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***Lake Cathie-Bonny Hills  
Stage 1B Environmental Study***

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***Cultural Heritage Assessment***

*February 2003*

*Prepared on behalf of :*

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## TABLE OF CONTENTS

<b>1</b>	<b>INTRODUCTION .....</b>	<b>1</b>
1.1	Location of the Environmental Study area .....	4
1.2	Summary of results and recommendations .....	4
<b>2</b>	<b>ABORIGINAL INVOLVEMENT .....</b>	<b>5</b>
<b>3</b>	<b>ENVIRONMENTAL CONTEXT .....</b>	<b>6</b>
<b>4</b>	<b>CULTURAL CONTEXT .....</b>	<b>7</b>
4.1	Aboriginal occupation .....	7
4.2	Historic background .....	8
<b>5</b>	<b>ARCHAEOLOGICAL CONTEXT .....</b>	<b>9</b>
5.1	Known Aboriginal sites .....	9
5.2	Aboriginal site surveys .....	12
5.3	Historic sites .....	14
<b>6</b>	<b>ARCHAEOLOGICAL POTENTIAL OF THE STUDY AREA .....</b>	<b>16</b>
6.1	Constraints to site preservation .....	16
6.2	Aboriginal heritage	
6.2.1	Possible site types .....	17
6.2.2	Predicting site locations .....	18
6.3	Historic sites .....	19
<b>7</b>	<b>FIELD SURVEY .....</b>	<b>20</b>
7.1	Survey strategy .....	20
7.2	Survey method and details .....	20
7.3	Survey coverage .....	21
<b>8</b>	<b>SURVEY RESULTS .....</b>	<b>24</b>
8.1	Aboriginal sites .....	24
8.2	Historic sites .....	25
<b>9</b>	<b>CONCLUSIONS .....</b>	<b>25</b>
<b>10</b>	<b>STATUTORY OBLIGATIONS .....</b>	<b>26</b>
10.1	Aboriginal sites .....	26
10.2	Historic sites .....	27
<b>11</b>	<b>SIGNIFICANCE ASSESSMENT .....</b>	<b>27</b>
11.1	Site 1B-1 scarred tree	
11.1.1	Aboriginal cultural/social significance .....	27
11.1.2	Scientific/archaeological significance .....	28
<b>12</b>	<b>RECOMMENDATIONS .....</b>	<b>29</b>

12.1	Aboriginal sites	
12.1.1	Site 1B-1 scarred tree	29
12.1.2	Bank of Duchess Creek	30
12.1.3	Remainder of the Environmental Study area	30
12.2	Historic sites	31
<b>REFERENCES</b>		<b>33</b>
<b>GLOSSARY</b>		<b>36</b>
<b>APPENDIX</b>		
A	Correspondence from the Birpai Local Aboriginal Land Council/ Mingaletta Development Corporation	38
<b>LIST OF TABLES</b>		
1	Character of known Aboriginal sites in 'Area 14'	10
2	Previous archaeological survey coverage of 'Area 14'	11
3	Summary of survey coverage	23
4	Survey coverage of landform units	24
<b>LIST OF FIGURES</b>		
1	General location of the Environmental Study area on the NSW mid-north coast	2
2	Location of the Environmental Study area in relation to the distribution of previously recorded Aboriginal sites and the Site 1B-1 scarred tree	3
3	Environmental Study area showing landform units and areas surveyed	22

# **1 INTRODUCTION**

Under the terms of the Urban Growth Strategy (2001) developed by Hastings Council, the population of the Lake Cathie-Bonny Hills area (designated 'Area 14') could increase substantially using a combination of current land reserves and selected rezonings from within Urban Investigation Areas. This report was prepared on behalf of King and Campbell and forms the cultural heritage component of an Environmental Study for Stage 1B of the identified Urban Investigation Areas. The Stage 1B area is currently zoned rural (1(a1)) under Hastings Local Environmental Plan 2001. Depending on the results of the Environmental Study, part or all of area may be rezoned for residential purposes.

In order to comply with provisions of the National Parks and Wildlife Act (1974), NSW Heritage Act (1977) and Environmental Planning and Assessment Act (1979), and provide supporting information appropriate to the rezoning proposal, this assessment includes:

- A review of available documentary information for the Environmental Study locality, including site records and unpublished reports held by the National Parks and Wildlife Service (NPWS), and heritage listings of the Australian Heritage Commission, NSW Heritage Council, National Trust of Australia (NSW) and Hastings Council;
- Liaison with the Birpai Local Aboriginal Land Council to determine whether future residential development would be likely to adversely affect any culturally-significant sites/places;
- Field survey of all potentially sensitive parts of the Environmental Study area as identified through background research and Aboriginal liaison;
- An assessment of the impact that any future residential development may have on the cultural and archaeological values of the Environmental Study area; and
- Provision of management recommendations appropriate to the Environmental Study area's known and potential cultural heritage resource.



FIGURE 1: General location of the Environmental Study area on the NSW mid-north coast



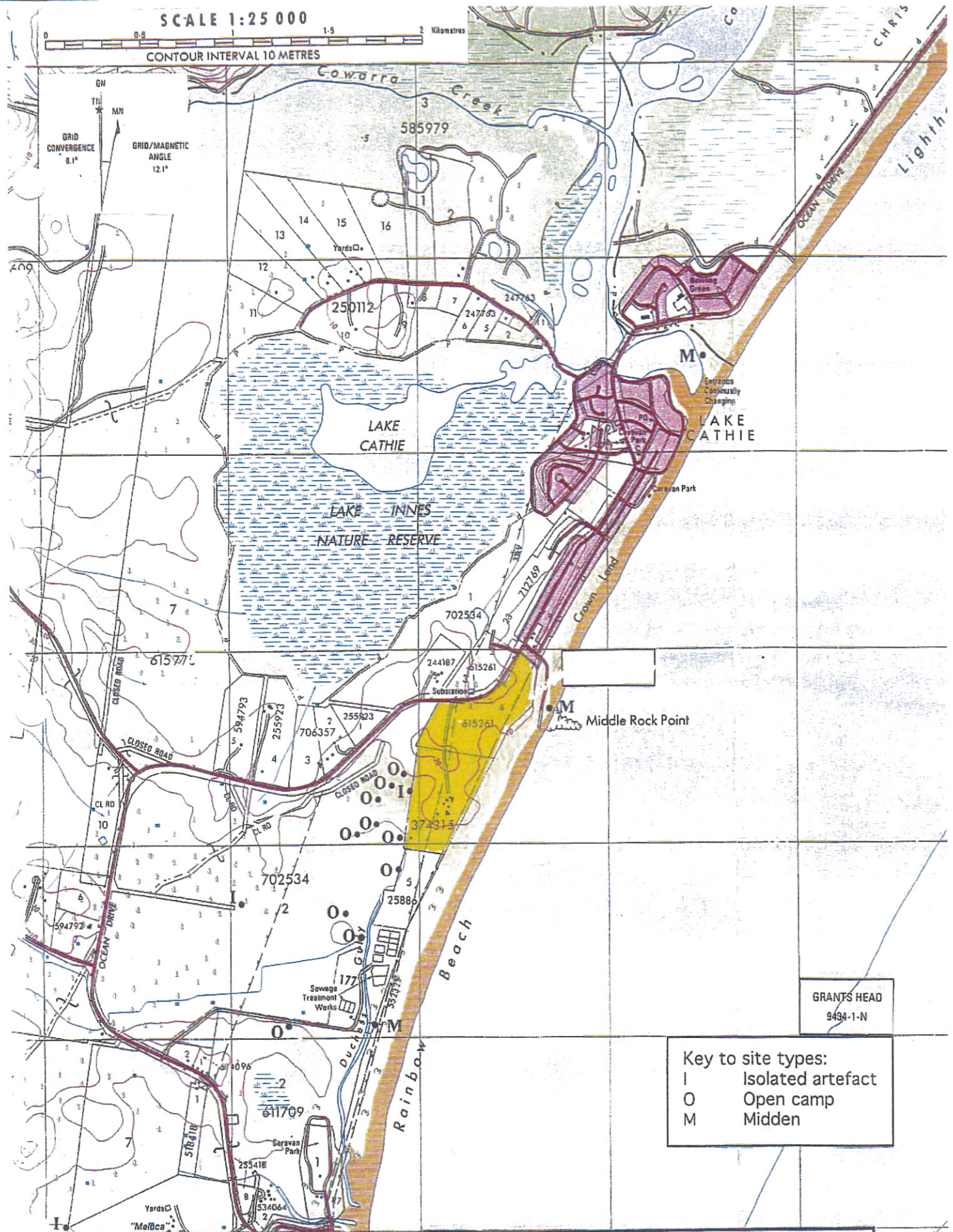


FIGURE 2: Location of the Environmental Study area (yellow) in relation to the distribution of previously recorded Aboriginal sites and the Site 1B-1 scarred tree

## **1.1 Location of the Environmental Study area**

The Environmental Study area is situated 120m to 575m inland of the ocean on the southern outskirts of the township of Lake Cathie, some 18km south of Port Macquarie on the NSW mid-north coast (Figures 1 and 2). It comprises approximately 32 hectares of land, encompassing Lot 1 DP 374315 and Lot 4 DP 615261 in the Parish of Queenslake, County Macquarie, and is bounded to the north by houses fronting Middle Rock Road, to the north-west by Ocean Drive, to the west and south by undeveloped residential land, and to the east by undeveloped coastal Crown Land.

A 60m wide band of rainforested land (totaling around 2.5ha) along the eastern margin of Lot 4 DP 615261 zoned 7(f1) Environment Protection-Coastal is included in the Environmental Study area but is not proposed for rezoning.

## **1.2 Summary of results and recommendations**

A mature Brush Box tree (designated Site 1B-1) bearing an oval scar believed to have been produced through the removal of bark for an Aboriginal shield was recorded during the field survey. The scarred tree has a high level of Aboriginal heritage value and scientific significance and should be preserved in its current rainforest context. The tree stands within the area zoned 7(f1) Environment Protection-Coastal and is not subject to the rezoning proposal. However, to ensure its protection it will be necessary to minimise human access to the rainforest in the face of any adjacent residential development.

Although no cultural materials were detected along Duchess Creek, past work on adjoining land indicates that the creek bank is archaeologically sensitive and may contain concealed evidence of Aboriginal occupation. In an effort to preserve any artefacts which may occur, it is recommended that a 5m wide buffer zone be established between Duchess Creek and any future residential development. This buffer zone should be spared development-related ground disturbance.

No archaeological sites or areas of potential archaeological deposit were identified over the remainder of the Environmental Study area, nor are there particular Aboriginal concerns with it. With the exception of the creek bank the area proposed for rezoning is assessed to have little further archaeological potential. Providing the recommended buffer zone is established along Duchess Creek and appropriate measures are taken to protect the Site 1B-1 scarred tree and its rainforest setting, no additional development control measures are called for, nor would further archaeological investigation or monitoring be warranted ahead of any future residential development.

Should residential development proceed at any time, however, it is recommended that all contractors engaged in vegetation clearing and initial earthworks be advised of their legal requirements under the terms of the National Parks and Wildlife Act (1974) and NSW Heritage Act (1977).

## **2 ABORIGINAL INVOLVEMENT**

The Environmental Study area lies within the territory administered by the Birpai Local Aboriginal Land Council (LALC) based in Port Macquarie. The Birpai LALC was contacted at commencement of the assessment and it was arranged that assistance with the field survey would be provided by Senior Sites Officer Lindsay Moran on the 7<sup>th</sup> of February 2003. On completion of the survey, the results were discussed with Lindsay Moran and recommendations presented in Section 12 were developed through this discussion.

With the recent death of Elder William (Gulah) Holten, knowledge and custodianship of sites across a wide part of the area formerly inhabited by the Birpai people has been passed to Lindsay Moran and his brother William ('Billo') Moran. Lindsay and William Moran (the Mingaletta Development Corporation) have applied for recognition of Native Title over part of the claimable section of the Hastings coastline and thus claim direct descent from traditional owners of the district. Consultation with Lindsay Moran revealed that the Environmental Study area itself is not known to contain any sites of spiritual, ceremonial or otherwise cultural importance, although archaeological sites held to be of high Aboriginal



social significance occur at Middle Rock Point east of Lot 4, and in the Ocean Fields area south and south-west of Lot 1 (as plotted on Figure 2).

A report prepared by Lindsay Moran on behalf of the Birpai LALC/Mingaletta Corporation is reproduced in Appendix A of this report.

### **3 ENVIRONMENTAL CONTEXT**

The Environmental Study area is dominated by low rolling hills based on the schist, phyllite, greywacke and slate of the Port Macquarie Block. These have decomposed to form clay soils with a compact yellow or grey A horizon, littered in places with angular fragments of the parent rocks. While no stone outcrops with the potential to have been either inhabited or quarried by Aboriginal people are present within the area, pebble beds comprising raw materials well suited to the production of flaked stone tools (siltstone, petrified wood, chert, jasper and quartz) occur along the length of Rainbow Beach between Middle Rock Point and Bonny Hills to the immediate east.

The study area's only prominent landforms are rounded hill crests elevated at 22m AHD and 18m AHD in its central and southern sections respectively. The crests are flanked by broad low-gradient hillslopes which grade gently away to a pocket of swamp on the south-east corner of Lot 4 and the freshwater channel of Duchess Creek on the south-west boundary of Lot 1. Alluvial lowland abuts the hillslope on the southern end of Lot 1. The eastern half of this lowland carries a surface veneer of grey sand (Figure 3).

The vast majority of the Environmental Study area has been cleared for grazing purposes and currently supports open grassland. Mature natural vegetation is restricted to a 60m wide band of littoral rainforest along the eastern perimeter of Lot 4. Regenerating rainforest occurs inland of the mature rainforest on the northern end of Lot 4 and along the Duchess Creek channel, while the sand-based ground east of Duchess Creek supports banksia regrowth with a sparse ground cover of bracken fern and mat-rush.

## **4 CULTURAL CONTEXT**

### **4.1 Aboriginal occupation**

The original inhabitants of the Lake Cathie-Bonny Hills area belonged to the Birpai tribe, speaking a closely related variant of the Kattang language (Holmer 1966). While there is some confusion as to the exact location of boundaries, early European settlers reported that the Birpai 'hunted along the Hastings River' (McLachlan 1988:87), and four 'Birripai' speakers living on the Hastings in 1932 advised that this language was spoken north from the Manning River to near the Macleay (Enright 1932).

By all accounts the family was the basic economic unit in traditional Aboriginal society and usually several families would co-operate as a highly flexible band. In turn, bands made up loose clans that regularly exploited a specific parcel of land. During the course of everyday life clan groups remained within their own territories, their constituent bands seasonally aggregating and dispersing in tune with the availability of water, and the types and abundance of available resources (Lilley 1984; Poiner 1970). As stated by McDougall (1900:116), "each tribe kept its own belt of country, and separated into small camps, and only collected together on special occasions". In resource-rich coastal areas clan groups inhabited reasonably small territories, the boundaries of which were defined and generally known.

With the possible exception of the immediate coast, shifting camp seems to have been frequent, "occurring about monthly as the game in the immediate vicinity became exhausted ... it took several months to give each ground in the locale its turn" (McFarlane 1934-5). Base camps were established in areas protected from the elements by dense vegetation (McFarlane 1934-5). According to Dawson (1935), "the middle of each day was spent around the fire where the venison or game was procured, and the remnant of the meal ... was carried back to camp for evening consumption". On the basis of this description it seems that base camps would have been situated in sheltered areas offering suitable conditions, with a large number of small resource-specific sites scattered between.

Many of the region's material items were made from the wood or bark of various trees. These include shields, spears, boomerangs, clubs, digging sticks, containers and canoes. Aboriginal people controlled the natural fracture properties of fine-grained stones to produce a variety of cutting and scraping tools, many of which were used to manufacture and maintain these types of wooden items. High quality pebbles outcropping along the Rainbow Beach shoreline are suitable for stone tool manufacture and are likely to have been collected for this purpose. Possum fur, human hair or plant fibre string (McDougall 1901:63) was knotted into dilly bags and scoop nets for fishing (Henderson 1854:136; Dawson 1935:67). Canoes fashioned "from a single sheet of stringy bark brought to a point at both ends and fastened with cordage" (Fitzpatrick 1914:35) were used extensively for fishing and general travel.

A valuable photographic record of local Aboriginal life has been left by Thomas Dick, who employed Birpai people to re-enact various tasks using traditional equipment. The Dick photographs were taken between 1910 and 1927 (McBryde 1985) and include shots of Aborigines grinding axes on a sandstone outcrop at Bonny Hills, and men spearing fish beside a bark canoe near the mouth of Duchess Creek less than 2km south of the present study area.

## **4.2 Historic background**

Captain Cook had reported smoke from Aboriginal campfires on the Camden Haven in 1770 (extract from the log book of Captain Cook in Camden Haven Historical Society 1991:7), but it was not until Oxley's survey party travelled down the Hastings Valley in 1818 that the first direct contact between Europeans and the area's Aboriginal inhabitants occurred. On his journey south, Oxley (1820) camped on Bonny Hills headland near a freshwater spring, but no reference is made to Aborigines in this locality.

Following initial exploration, sustained and unavoidable contact with Europeans was effected with the establishment of Port Macquarie as a penal settlement in 1821. By 1828 limeburners' camps were operating along the northern shore of Queens Lake and at the foot of North Brother Mountain close to the present town of Laurieton (Camden Haven Learning Exchange

1987:5; Camden Haven Historical Society 1991:13). Little information is available for the Lake Cathie-Bonny Hills-Camden Haven area between the late 1820's and 1860, and it is thought to have remained as an isolated outpost of Port Macquarie, visited by limeburners, cedar cutters, escaped convicts and graziers in search of free pasture (Camden Haven Learning Exchange 1987:6). On riding from Lake Innes in 1844, Boswell (1993:110) described cattle grazing in the valley to the south of Bonny Hills and a ship at anchor on the Camden Haven River. In the following year Hodgkinson passed along the western shore of Queens Lake and failed to report any form of historical settlement. He did, however, meet Aboriginal people who were well acquainted with Europeans and whom spoke some English (Camden Haven Historical Society 1991:6). The first permanent European settler occupied land at Laurieton in 1872, and by 1890 the Camden Haven had come to be regarded as one of the strongholds of the northern timber trade.

Virtually nothing is known of the early history of Lake Cathie (Port Macquarie Express 1990:15), though by 1906 it seems to have become a popular Christmas holiday camping destination (Young and Sutters 1979:37). Like Bonny Hills where only five houses had been built by the late 1930's (Bartlett 1996), however, residential development of Lake Cathie is unlikely to have commenced until the early decades of the 20<sup>th</sup> century. Development of the Environmental Study area itself has been confined to Lot 1 where a house, sheds and bales associated with dairy farming stood until they were demolished in the late 1980's or early 1990's.

## **5      ARCHAEOLOGICAL CONTEXT**

### **5.1    Known Aboriginal sites**

As listed and described in Table 1, 16 Aboriginal sites are known to occur within 'Area 14', which encompasses coastal land south from the southern end of Lighthouse Beach (Lake Cathie) to the southern side of Grants Head (Bonny Hills), inland to the base of the Jolly Nose escarpment (Waterloo Creek Road). The sites comprise 11 open camps/stone artefact scatters, three isolated stone artefacts and two shell middens. All but three of these sites are located in the 'Ocean Fields' area south and south-west of Lot 1 (see Figure 2).



TABLE 1: Character of known Aboriginal sites in 'Area 14'

NPWS site no	Site type	Location	No artefacts	Further potential	Exposure	Environmental context
30-6-012	small midden	Rainbow Beach	unknown	limited	erosion	thin pipi horizon exposed in foredune scarp
30-6-032	artefact scatter	Ocean Fields	3	limited	gully	artefacts within creek bed gravels
30-6-094	isolated artefact	Bonny Hills	1	no	track	footslope of coastal hill near swamp
30-6-106	artefact scatter	Ocean Fields	20	yes	sand extraction	sand plain near creek and creek bank
30-6-107	artefact scatter	Ocean Fields	5	limited	clearing	sandy creek bank
30-6-108	artefact scatter	Ocean Fields	11	yes	drain/sand extraction	sand plain near creek and creek bank
30-6-109	artefact scatter	Ocean Fields	115	yes	clearing/sand extraction	sand rise and sand foot of bedrock knoll
30-6-110	isolated artefact	Ocean Fields	1	no	pipeline easement	alluvial lowland
30-6-111	artefact scatter	Ocean Fields	2	possible	drainage channel	alluvial lowland
30-6-112	artefact scatter	Ocean Fields	2	possible	drainage channel	alluvial lowland
30-6-113	artefact scatter	Ocean Fields	3	limited	clearing	duplex soil footslope beside spring
30-6-114	isolated artefact	Ocean Fields	1	no	water wash	alluvial lowland
30-6-115	artefact scatter	Ocean Fields	14	limited	erosion	sand rise and creek bank
30-6-116	artefact scatter	Ocean Fields	c.150	yes	erosion	footslope of coastal hill
unlisted	artefact scatter	Lake Cathie	>100	yes	erosion	elevated dune terrace on estuary bank
unlisted	large midden	Middle Rock	unknown	yes	shell at surface	old dune above coastal rocks

TABLE 2: Previous archaeological survey coverage of 'Area 14'

Archaeologist/s	Date	Total survey area (ha)	Effective cover (ha)	No recorded sites in Area 14	Report
Starling	1971	not specified	not specified	1	A survey of the Aboriginal sites of the north coast of NSW 1970-71
Coleman	1981	1.5	not specified	0	A report on a proposed pipeline route & 5 reservoir sites between Port & Laurieton
Haglund	1982	0.1	not specified	0	Report on Aboriginal relics survey of Telecom cable route near Port Macquarie
Happ & Bowdler	1983	225.0	not specified	1	International sports & leisure village LES. Aboriginal sites survey
Bonhomme	1987	40.5	not specified	0	An archaeological survey of a proposed development area at Lake Cathie, NSW
Collins	1995	10.1	0.7	1	Hastings district water supply southern arm trunk main. Archaeological survey
Collins	1996	5.5	1.7	0	Proposed 40 lot residential subdivision area at Bonny Hills: Archaeological survey
*Collins	1996	130.0	5.4	11	Proposed Meridian residential subdivision, Bonny Hills: Archaeological assessment
Collins	2002	69.0	1.0	0	Lake Cathie-Bonny Hills Stage 1A environmental study: Aboriginal heritage assess.
TOTAL surveys	9	351.7		14	

\* Includes part area surveyed by Happ &amp; Bowdler 1983

All of the known open camps and middens lie within a kilometre of the coast, and most commonly occur on sand-based ground close to water courses, particularly the freshwater channel of Duchess Creek. Two small artefact scatters (#30-6-111 and #30-6-112) have also been recorded in alluvium fringing the coastal sand plain. The largest known sites in the area include a midden above the rock platform at Middle Rock Point (not registered but now covered by a roadway/car park), and scatters containing over 100 visible artefacts near the mouth of Cathie Creek (not registered but filled and revegetated by Dunecare), on a quarried dune immediately inland of Duchess Creek (#30-6-109), and on the footslope of a bedrock hill on the southern edge of the Duchess Creek basin (#30-6-116).

## **5.2 Aboriginal site surveys**

Some 352ha of 'Area 14' has been covered during past surveys conducted in response to various development proposals, although the actual area effectively searched for archaeological evidence is not known (Table 2).

In 1970, Starling included Rainbow Beach between Lake Cathie and Bonny Hills in her extensive survey of the northern NSW coastline which aimed to assess the impact of sandmining activities on archaeological sites. Starling recorded Site #30-6-12 along this stretch of beach, stating that "shelly horizons outcrop for up to 10 yards over 4.5 miles of dune. Some have small talus deposits below them, most appear to follow an old surface. Narrow low dune partly stabilised by scrub with eroding east face above indurated sand cliff. Soaks behind c 200 yards. Pipi shell deposit, occasionally charcoal, fire-shattered pebbles, few flakes, unworked pebbles" (Starling 1971 in Happ and Bowdler 1983:6).

Three of the Area 14 surveys have focused on proposed services easements. These include a pipeline route running parallel with the coastline which traversed hillslopes and flats just beyond the western boundary of the present study area (Coleman 1981), and a telecommunications route along the inland margin of Ocean Drive north from Lake Cathie (Haglund 1982). No archaeological evidence was detected in the study vicinity during either survey. The more recent inspection of a 15m wide and 10.5km long pipeline easement

between the Pacific Highway and Bonny Hills Reservoir resulted in the recording of an isolated quartz core (#30-6-94) on the lower slope of a bedrock hill inland of Bonny Hills (Collins 1995a). This latter survey included a transect along the western margin of Ocean Drive 1.5km inland of Lot 1 but no archaeological material was found in that locality.

No sites were detected during survey of a 5.5ha area encompassing bedrock hillslopes and their adjoining flats on the northern outskirts of Bonny Hills (Collins 1996b), or within a 50ha land parcel fronting Cathie Creek at Lake Cathie (Bonhomme 1987).

One open campsite (#30-6-32) was recorded during survey of a 225ha area (now generally known as 'Ocean Fields') stretching south and west of the Environmental Study area between Lake Cathie and Bonny Hills (Happ and Bowdler 1983). The site consisted of three silcrete artefacts (two cores and a flake) found on a lag of ochre nodules, cobbles, pebbles and sand in the bed of a small tributary of Duchess Creek, and a silcrete flake in a spill of sand down the northern bank of the tributary 15-20m further downstream (Happ and Bowdler 1983:16). In the belief that low-lying ground would have "little potential for habitual Aboriginal occupation", the survey concentrated on high land flanking Ocean Drive, including the western part of the hill system represented in the current study area. No archaeological evidence was found on the hills, but surface visibility remained poor as a result of dense vegetation. Happ and Bowdler also inspected Site #30-6-12 along Rainbow Beach, reporting that evidence of the midden was very sparse (Happ and Bowdler 1983:15).

In 1996(a), the northern 130ha section of Ocean Fields immediately adjacent to the Environmental Study area was resurveyed by Collins in response to a residential subdivision proposal. By this time much had been cleared and survey conditions were considerably better. The survey resulted in the recording of 169 stone artefacts at 9 separate locations within the area. In addition, one small open campsite (#30-6-107) was found immediately east of the study area, and a larger campsite (#30-6-116) recorded on a footslope further south near Bonny Hills. With the exception of a single isolated artefact (#30-6-114) near the southern boundary in the west, and an extensive artefact scatter on a sand extraction pit in the south-east (#30-6-109), the sites were associated with exposed flats in the north-east part



of the area near Duchess Creek. On the basis of field observations and the distribution and context of the recorded artefacts, it was considered highly likely that further archaeological materials would be present beneath the ground surface. Given the obvious sensitivity of coastal flats targeted for development, a subsurface investigation was recommended to establish the density, stratigraphic and disturbance context of any further occupational materials. It was also recommended that two of the artefact scatters lying beyond the boundary of the proposed subdivision (#30-6-106 and #30-6-109) be protected and stabilised prior to commencement of any development works. Due to the previous recording of midden lenses along Rainbow Beach and the discovery of artefacts on the eastern bank of Duchess Creek (#30-6-107), it was further recommended that any planned pedestrian access to the beach remain confined to an existing track/bridge across Duchess Creek, and an existing cutting through the foredune (Collins 1996a:38-44).

Also of relevance to this assessment are the results of a survey conducted by Collins (2002) over a 69ha area encompassing the hill system and its adjoining flats on the northern side of Ocean Drive, between 800m and 1.6km west of the present study area. No archaeological sites or areas of potential archaeological deposit were identified during the survey and the area was assessed to have a low level of archaeological sensitivity.

### **5.3 Historic sites**

Prior to the field survey the non-indigenous heritage of the Environmental Study area was investigated via a review of registers maintained by the following organisations with responsibility for the care and protection of historic heritage items and places.

#### **Australian Heritage Commission-**

The Australian Heritage Commission maintains the Register of the National Estate. This register includes both indigenous and non-indigenous sites/places, which are classified as either 'Indicative Places' (not on the register but identified as important), 'Interim Places' (under evaluation with a view to being registered), or 'Registered Places'.

The Register of the National Estate lists three registered and seven indicative items/places for the Hastings Local Government Area (LGA). None is in or near the study area.

#### NSW Heritage Council-

The State Heritage Register maintained by the NSW Heritage Council lists sites and places which are subject to Interim and Permanent Conservation Orders.

Three buildings in the Hastings LGA are under Conservation instruments. None is in or near the study area.

#### The National Trust of Australia (NSW)-

The National Trust is a non-government community organization which promotes the conservation of both built and natural heritage. The Trust maintains a register of landscapes, townscapes, buildings, industrial sites, cemeteries and other items assessed to be worthy of conservation due to their heritage significance. Items listed on the Trust's register are said to be classified. The register is intended to perform an advisory and educational role. While the listing of a place on the register has no legal force, it is widely recognized as an authoritative statement of the heritage significance of a place.

Twenty four sites and places in the Hastings LGA have been classified by the National Trust. None is in or near the study area.

#### Hastings Local Environmental Plan 2001-

Under the NSW Environmental Planning and Assessment Act (1979) local Councils and the Department of Urban Affairs and Planning prepare local and regional environmental planning instruments which usually contain a schedule of properties of identified heritage significance. The inclusion of a property on such a schedule can impose restrictions on development to ensure that sites/places of state, regional and local heritage significance are appropriately conserved and managed.

Schedule 4 of Hastings Local Environmental Plan 2001 contains a comprehensive list of items within the Hastings LGA of assessed heritage significance. None is in or near the study area.

## **6 ARCHAEOLOGICAL POTENTIAL OF THE STUDY AREA**

### **6.1 Constraints to site preservation**

With respect to the archaeological record, it is necessary to consider not only those cultural and environmental factors which may have influenced the ways in which the past landscape was used and material evidence originally abandoned, but also factors which will have affected the likelihood of this evidence surviving in the current landscape. Apart from natural attrition, the major determinants of present site location and condition are destructive elements, particularly those stemming from modern landuse practices.

The vast majority of the Environmental Study area has been cleared of its natural vegetation and now supports open grassland. As a former dairy farm with associated crop production, much of the area appears to have been ploughed, a contention evident through the hummocky appearance of the grassed surfaces, particularly on Lot 1. The Lot 1 hillcrest has been modified by the construction and later demolition of the farmhouse and related structures. Judging from the irregular surface contours and presence of piles of concrete rubble, the demolition was undertaken by bulldozer.

Cleared surfaces across Lot 4 have also been subject to more recent disturbance. In particular, the sparsely grassed hillcrest and northern slope have been slashed and scarified, resulting in the erosion and loss of much of the topsoil. Exposed and regenerating surfaces on the northern end of Lot 4 have been churned and heavily modified by bulldozing and are likely to reflect the level of disturbance to which all but the littoral rainforest along the eastern margin of Lot 4 has been subject at some stage. A transmission line has been installed south from Ocean Drive through the centre of the area and a small farm dam dug adjacent to Ocean Drive on the northern boundary of Lot 4.

## **6.2 Aboriginal heritage**

### **6.2.1 Possible site types**

On the basis of information gained through a review of ethnohistorical and archaeological sources (Sections 4 and 5) it is highly likely that undetected Aboriginal sites will occur in the Lake Cathie-Bonny Hills locality. However, in tandem with its environmental and disturbance context, known site distributions suggest that site types other than those defined and discussed below would be extremely unlikely within the Environmental Study area itself.

#### **Stone artefact scatters (open campsites)**

This type of site can range from as few as two stone artefacts to an extensive scatter containing a variety of tools and flaking debris, sometimes with associated materials such as bone, shell, ochre, charcoal and hearth stones. An artefact scatter does not necessarily mark a place where actual camping was carried out, but may instead be the product of specialised and/or short-term activities involving some level of stoneworking (eg the manufacture or rejuvenation of a single tool during hunting, or whilst in transit from one camp to another) (Hiscock 1988:19). Artefact scatters may occur as surface concentrations or as dateable stratified deposits, and can provide information on such things as patterns of Aboriginal landuse, movement and exchange.

#### **Isolated stone artefacts**

These can be located anywhere in the landscape and represent either the remnant of a dispersed artefact scatter (open campsite), or the simple loss or random discard of artefacts.

#### **Shell Middens**

Middens are open campsites which are dominated by shellfish remains. They are generally found close to the shellfish source and contain predominantly mature specimens of edible mollusc species. Middens vary in size from thin surface scatters that have constituted little more than a meal for a small group gathering food away from a main camp, to well consolidated deposits representing consistent use by large groups of people over long



periods of time. In addition to shell, middens may contain stone tools and flaking debris, charcoal from cooking fires, ochre nodules and animal bone. In many places human burials have been found in direct association with midden deposits.

### **Scarred trees**

These are trees which bear scars caused through the removal of bark or wood for making material items such as canoes, shields and containers, or which have been marked for other reasons (eg toe-holds to aid climbing). Scarred trees are usually associated with domestic activities. They may occur anywhere there are suitable tree species, and be found where mature specimens still exist.

### **6.2.2 Predicting site locations**

It has long been recognised that archaeological sites tend to recur in favourable environmental settings. Predictive models take advantage of these redundancies by exploiting contrasts between environmental characteristics of places where sites do and do not occur. Providing the data is good it is possible to make predictions from a relatively small sample of known locations to a much broader area (Warren 1990:201).

Predictions presented in this section draw on the results of surveys of neighbouring land parcels (Collins 1996a, 2002) and on a model developed by Collins (1995b), who analysed the distribution and context of 48 Aboriginal occupation sites (isolated artefacts, artefact scatters and middens) recorded during a 10% sample survey of a 4,200ha subcoastal area near Port Macquarie. On the basis of this background information and the disturbance history and specific environmental character of the Environmental Study area, the following predictive statements can be made in relation to its potential Aboriginal heritage resource.

- Due to the survival of remnant mature trees, scarred trees may occur within the littoral rainforest along the eastern margin of Lot 4.
- A number of small occupation sites have been recorded along the banks of Duchess Creek. Although there appears to have been a strong preference for occupation of

- sand-based ground it is possible that small artefact scatters may occur on the alluvial creek bank in the south-west corner of Lot 1.
- The study area's clay soil hills lie within easy walking distance of the preferred camping conditions provided by the coastal dune system and sand-based grounds with backing swamps. Evidence of Aboriginal use of the hills is thus expected to take the form of low-density scatters of stone artefacts and/or shell, reflecting the itinerant activities of individuals or small groups hunting and gathering away from their main camp. These sites are most likely to occur on the hillcrests. Due to its high level of disturbance no intact sites will survive on the southern crest.
  - Isolated stone artefacts may occur anywhere but are most likely to be concentrated in their distribution to level and low-gradient situations.
  - Although the lower hillslopes represent well-drained ground within a reasonable distance of potential water sources, all slopes are gradual and do not offer any level locations which are likely to have been preferentially occupied by Aboriginal groups. With the possible exception of scarred trees and isolated artefacts, the hillslopes are unlikely to contain archaeological evidence.

### **6.3 Historic sites**

As discussed in Section 4.2, a house and other structures associated with dairy farming stood on the southern hillcrest until they were demolished in recent decades. It is thus possible that historically significant features and structures relating to past farming (fencing, machinery, rubbish dumps etc) may survive in the Environmental Study area.

## **7 FIELD SURVEY**

### **7.1 Survey strategy**

In view of the likely types and distribution of archaeological sites and the visibility constraints imposed by surface vegetation across much of the Environmental Study area, it was considered that blanket survey coverage would have been neither effective nor warranted. Instead, a sampling strategy was adopted which took advantage of high visibility exposures provided by mechanical disturbances and unformed vehicle and walking tracks, coupled with systematic coverage of all available surface exposures on the potentially sensitive hillcrests and creek bank. In addition to the detailed surface survey, a general reconnaissance was made of the entire property, including the littoral rainforest on the eastern margin of Lot 4, in order to locate and inspect any mature trees for evidence of Aboriginal marking.

### **7.2 Survey method and details**

The field survey was undertaken on foot with the assistance of Birpai LALC Senior Sites Officer and Mingaletta Native Title applicant Lindsay Moran on the 7<sup>th</sup> of February 2003. The weather was fine and lighting was conducive to the detection of archaeological materials. A logbook was maintained to record relevant environmental observations, and photographs taken to document the various levels of surface exposure and visibility. Selected Plates have been included in this report to offer the reader a general overview of survey conditions.

The survey was conducted using a combination of parallel transects and single traverses, with the distance between surveyors tailored to suit the type of exposure being inspected. On linear features such as the creek bank and vehicle and walking tracks, the surveyors walked abreast. Elsewhere, the inspection was carried out by the two surveyors walking up to five metres apart, resulting in coverage of a 10m wide strip.

### **7.3 Survey coverage**

The six hectares of land covered for surface evidence, representing an 18.7% sample of the Environmental Study area, is shaded on Figure 3. Summary details of the surveyed areas are presented in relation to landform elements represented within each of the two allotments in Table 3. Despite blanket field coverage of land shaded on Figure 3, complete inspection of the surface was impossible due primarily to constraints imposed by vegetation and modern land modification. These types of constraints need to be considered when assessing the effectiveness and results of any archaeological survey.

To provide data sufficient for evaluating the potential for undiscovered sites, variables constraining site detection were estimated for all of the surveyed landforms. These include an estimation of the mean frequency with which surface exposures were encountered, as well as an estimation of the quality of visibility on those exposures (mean frequency of bare ground suitable for artefact detection). Once the variables of exposure and visibility are taken into account, it is estimated that 7.7% of the surveyed sample was effectively inspected for surface evidence (Table 3). This amounts to an overall effective coverage of 1.4% of the total Environmental Study area, including 8.8% of crests, 1.0% of hillslopes, 0.6% of alluvial lowlands, 1.1% of the sandy lowland and 10% of the Duchess Creek bank (Table 4). Apart from those on the aggrading alluvial lowland in the south, all of the ground surface exposures inspected during the survey are considered to have been moderately conducive to artefact detection, with some high quality exposures provided by vehicle tracks, mechanical disturbances and wind and water erosion scours on the crests, slopes, sandy lowland and creek bank.

Although vegetation cover severely limited the degree of inspection which could be carried out in many parts of the area, given its topographic character, disturbance history, and the amount of ground actually covered on foot, the surveyed sample is considered satisfactory for the purposes of assessing the overall level of archaeological sensitivity of the Environmental Study area, and the potential effects that any future residential development may have on its cultural heritage resource.

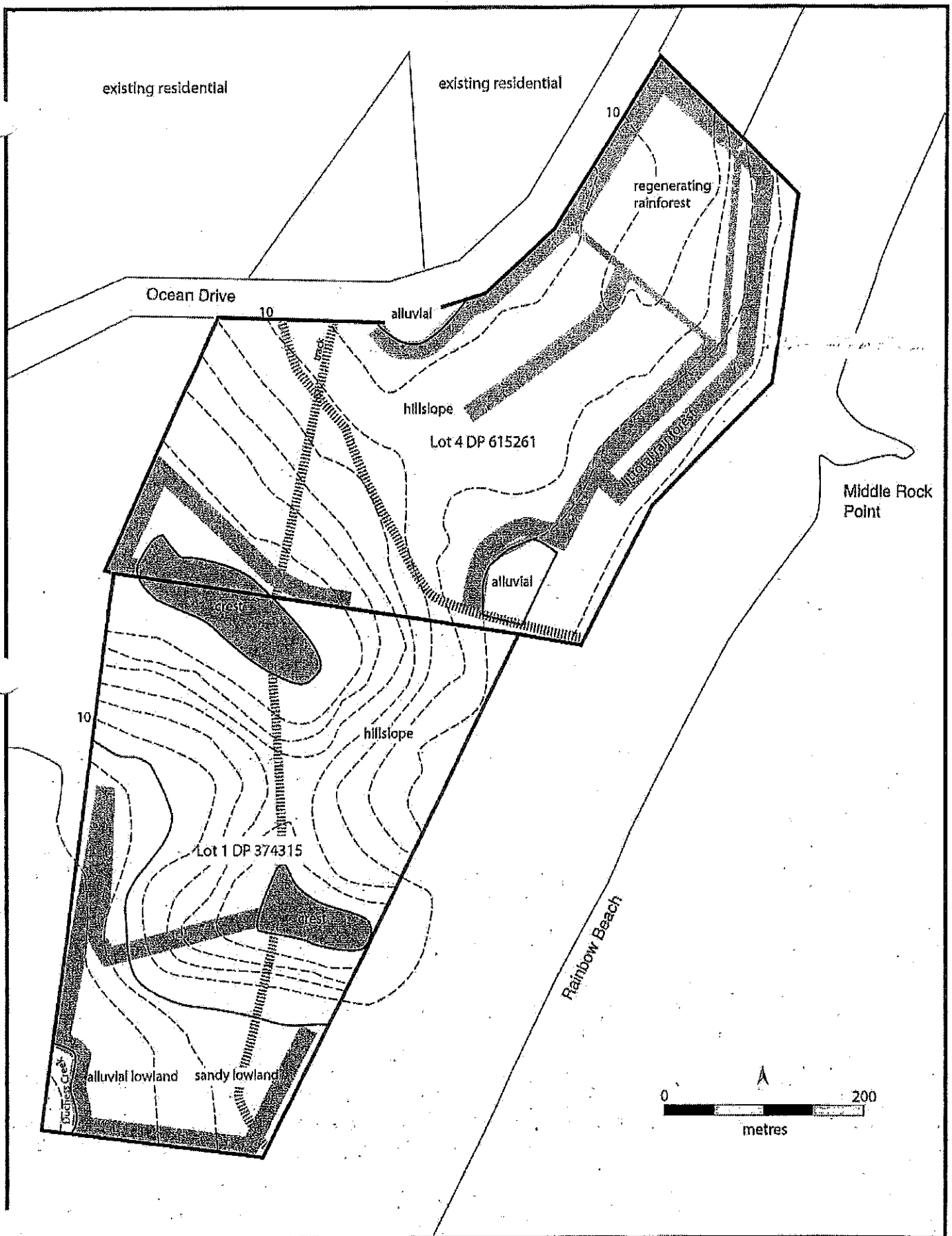


FIGURE 3: Environmental Study area showing landform units and areas surveyed (shaded)  
[2m contour intervals]



PLATE 1: View north across cleared hillside from crest. Lot 4.



PLATE 2: View south to southern hillcrest from Lot 4/Lot 1 boundary.

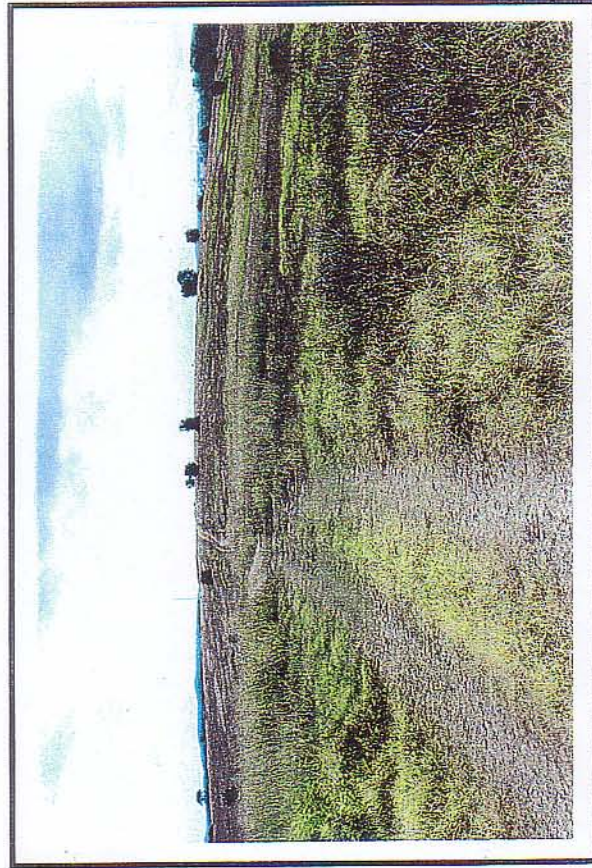


PLATE 3: View south from southern crest to lowland on southern boundary. Lot 1.

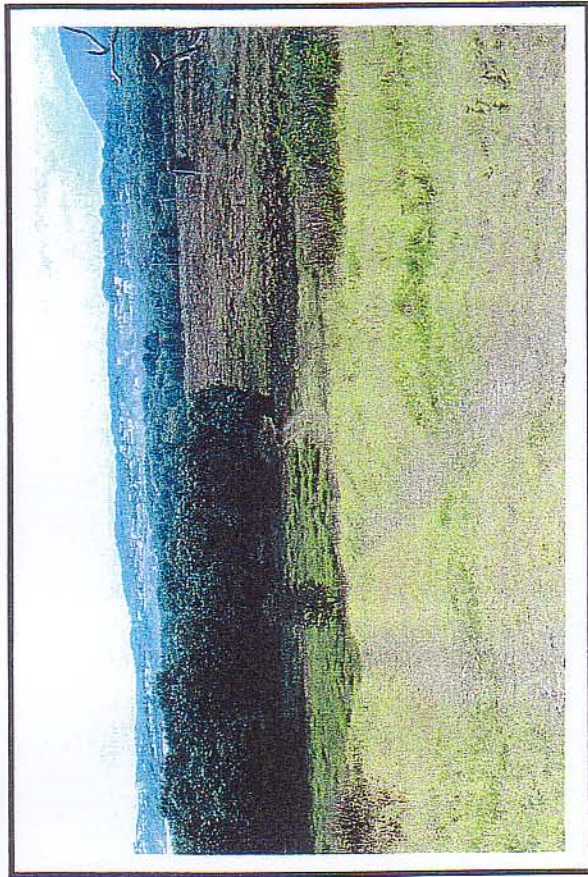


PLATE 4: Site 1B-1 scarred tree. North-east boundary, Lot 4.

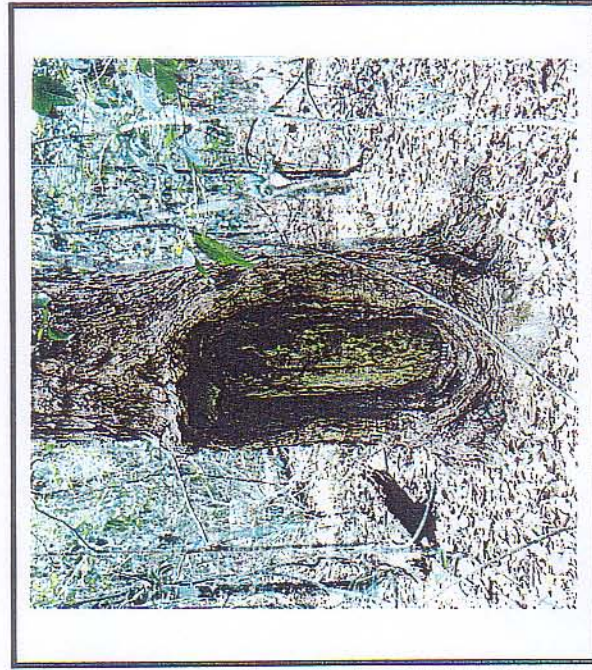




TABLE 3: Summary of survey coverage (ref. Figure 3)

Landform unit	Surveyed area (m <sup>2</sup> )	% of natural surface exposed	% visibility on exposures	Effective coverage (m <sup>2</sup> )	No sites recorded
<b>Lot 1 DP 374315</b>					
<i>Crest</i>					
(track)	280	70	90	176.4	0
(offtrack)	13,820	5	100	691.0	0
<i>Hillslope</i>					
(track)	560	70	90	352.8	0
(offtrack)	1,300	0	0	0.0	0
<i>Alluvial lowland</i>					
(offtrack)	4,500	5	100	225.0	0
<i>Sandy lowland</i>					
(track)	300	20	100	60.0	0
(offtrack)	2,000	5	100	100.0	0
<i>Creek bank</i>					
(offtrack)	500	10	100	50.0	0
	23,260			1,655.2	0
<b>Lot 4 DP 615261</b>					
<i>Crest</i>					
(track)	50	90	90	40.5	0
(offtrack)	3,600	20	90	648.0	0
<i>Hillslope</i>					
(track)	140	50	90	63.0	0
(offtrack– cleared)	24,000	10	90	2,160.0	0
(–rainforest)	8,600	0	0	0.0	1
<i>Alluvial lowland</i>					
(track)	80	20	100	16.0	0
	36,470			2,927.5	1
<b>TOTAL</b>	<b>59,730</b> (18.7% of total)			<b>4,582.7</b> (7.7% of survey area, 1.4% of total)	<b>1</b>

TABLE 4: Survey coverage of landform units

Landform unit	Total surveyed (ha)	Total effective cover (ha)	Total area of element type (ha)	% effective cover	No sites recorded
Crest	1.775	0.1556	1.775	8.8	0
Hillslope	3.460	0.2576	24.625	1.0	1
Alluvial lowland	0.458	0.0241	4.150	0.6	0
Sandy lowland	0.230	0.0160	1.400	1.1	0
Creek bank	0.050	0.0050	0.050	10.0	0
<b>TOTAL</b>	<b>5.973</b>	<b>0.4583</b>	<b>32.000</b>	<b>1.4</b>	<b>1</b>

## 8 SURVEY RESULTS

### 8.1 Aboriginal sites

One Aboriginal site, a scarred tree designated Site 1B-1, was recorded in the location plotted on Figures 2 and 3. The tree occurs within the area zoned 7(f1) Environment Protection-Coastal which is not subject to the rezoning proposal.

#### Site 1B-1, Scarred tree (Plate 4)

AMG reference: 485590.6507760 Grants Head 9434-1-N, 1:25,000 topo. map, Edition 2

The tree is a living Brush Box (*Tristania conferta*) standing on a low-gradient (5°) clay soil slope within littoral rainforest near the north-east boundary of Lot 4, and around 120m inland of the Middle Rock Point midden. The tree is in reasonably good condition, although a few hollows are present in the crown and the heartwood exposed by the oval-shaped scar has some dry rot and termite damage. According to Birpai LALC Sites Officer Lindsay Moran, Brush Box bark was favoured for local shield manufacture.

Approximate height of tree	10m
Girth of tree at breast height	235cm
Inside maximum scar length	120cm
Inside maximum scar width	40cm
Maximum thickness of bark regrowth	18cm
Minimum height of scar above present ground level	30cm
Orientation of scar	300°

## **8.2 Historic sites**

No structures, features or items of possible non-indigenous cultural heritage value were identified within the Environmental Study area, nor is there evidence that any will occur.

## **9 CONCLUSIONS**

As the only archaeological site recorded during the field survey, the Site 1B-1 scarred tree lies only 120m inland of the Middle Rock Point midden and is probably temporally associated with occupation of the midden.

As discussed by Collins (2002:23), recorded sites in the Lake Cathie-Bonny Hills locality suggest an Aboriginal landuse strategy which targeted the foredunes and sand-based grounds of the productive coastal fringes. Given the high density of artefact occurrences near Duchess Creek to the south and south-west, this part of the sand plain seems to have offered preferred camping conditions for Aboriginal groups who could have exploited the resources of surrounding forests without the need to shift camp. Such a landuse strategy would be unlikely to result in the discard of anything more than the occasional artefact or very small artefact scatter across the coastal hills and may account for the perceived low overall archaeological sensitivity of areas like that assessed in this report. It is notable that past surveys of coastal hill systems in the Lake Cathie-Bonny Hills locality have reached similar conclusions, resulting in either no sites detected (Collins 1996b, 2002), or the detection of scatters of between one and five artefacts (eg Collins 1993, 1995a).

It is estimated that only 1.4% of the Environmental Study area was subject to effective survey coverage (Section 7.3) and although its archaeological resource is unlikely to be large, some site locations will probably have gone undetected. Had they occurred, however, at least some evidence of any dense and/or spatially extensive artefact or shell scatter should have been detectable on exposures present on potentially sensitive landform elements. Known site distributions suggested that evidence of Aboriginal occupation would be primarily confined to the hillcrests and the bank of Duchess Creek but no cultural materials were found on these

landforms despite effective coverage of almost 9% of the crests and 10% of the creek bank. Due to surface modification, particularly of the southern crest, the crests are not considered to have any substantial further archaeological potential. The bank of Duchess Creek has probably been subject to farm-related disturbances such as cattle trampling and is eroded in places. It is nevertheless a largely intact aggradational landform. Owing to the demonstrated sensitivity of Duchess Creek (Collins 1996a) the possibility remains of undiscovered Aboriginal artefacts occurring beneath vegetation and/or flood-deposited sediments along that section of the bank which encroaches into the south-west section of Lot 1.

## **10 STATUTORY OBLIGATIONS**

### **10.1 Aboriginal sites**

Aboriginal sites and places of significance to Aboriginal people in NSW are protected by legislation. As stated by Bowdler (1983:17), "the emplacement of such legislation is confirmation that the people of this state recognise the scientific, historic and social value of the material evidence of their past". Generally, all Aboriginal objects in NSW are protected under the provisions of the National Parks and Wildlife Act (1974).

Under the terms of the Act, an Aboriginal object is defined as:

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

In accordance with the Act an Aboriginal object may not be disturbed, defaced, damaged or destroyed without written authority from the NPWS Director-General. The provisions apply to all Aboriginal cultural materials regardless of their previous disturbance history. Should any proposed development require the destruction of Aboriginal cultural material, a Heritage Impact Permit must first be granted by the Director-General. Such a permit is normally only given following review of a specialist report, assessment of the site's significance, advice from the local Aboriginal community and consideration of all alternative conservation options. Except where destruction of an Aboriginal site is or will be demonstrably

unavoidable, the Director-General's policy is to require conservation within its original location and context.

## **10.2 Historic sites**

The NSW Heritage Act (amended by the Heritage Amendment Act 1998) is designed to protect places of significant European heritage. The Heritage Act is concerned with all aspects of conservation, ranging from basic protection against damage and demolition through to restoration and enhancement.

Under the terms of the Heritage Act (1977) a 'relic' is defined as-

"... any deposit, object or material evidence-

- a) which relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement; and
- b) which is 50 or more years old." (Part 1, Section 4).

Section 139 of the Act specifically provides protection for any item classed as a relic, disallowing disturbance unless in accordance with an Excavation Permit from the Heritage Council. However, in practice, excavation permits are normally only required for relics which, according to their assessed heritage significance, warrant this form of control.

## **11 SIGNIFICANCE ASSESSMENT**

### **11.1 Site 1B-1, Scarred tree**

#### **11.1.1 Aboriginal cultural/social significance**

Sites vary in the kind of significance they may have to Aboriginal people. They may be of traditional sacred or religious significance, of historical significance relating to the contact period or more recent past, or they may be of general heritage value. Archaeological sites, including those which may not have been known to Aboriginal people prior to site survey, may take on general heritage value due to their ability to demonstrate past occupation of an area, and the sense of community which they can provide with previous generations (Bowdler 1983). Because the significance of sites to Aboriginal people varies from case to

case, the most appropriate means of assessing such significance is to consult directly with Aboriginal communities.

Consultation with the Birpai LALC and Mingaletta Corporation undertaken in conjunction with this assessment indicates that the Site 1B-1 scarred tree has a high level of general heritage value. The value of the tree is enhanced by its proximity to the significant midden at Middle Rock Point.

### **11.1.2 Scientific/archaeological significance**

This type of significance is essentially an assessment of a site's potential to elucidate past behaviour. Such assessment is made not only with regard to currently available knowledge, theories and data retrieval methods, but with consideration of likely future scientific developments. Sites have particular potential, and thus greater archaeological significance, if there are few other sites which can contribute similar types of information, if they are in a good state of preservation, if they can provide a chronology extending back into the past, and if they display a 'connectedness' with other local sites (NPWS 1997:26-28).

No analytical analysis of scarred tree types (tree species, environmental distribution, scar dimensions, configuration and placement etc) has been undertaken for the mid-north coast and all known scarred trees must therefore be regarded as having further research value. As the only site of this type so far recorded along the Hastings coastline the Site 1B-1 scarred tree is also relatively rare, although more examples are likely in uncleared areas. The absolute number of surviving scarred trees will clearly represent only a small fraction of those present at European contact, and due to the advanced age of most of these trees and the ongoing extent of vegetation clearance, this is a rapidly diminishing site type. As such, all known scarred trees are of high scientific significance by virtue of their rarity and should be preserved wherever possible. The significance of the Site 1B-1 tree is further promoted by its spatial and probably temporal 'connectedness' with the Middle Rock Point midden.



## **12 RECOMMENDATIONS**

### **12.1 Aboriginal sites**

The following recommendations were developed in liaison with Birpai LALC Senior Sites Officer and Mingaletta Native Title applicant Lindsay Moran and are based on:

- The provisions of the National Parks and Wildlife Act (1974);
- Advice received through the Aboriginal involvement outlined in Section 2;
- The results of the literature review presented in Sections 4 and 5;
- The results of the archaeological survey detailed in Section 7;
- The assessment of site significance presented in Section 11.

#### **12.1.1 Site 1B-1, Scarred tree**

The Site 1B-1 scarred tree is assessed to be of high Aboriginal social and scientific significance. The site lies within an area zoned 7(f1) Environment Protection-Coastal and will not be directly threatened by future residential development providing this zoning remains unchanged.

- To ensure maximum protection for the Site 1B-1 scarred tree it is recommended that the current 7(f1) zoning for the eastern margin of Lot 4 be retained and that the mature littoral rainforest in which it stands be maintained in its natural condition.
- In order to maintain the littoral rainforest in the residential context and mitigate the adverse effects of an increased human presence it is recommended that close consideration be given to appropriate fencing for the western margin of the rainforest, and to providing restricted formalized beach access. It will be necessary for any formalized beach access to be situated well away from the Site 1B-1 location.

### **12.1.2 Bank of Duchess Creek**

Although no cultural materials were detected during the field survey, past work in the adjoining Ocean Fields area indicates that the banks of Duchess Creek are archaeologically sensitive and that Aboriginal artefacts may occur beneath surface vegetation and/or flood-deposited sediments.

- In view of its high level of potential archaeological sensitivity it is recommended that the existing vegetation along Duchess Creek in the south-west section of Lot 1 be retained and that a buffer zone at least 5m (five metres) wide be established along the creek bank. In an effort to preserve any archaeological materials which may be present, this buffer zone should be spared all development-related ground disturbance.

### **12.1.3 Remainder of the Environmental Study area**

No Aboriginal sites/places or areas of potential archaeological deposit were identified during the course of Aboriginal consultation or field survey over the balance of the Environmental Study area, and given its perceived low cultural heritage sensitivity no further archaeological investigation or development monitoring is considered warranted. However, should parts of the area be rezoned to allow residential development to proceed at any time, it is recommended that the following precautionary measure be implemented

- All contractors engaged in vegetation clearing and/or initial earthworks in areas targeted for development should be advised of their legal requirements with regard to Aboriginal cultural materials. Under the terms of the National Parks and Wildlife Act (1974) it is illegal for any person to knowingly disturb, deface, damage or destroy, or to permit the disturbance, defacement, damage or destruction of an Aboriginal object without first obtaining written consent to do so from the NPWS Director-General. This means that should any materials thought to be of Aboriginal origin be detected during any stage of development, work must immediately cease in their locality. Appropriate management advice should then be sought from both the NPWS

Northern Zone Cultural Heritage Unit at Coffs Harbour and the Birpai LALC. Work should not resume in the subject locality until formal written clearance has been given by both of these organisations.

## **12.2 Historic sites**

The following recommendations are based on:

- The provisions of the NSW Heritage Act (1977);
- The review of the historical record presented in Section 4.2;
- The results of the heritage register search outlined in Section 5.3;
- The results of the archaeological survey detailed in Section 7;

No historic sites/relics were identified during the course of background research or field survey, and given the perceived low cultural heritage sensitivity of the Environmental Study area no further archaeological investigation or development monitoring is considered warranted. However, should parts of the area be rezoned to allow residential development to proceed at any time, it is recommended that the following precautionary measure be implemented.

- All contractors engaged in vegetation clearing and/or initial earthworks in areas targeted for development should be advised of their legal requirements with regard to historic cultural materials. Under the terms of the Heritage Act (1977) it is illegal for any person to disturb or excavate land for the purpose of discovering, exposing or moving a ‘relic’, not being a relic subject to a conservation instrument, except in accordance with an excavation permit. Should any material or feature identified as a ‘relic’ be uncovered or exposed during any stage of development, work must immediately cease in its locality. Appropriate management advice should then be sought from the Heritage Council, Department of Urban Affairs and Planning. Work

should not resume in the subject locality until clearance to do so has been given by the Heritage Council.

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## GLOSSARY

### ALLUVIAL PLAIN

A level landscape unit with extremely low relief. There may be frequently active erosion and aggradation by channelled and overbank stream flow, or the landforms may be relict to these processes (Speight 1990:48).

### ALLUVIUM

General term for detrital deposits made by rivers or streams (Lapidus 1987:18).

### ARCHAEOLOGICAL SITE

A place containing cultural materials of sufficient quality and quantity to allow inferences about human behaviour at that location (Plog *et al* 1978:383).

### ARTEFACT

Any object having attributes as a consequence of human activity (Dunnell 1971).

### BANK

A very short, very wide slope, moderately inclined to precipitous, forming the marginal upper parts of a stream channel and resulting from erosion or aggradation by channelled stream flow (Speight 1990:25).

### CORE

A piece of stone which has been used as a source for flake production. Cores are thus generally characterised by negative flake scars (Morwood and L'Oste-Brown 1995:162).

### CREST

Landform element standing above all or most points in the adjacent terrain. Usually smoothly convex (Speight 1990:13).

### DUNE

A moderately inclined to very steep ridge or hillock built up by the wind (Speight 1990:30).

### FLAKE

A piece of stone detached from a larger mass by the application of force and having a feather, hinge or step termination and a bulb of percussion. A platform may be present if the proximal end is unbroken (Crabtree 1972:64).

### HILL

Part of a landsystem of high relief with gently inclined to precipitous slopes. Fixed, shallow erosional stream channels, close to very widely spaced, form a non-directional or convergent integrated tributary network (Speight 1990:51).

### HILLCREST

A very gently inclined to steep crest, smoothly convex, eroded mainly by creep and sheet wash (Speight 1990:31).

**HILLSLOPE**

A gently inclined to precipitous slope, commonly simple and maximal, eroded by sheet wash, creep, or water-aided mass movement (Speight 1990:31).

**HOLOCENE**

The most recent epoch of geological time; the upper division of the Quaternary Period (Lapidus 1987:274).

**STONE ARTEFACT**

Fragment of stone which generally possesses one or more of the following characteristics:

- Positive or negative ring crack
- Distinct positive or negative bulb of force
- Definite erillure scar in position beneath a platform
- Definite remnants of flake scars (i.e.dorsal scars and ridges)

These traits indicate the application of an external force to a core, and are characteristic of the spalls removed by humans using direct percussion. Stone artefacts which have none of the above may be identified as such if they possess ground facet/s characteristic of human industry (Hiscock 1984:128).

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## **APPENDIX A: Report from the Birpai Local Aboriginal Land Council/Mingaletta Corporation**

## **Archaeological Report**

Lake Cathie -Bonny Hills Stage 1B Environmental Study Cultural and Heritage assessment.

## **Location of Archaeological Survey**

The study area is situated approximately 18kilomeres south of Port Macquarie, covering some 32 hectares of land comprising of Lots 1 DP 374315 & Lot 4 DP 615261 Boundaries to the north by developed residential lots on Middle Rock Road, then North West by Ocean Drive, to the West and to the south by undeveloped residential land and then to the east by coastal Crown Land.

## **The Survey**

The survey area was traversed on foot by myself and Mrs Jackie Collins the archaeologist employed to conduct the survey.

A log book was used to record all relevant data by Mrs Collins.

## **Results**

Although no artefacts were uncovered in the initial survey it must be noted that adjoining land is archaeologically sensitive and artefacts could contain evidence of Aboriginal occupation.

A scarred brush box tree was recorded during the survey It is of a highly significant heritage value and although the tree stands within the confines of the area that is zoned 7 (f1) Environment Protection-Coastal and is not subject to the rezoning proposal, Steps must be taken to minimize damage due to easier access to the rainforest as a result of adjacent residential development.

As a Native title claimant, and the senior sites officer for Mingaletta Development Corporation/Birpai Local Aboriginal Land Council I have informed Mrs Collins that the study area is not spiritually, ceremonially or culturally significant however there are sites close to the study area that are known to have a high cultural and scientific significance.

## **Recommendations**

As the Indigenous representative I have no objection to the development proposal however if any artefact or relics are unearthed during the development all work shall cease and the relevant authorities be contacted i.e. Mingaletta Development Corporation, National Parks and Wildlife Service Hastings Council and Mrs Jackie Collins. Further section 90-(1) amended of the National Parks and Wildlife Act be enacted on without deviation.

Yours in Unity

  
L.J. Moran

Senior Sites Officer, Mingaletta Development Corp/ Birpai LALC