situ* context beneath the sand dune (McIntyre 1985: 5-7). McIntyre (1985: 5) noted the presence of at least five shellfish species in the midden including rock, turban shell, periwinkle, cockle and Sydney whelk. Stone types evident in the artefact assemblage included silcrete, chert and quartz. A considerable number of additional stone artefacts including backed blades, eloueras, grindstones, hatchets, fishhooks and ochre had also been collected at the location over the course of

previous years (McIntyre 1985: 1). Human skeletal material was reported to have been found eroding from the midden some time ago, the bones subsequently having been reburied at an undisclosed location (McIntyre 1985: 7).

An archaeological survey of the Botany Wetlands was carried out by Crew in 1991. The study area was approximately four kilometres long and between 500 and 1000 metres wide, incorporating the current area of the Lachlan Swamps and the Mill Stream. For the purposes of survey, the study area was divided into three arbitrary 'zones': Zone 1 (Eastlakes Golf Course), Zone 2 (the Lakes Golf Course) and Zone 3 (the Mill and Engine Pond areas) (Crew 1991: 9). Crew predicted that the high levels of European landscape alteration in these areas would have destroyed most evidence of prehistoric Aboriginal occupation. However, sites deemed most likely to have occurred in and around the swamps were seen to include burials, shell middens and 'open sites' on swamp margins and/or on the tops of adjacent sand dunes (Crew 1991: 8). While no Aboriginal sites were discovered in the study area, Crew (1991: 10-11) identified two general areas of archaeological potential including three relatively intact sand dunes near the Lachlan Swamps (near Wentworth Avenue) and sand bars within the Mill Stream. The latter area was selected on account of the sand bars having originally been elevated ground adjacent to water and the discovery of an Aboriginal cranial bone at the location in 1982 (Crew 1991: 10-11).

Brayshaw McDonald and Godden Mackay undertook a heritage assessment of the proposed route of the Eastern Distributor in 1996. The assessment formed a component of the EIS undertaken from the Cahill Expressway at Woolloomooloo to Mill Pond Road at Botany and included a detailed background review combined with field survey. Due to the lack of original ground surface remaining in the study area, field inspection of the majority of the route was undertaken by vehicle. The only area suited to foot survey was found to be the western margin of Moore Park where a section of highly disturbed dune deposit was traversed (Brayshaw McDonald and Godden Mackay 1996: 3-13). While no Aboriginal sites were identified during the survey, the report stressed the potential significance of any areas where undisturbed subsurface archaeological material may occur. It was suggested that areas most likely to contain subsurface cultural material included remnant sand bodies in the vicinity of the Lachlan Swamps (Brayshaw McDonald and Godden Mackay 1996: 3-14).

An archaeological survey for Aboriginal sites was conducted by Dallas at a proposed redevelopment site at Mascot in 1997. The survey was undertaken at the former location of the Davis Gelatine factory to the east of the Mill Ponds, a location thought to have originally been occupied by mobile quaternary dunes (Dallas 1997: 2-3). After taking into account the process of factory construction that had taken place in the study area from the early 1900s onwards, Dallas concluded that much of the surface and subsurface deposits were highly disrupted and little potential existed for intact archaeological material to have survived (Dallas 1997: 8). An area of archaeological sensitivity was deemed to exist in the form of a remnant dune formation in the study area's southwest. Dallas intimated that this landscape feature could be representative of part of the original mobile dune field which may have effectively capped more stable, possibly archaeological deposits below (Dallas 1997: 8).

6.4 The Study Area

A search of the Department of Environment and Conservation (DEC) Aboriginal Heritage Information Management System was carried out and no previously recorded Aboriginal sites are located within the study area. Although there have been many Aboriginal sites found in the surrounding region the highly disturbed nature of the study area indicates that no Aboriginal sites are likely to occur.

7. LANDUSE HISTORY

7.1 Landuse History of the former Enfield Marshalling Yards.

The land which comprises the study area was originally granted in separate parcels to William Roberts, Harriet Carr and James Morris between 1810 and 1837. Its primary use was grazing and agriculture. The land continued to be used largely for agricultural purposes until its acquisition by the Railways in 1912-14. However by this time the original grants had been subdivided into multiple ownership and some additional land uses were introduced. These include:

- Enfield Brick Company 1903-5
- Poultry farming (Charles Cooper) 1903-5
- Daniel Wheeler 1904-1914
- Timber Merchant/lumber yard (Herbert John Miller) 1904-1910
- Bus yard (Oliver Olsen) 1908-1913
- Night Soil Depot
- Market Garden/Chinaman's Garden.

7.2 Landuse History after the Construction of the former Enfield Marshalling Yards

The study area was acquired by the Chief Commissioner of Railways and Tramways NSW between 1912 and 1914. The former Enfield Marshalling yards were developed in 1916 as the hub in the NSW goods distribution system. The system linked the goods flow to and from the ports of Rozelle and Darling Harbour and formed part of the Campsie to Flemington goods line. The Campsie to Flemington goods line is part of the metropolitan goods lines, this connects the Main South with the Bankstown line. The major location on this line is the new Enfield marshalling yards. On the eastern side of the complex is the DELEC locomotive maintenance facility, the wheel lathe area, the Toll lease area and the area leased by ATF Pty Ltd. The northern end of the line features the Flemington Goods Junctions.

The former Enfield Marshalling Yard was the location of the sixth of a series of Locomotive Depots (1-38 Locomotive Depots) that began with Sydney Yard (approximate location of Central Station) (Graham Brooks and Associates Architects and Heritage Consultants 2005). These yards included:

- Yard no.1: Sydney Loco Depot: Haymarket (1855)
- Yard no.2: Broadmeadow Loco Depot
- Yard no.3: Goulburn Loco Depot
- Yard no.4: Bathurst Loco Depot
- Yard no.5: Junee Loco Depot
- Yard no.6: Enfield Yard: Strathfield (1916)

As well as providing access to the new Enfield marshalling yard, this line is also used by trains from the north and west to get to the Botany goods line (there are dedicated freight lines from the southern end all the way to the beginning of the Botany line). It also sees Pacific National trains that use the line back into their freight facility on the Chullora - Sefton goods line. While the Enfield Marshalling Yard commenced operation in 1916, the actual layout of the site developed over a period of about 20 years. By 1917 the site comprised a series of transfer and shunting sidings, two roundhouses, the Enfield Locomotive Depot and the Yard Masters Office. At this time part of the site on the eastern side still appears to be used as grazing land and the two creeks at the northeastern end of the study area appear to retain a relatively natural form, with only Coxs Creek to the south canalised.

Other buildings present on the site today appear to have been built at least by the mid 1920s. These include the Wagon Repair Shed located towards the centre of the site to the east of the new Enfield marshalling yards, the Tarpaulin Factory located on the corner of Cosgrove and Punchbowl Road in the southeastern corner of the site. The administration building dates to around the mid to late 1940s and the ablution block adjacent to the Wagon Repair shed to some time after that perhaps the 1960s. Most of the lines themselves and essential services, such as electricity, were in place by the mid 1920s.

8. SURVEY RESULTS

Prior to European settlement Aboriginal people are likely to have used this land both for resource exploitation (hunting, gathering and travel) and for camping. The area is relatively well watered, with three small creeks running through it. One of these, Coxs Creek is a named tributary of the Cooks River and judging by the size of the canal into which it is now formed, it carries large flows at least seasonally. Parts of the study area are also well elevated and today provide a clear vantage point to the City of Sydney skyline. While original vegetation would have obscured the view somewhat, the tree cover is likely to have been sparse, allowing the Aboriginal people who originally owned this country a vantage point over the surrounding areas to the east and south.

Sometimes archaeological sites are obvious from a scatter of relics or artefacts on the surface and sometimes they are hidden by subsequent landuse and erosional or depositional processes. An area which is identified as having potential deposit is called a *Potential Archaeological Deposit or (PAD)*. A PAD is more than simply soil that may have isolated relics embedded in it. In fact any soil across the landscape may have isolated or random pieces of debris from human activity buried, discarded or re-deposited in it. The term as used by archaeologists implies a relationship between the relics or artefacts and the soil matrix in which they are located, that when excavated, can be interpreted by archaeologists to reveal aspects of the history of an area, site or region. It is important then in any archaeological assessment to consider the potential of the landscape to contain PADs.

As expected however, no Aboriginal sites or artefacts were noted and no Potential Archaeological Deposits were identified after visiting the site.

Prior to going into the field it was thought possible that Coxs Creek might have a small band of topsoil preserved along the length of each side of the exposed channel. If this had been the case then an area would have been identified which was considered to have a low archaeological potential. However after field inspection the existence of remnant topsoils is considered unlikely. Excavations occurring along the canal on the other side of Cosgrove Road at the time of the field visit provided an opportunity to view nearby soil profiles. Inspection of the trenches and discussion with the contractors confirmed that at some time in the past all topsoil had been removed. Introduced topdressing had been added immediately on top of thick (60 cm) band of yellow clay which sat in turn on red and white mottled clays to the base of the trench (ie. approx. 3 m).

An inspection of the canal where it enters the development site, reveals that the land on either side of the canal has been disturbed, in part due to canal construction, but also due to the embankments for two railway lines which pass over the canal. The closest borehole logs are BH32 and BH51 both of which indicate that there is no remaining topsoil in this area.

The above two inspections of the soil profile and an overall scan of the ground surface indicate that there is no pre European occupation aged topsoil remaining on any part of the study area.

Aboriginal sites are extremely unlikely to remain across the site. Given the level of disturbance experienced across the site and the evidence that no topsoil remains intact across the site, any Aboriginal sites which once existed will have been destroyed by past landuse activity.

9. STATUTORY OBLIGATIONS

9.1 The National Parks and Wildlife Act 1974

The following summary is based on:

- the provisions of the current National Parks and Wildlife Act 1974 (as amended). It should be noted that amendments to this Act were passed by both houses of the NSW State Government in 2001 (no.130, assented 19/12/2001). Some of these amendments are yet to be proclaimed.
- Department of Environment and Conservation policy as presented in the 1997 Standards and Guidelines Kit for Aboriginal Cultural Heritage provided by the NSW NPWS, and as communicated orally to the consultants on a periodic basis. The 1997 Standards and Guidelines Kit is currently under review and subject to change in the near future.

The guideline documents presented in the 1997 Standards and Guidelines Kit were stated to be working drafts and subject to an 18 months performance review. The Standards Manual was defined not to be a draft and subject to periodic supplements.

The National Parks and Wildlife Act 1974 (as amended) provides the primary basis for the legal protection and management of Aboriginal sites within NSW. The implementation of the Aboriginal heritage provisions of the Act is the responsibility of the Department of Environment and Conservation (DEC).

The rationale behind the Act is the prevention of unnecessary or unwarranted destruction of relics, and the active protection and conservation of relics that are of high cultural significance.

With the exception of some artefacts in collections, or those specifically made for sale, the Act generally defines all Aboriginal artefacts to be 'Aboriginal Objects' and to be the property of the Crown. An Aboriginal object has a broad definition and is inclusive of most archaeological evidence. The Act then provides various controls for the protection, management and disturbance of Aboriginal Objects.

An Aboriginal object is defined as:

'any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.' [Section 5(1)].

In practice, archaeologists use a methodology that groups 'Aboriginal Objects' into various site classifications according to the nature, occurrence and exposure of archaeological material evidence. The archaeological definition of a site may vary according to survey objectives, however a site is not recognised or defined as a legal entity in the Act. It should be noted that even single and isolated artefacts are protected as Aboriginal Objects under the Act.

Generally, it is an offence to do any of the following without a Permit from the Director-General of the Department of Environment and Conservation under Section 87: disturb or excavate any land for the purpose of discovering an Aboriginal Object; disturbing or moving an Aboriginal Object; take possession of or removing an Aboriginal Object from certain lands; and erecting a building or structure to store Aboriginal Objects on certain land (Section 86). The maximum penalty is \$11,000 for individuals and \$22,000 for corporations. Section 175B outlines circumstances where corporation directors may be taken to have contravened these provisions, based on the acts or omissions of that Corporation.

Consents regarding the use or destruction of Aboriginal Objects are managed through a system of Permits and Consents under the provisions of Sections 87 and 90 of the Act. The processing and

assessment of Permit and Consent applications is dependent upon adequate archaeological review and assessment, together with an appropriate level of Aboriginal community liaison and involvement (refer Standards for Archaeological Practice in Aboriginal Heritage Management in 1997 NPWS Standards and Guidelines Kit).

The Minister may declare any place which, in his or her opinion, is or was of special Aboriginal significance with respect to Aboriginal culture, to be an Aboriginal place (Section 84). The Director-General has responsibility for the preservation and protection of the Aboriginal place (Section 85). An area declared to be an Aboriginal place may remain in private ownership, or be acquired by the Crown by agreement or by a compulsory process (Section 145).

The Director General may make an interim protection order and order that an action cease where that action is, or is likely to, significantly affect an Aboriginal object of Aboriginal place. Such an order is current for 40 days (Section 91AA, Schedule 3[10]). Such an order does not apply to certain actions, such as where they are in accordance with development consents or emergency procedures.

General Management Constraints and Requirements

The Act, together with the policies of the Department of Environment and Conservation provide the following constraints and requirements on land owners and managers:

- It is an offence to knowingly disturb an Aboriginal Object (or site) without an appropriate permit or consent (Sections 87 and 90);
- Prior to instigating any action which may conceivably disturb an Aboriginal Object (this generally means land surface disturbance or felling of mature trees), archaeological survey and assessment is required (refer Standards for Archaeological Practice in Aboriginal Heritage Management in 1997 NPWS Standards and Guidelines Kit).
- When the archaeological resource of an area is known or can be reliably predicted, appropriate landuse practices should be adopted which will minimise the necessity for the destruction of sites/Aboriginal Objects, and prevent destruction to sites/Aboriginal Objects which warrant conservation (refer Standards for Archaeological Practice in Aboriginal Heritage Management in 1997 NPWS Standards and Guidelines Kit).
- Documented and appropriate consultation with relevant Aboriginal Community representatives is required by the Department of Environment and Conservation as part of the prerequisite information necessary for endorsement of consultant recommendations or the provision of Consents and Permits by the NPWS (refer Standards for Archaeological Practice in Aboriginal Heritage Management in 1997 NPWS Standards and Guidelines Kit).
- The DEC has recently imposed new guidelines for consultation with Aboriginal groups regarding s87 and s90 permits (DEC Interim Guidelines for Aboriginal Community Consultation). As there are no Aboriginal sites or relics in the study area permits are not required and the new guidelines are not relevant.

9.2 The National Parks and Wildlife Amendment Bill 2001

Although this Act was passed by both houses of the NSW parliament in 2001, a number of its provisions with regard to Aboriginal cultural heritage have yet to be gazetted and are not yet law. These include the following provisions:

- The requirement for a section 90 'Consent to Destroy' from the Director General will be replaced by a 'heritage impact permit' (Schedule 3[1], 3[3-8]).
- The offence under section 90 of the Principal Act of 'knowingly' destroying, defacing or damaging Aboriginal objects and Aboriginal Places without Consent will be changed so that the element of knowledge will be removed (Schedule 3 [2]). The amended section 90, subsection 1 will read:

'A person must not destroy, deface, damage or desecrate, or cause or permit the destruction, defacement, damage or desecration of, an Aboriginal object or Aboriginal place.'

- Section 90 subsection 1 will not apply when an Aboriginal object or Aboriginal place is dealt with in accordance with a heritage impact permit issued by the Director-General (Schedule 3[3], Section 90(1B) in amended Act).
- It will be a defence to a prosecution for an offence against subsection 1 if the defendant shows that:
 - (a) 'he or she took reasonable precautions and exercised due diligence to determine whether the action constituting the alleged offence would, or would be likely to, impact on the Aboriginal object of Aboriginal place concerned, and
 - (b) the person reasonably believed that the action would not destroy, deface, damage or desecrate the Aboriginal object or Aboriginal place.' (Schedule 3[3], Section 90(1C) in amended Act)
- A court will be able to direct a person to mitigate damage to or restore an Aboriginal object or an Aboriginal place in appropriate circumstances when finding the person guilty of an offence referred to in section 90 of the Principal Act (Schedule 3[9]).
- Schedule 4[8] of the Bill provides for the Director-General to withhold in the public interest specified documents in the possession of the NPWS which relate to the location of Aboriginal objects, or the cultural values of an Aboriginal place or Aboriginal object.

Statutory constraints arising from artefacts which constitute background scatter

Background scatter is a term used generally by archaeologists to refer to artefacts that cannot be usefully related to a place or focus of past activity. There is no single concept for background 'scatter' or discard, and therefore no agreed definition. The recognition of background material within a particular study area is dependent on an appreciation of local contextual and taphonomic factors. Artefacts within a 'background' scatter can be found in most landscape types and may vary considerably in density.

Standard archaeological methodologies cannot effectively predict the location of individual background scatter artefacts. Surface survey may detect background material either as individual artefacts ('isolated finds'), or even as small, low-density 'sites'. Subsurface testing may sample, and through analysis, characterise background material. However, beyond the scope of archaeological sampling, the potential to encounter background artefacts within the context of development related ground disturbance will always remain.

Most previous cultural resource management archaeological methodologies have acknowledged that there is little scientific justification for the conduct of archaeological salvage or ground disturbance monitoring to effect the recovery of background artefacts. The intrinsic scientific value of any recovered artefacts does not, in general, outweigh the expense of conducting the monitoring. However, low density distributions of artefacts are a current subject of interest by some heritage practitioners and DEC policy regarding this issue may change in the future. The monitoring of construction related ground works by Aboriginal groups is now increasingly practiced. The recovery of background scatter artefacts is often a probable outcome of such monitoring exercises.

Given the nature of statutory and DEC policy requirements in NSW (refer Section 9), the detection of background artefacts during monitoring can be problematic. Unless the Aboriginal object is covered by a current Consent or Permit (or Heritage Impact Permit (HIP)), from DEC, all further impact to the find, and the ground in its immediate vicinity, must cease until one is gained. It may take up to eight weeks for this to occur. In the past, however, DEC has not as a general rule granted Consents to cover artefacts within background scatters. This is because DEC only provide Consents where the significance and location of the Aboriginal Objects to be impacted can be reliably defined. By their very nature, this cannot be done for artefacts that constitute a background scatter.

The present policies of DEC do not provide an effective or proactive means of dealing with the statutory constraints posed by the detection of background scatter artefacts during development works. It should therefore be noted, that in the event that an Aboriginal artefact ('Aboriginal object') is detected during monitoring of ground disturbance within a development study area, and that area is not covered by a Consent to Destroy (or Heritage Impact Permit), there may be considerable delays to development works while an application for a Consent to Destroy is processed.

10. RECOMMENDATIONS

In light of the results of the investigations, the following recommendations are made:

1. There are no indigenous heritage constraints to the development proceeding and there is no requirement for further indigenous heritage assessment within the study area.
2. Three copies of this report should be sent to DEC at the following address:

Archaeologist
Sydney Zone
Department of Environment and Conservation
PO Box 1967
HURSTVILLE NSW 2220
3. Finally, although the bulk of the site has been assessed as having no potential due to land disturbance, Sydney Ports are reminded that:
 - a) the NPW Act 1974 protects all relics whether they are known or undetected. Therefore should Sydney Ports or their contractors uncover undetected relics during the course of construction and excavation works then operations in that area should cease and the DEC be informed immediately regarding the relic or deposit.


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APPENDIX A

THE DARUG TRIBAL ABORIGINAL CORPORATION NATIVE TITLE CLAIM



NATIONAL NATIVE TITLE TRIBUNAL

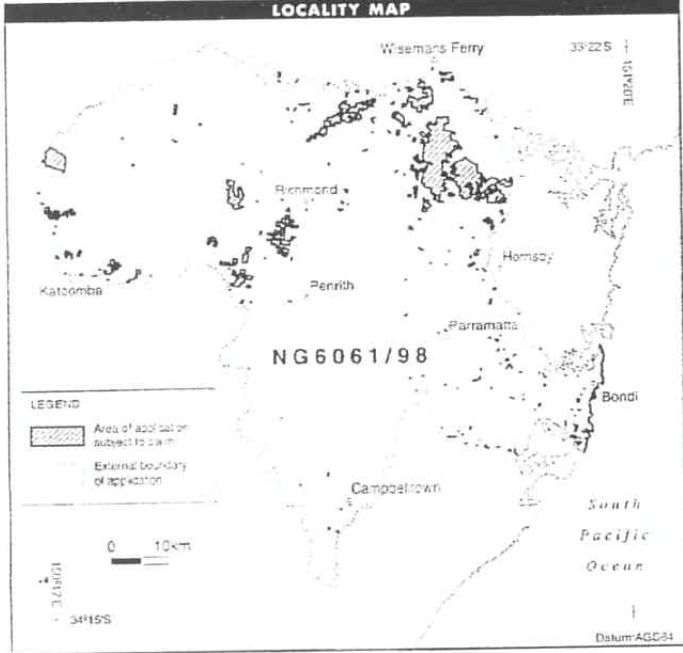
Notice of an application for determination of native title in the State of New South Wales

Notification day: 22 August 2001

This is an application by a native title claim group which is asking the Federal Court to determine that the group holds native title in the area described below.

A person who wants to become a party to this application must write to the Registrar of the Federal Court, Level 16, Law Courts Building, Queens Square, Sydney NSW 2002, on or before 21 November 2001. After 21 November 2001, the Federal Court's permission to become a party is required.

Under the Native Title Act 1993 (Cwlth) there can be only one determination of native title for a particular area. If a person with native title rights and interests does not become a party to this application, there may be no other opportunity for the Federal Court, in making its determination, to take into account those native title rights and interests in relation to the areas concerned.



Application name: Darug Tribal Aboriginal Corporation
 Federal Court File No: NG6061 of 1998
 Date filed: 12 May 1997

The Native Title Registrar has accepted this application for registration.

Locations: The areas subject to this application are located in the Greater Metropolitan Sydney region and, in total, cover an area of about 175km² as shown on the locality map.

The application covers specifically identified parcels of Crown Land within an external boundary. The application does not include any land in which the NSW Minister for Land and Water Conservation has granted an interest (that is still current) under the Crown Lands Act.

Please note that application does not cover any freehold land (except some land held under the Aboriginal Land Rights Act) in the Sydney metropolitan area and does not cover waters outside the specific parcels of Crown land identified.

There are also exclusions relating to historical government grants of interests in the identified parcels of Crown Land that will mean that some of the area of those specific parcels are not covered by the application.

A full description of the specific parcels of Crown Land covered by the application plus more detailed maps are available for inspection at the Sydney Registry of the National Native Title Tribunal, Level 25, 25, High Street, Sydney.

Data statement: claimant application boundary sourced from and used with permission of the Department of Information, Technology & Management, New South Wales.

FOR ASSISTANCE OR FURTHER INFORMATION ABOUT THIS APPLICATION, CALL THE NATIONAL NATIVE TITLE TRIBUNAL ON 1800 640 501.