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CULTURAL HERITAGE ASSESSMENT



WEST YAMBA DEVELOPMENT CONTROL PLAN YAMBA, NSW

PREPARED FOR BOB PAVITT PLANNING

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EXECUTIVE SUMMARY

The following is a cultural heritage assessment of Indigenous and non-Indigenous (historic) cultural heritage for the proposed West Yamba residential development. The land subject to assessment is identified in Figure 2 (Project Area), situated approximately 1.5 km west of the Yamba Central Business District.

This assessment has been commissioned by Pavitt Planning in support of proposed amendments by the Clarence Valley Council to the Development Control Plan covering the Project Area. The Project Area had been assessed for cultural values in 1996 by archaeologist Adrian Piper. The brief for this project was to update the assessment to ensure it meets the standards of the NSW Office of Environment and Heritage (OEH) *Code of Practice for Archaeological Conduct in New South Wales* (2010) (Code of Practice), a checklist for which is included as Appendix B.

The assessment involved a literature review, heritage register searches, consultation with the Aboriginal community and a field inspection. As part of a desktop study, Everick undertook searches of the relevant Aboriginal and historic heritage registers. A search of applicable historic heritage registers did not identify any items of cultural heritage significance within close proximity to the proposed Project Area. A search was conducted on 1 March 2011 of the OEH Aboriginal Heritage Information Management System (AHIMS), which identified forty recorded sites for the broader search area. One, the Golding Road Midden, is listed with co-ordinates showing it as being within the Project Area. The Consultant inspected the location provided in the AHIMS register for Aboriginal cultural heritage and none could be identified. A review of the AHIMS Site Card (Appendix D) appears to show that the Golding Road Midden is located in the access road to the Yamba Waters Holiday Park, approximately 100 m north of the park. The site appears to have been covered by the bitumen road. There was no evidence of shell or other materials on inspection of the site.

There are no Indigenous places within the Project Area listed in other heritage registers.

The Project Area is within the area administered for Aboriginal cultural heritage purposes by the Birrigan-Gargle Local Aboriginal Land Council ('LALC'). A survey for historic and Aboriginal cultural heritage was carried out by Everick Senior Archaeologist Adrian Piper and Ken 'Fox' Laurie, Sites Officer for the Birrigan-Gargle LALC, on 13 March 2011 and 6 May 2011. The Birrigan-Gargle LALC was asked to



provide written comments on this report. Their response to the draft assessment is included as Appendix A.

Results

- No physical evidence of Aboriginal Objects or Places was identified within the Project Area.
- One registered site (Golding Road Midden) was listed on the AHIMS register. This site was unable to be identified during the field inspection.
- Other than the Golding Road Midden site, no other areas were identified that were considered reasonably likely to contain Potential Archaeological Deposits (PADs).
- Consultation with the Birrigan-Gargle LALC identified no places of cultural (spiritual) significance.
- No items of historic heritage significance were identified within the Project Area.

No heritage items or places were identified during this assessment that may be considered to have an impact on the proposed Development Control Plan. The potential for unidentified significant cultural heritage items to exist within the Project Area is considered low.

Recommendations: Indigenous Cultural Heritage

The following cautionary recommendations are based upon the desktop review, the results of the field assessment and consultation with the Birrigan-Gargle LALC.

Recommendation 1: Aboriginal Human Remains

It is recommended that if human remains are located at any stage during earthworks within the Project Area, all works must halt in the immediate area to prevent any further impacts to the remains. The Site should be cordoned off and the remains themselves should be left untouched. The nearest police station, the Birrigan-Gargle LALC and the OEH Regional Office, Coffs Harbour are to be notified as soon as possible. If the remains are found to be of Aboriginal origin and the police do not wish to investigate the Site for criminal activities, the Aboriginal community and the OEH should be consulted as to how the remains should be dealt with. Work may only resume after agreement is reached between all notified parties, provided it is in accordance with all parties' statutory obligations.



It is also recommended that in all dealings with Aboriginal human remains, the Proponent should use respectful language, bearing in mind that they are the remains of Aboriginal people rather than scientific specimens.

Recommendation 2: Aboriginal Cultural Material

It is recommended that if it is suspected that Aboriginal material has been uncovered as a result of development activities within the Project Area:

- (a) work in the surrounding area is to stop immediately;
- (b) a temporary fence is to be erected around the site, with a buffer zone of at least 10 metres around the known edge of the site;
- (c) an appropriately qualified archaeological consultant is to be engaged to identify the material; and
- (d) if the material is found to be of Aboriginal origin, the Aboriginal community is to be consulted in a manner as outlined in the OEH guidelines: *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010).

Recommendation 3: Notifying the OEH

It is recommended that if Aboriginal cultural materials are uncovered as a result of development activities within the Project Area, they are to be registered as Sites in the Aboriginal Heritage Information Management System (AHIMS) managed by the OEH. Any management outcomes for the site will be included in the information provided to the AHIMS.

Recommendation 4: Conservation Principles

It is recommended that all effort must be taken to avoid any impacts on Aboriginal Cultural Heritage values at all stages during the development works. If impacts are unavoidable, mitigation measures should be negotiated between the Proponent, OEH and the Aboriginal Community.



Recommendation 5: Golding Road Midden

It is recommended that, prior to any Development Applications being lodged with the Clarence Valley Council that may affect the general location of the Golding Road Midden (Figure 3), the Proponents consult with the OEH over management of the site. It may be that the OEH will be willing to list the midden as having been destroyed on the AHIMS register. Alternatively, an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the *National Parks and Wildlife Act 1974* (NSW) may be required in order to develop in those areas. For planning purposes, it should be noted that if an AHIP is required, a minimum of six months should be allowed for to undertake community consultation in accordance with the OEH *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010) and to allow the OEH to process the AHIP.

Recommendations: Historic Cultural Heritage

There are no further actions or recommendations warranted.



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DEFINITIONS

The following definitions apply to the terms used in this report:

Aboriginal Object means 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.

Aboriginal Place means any place declared to be an Aboriginal place (under s.84 of the NPW Act) by the Minister administering the NPW Act, by order published in the NSW Government Gazette, because the Minister is of the opinion that the place is or was of special significance with respect to Aboriginal culture. It may or may not contain Aboriginal objects.

ACHCR Guidelines means the OEH *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010).

Archaeological Code of Practice means the OEH *Code of Practice for Archaeological Conduct in New South Wales* (2010).

Birrigan-Gargle LALC means the Birrigan-Gargle Local Aboriginal Land Council.

Burra Charter means the International Council of Monuments and Sites (ICOMOS) Burra Charter (1999).

OEH means the New South Wales Office of Environment and Heritage.

Due Diligence Code means the OEH *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (2010).

EP&A Act means the *Environmental Planning and Assessment Act 1979* (NSW).

Maclean LEP 1987 means the Maclean Local Environment Plan 1987.

NCREP 1988 means the *State Environment Planning Policy North Coast Regional Environmental Plan 1988*.

NPW Act means the *National Parks and Wildlife Act 1974* (NSW).



NPW Regulations means the *National Parks and Wildlife Regulations 2009* (NSW)

Project Area means the land subject to this assessment, as shown in Figure 2.

Proponent means the owners of the lands falling within the Project Area and all employees and contractors of the Proponent.

The Project means the proposed Development Control Plan and associated residential development at West Yamba, relating to the Project Area.

The Consultant means qualified archaeological staff and/or contractors of Everick Heritage Consultants Pty Ltd.



1. INTRODUCTION

1.1 Purpose of the Cultural Heritage Investigation

The following report is an assessment of Indigenous and non-Indigenous cultural heritage relating to lands affected by the proposed Development Control Plan for West Yamba. The land subject to assessment is identified in Figure 2 (Project Area) and is situated approximately 1.5 km west of the central business district of Yamba. The intent of the investigation was to identify any archaeological or cultural heritage constraints to the eventual use of the Project Area for residential purposes.

1.2 Proponent & Project Brief

The Project Area was previously assessed by archaeologist Adrian Piper in 1996. Everick Heritage Consultants (The Consultant) were commissioned by Pavitt Planning to review and update the assessment to ensure that it meets current legislative and regulatory standards. The methods employed in this assessment included:

- (a) consultation with the Birrigan-Gargle LALC;
- (b) searches of applicable heritage registers;
- (c) a review of ethnographic and historic resources relevant to the region;
- (d) a review of previous archaeological assessments from the region;
- (e) a review of historic aerial photography;
- (f) archaeological survey of the Project Area;
- (g) assessments of archaeological significance and impact; and
- (h) report on findings and recommend management strategies.

1.3 Defining the Project Area

The Project Area is situated within the Clarence Valley local government area, within west Yamba (Figure 1). The areas subject to this assessment are those shown in red in the aerial photograph in Figure 2. This includes all of Lot 46 and 47 on DP715395; Lot 18 on DP 1090409; Lot 1, 2, 3 and 4 on 790910; 8 DP 1062514; Lot 1722 on DP 1035524; Lot 3 on DP733507; Lot 12 on DP830364; Lot 2 on DP 528074; Lot 1 on 527446; and Lot 1 on 596578. It also includes parts of Lot 51 on DP861895; Lot 1 on 568545; Lot 2 on 733507; and 51 751395. The Project Area is approximately 135 ha in area.



Figure 1: Project Area General Locality



Figure 2: Aerial View of the Project Area (Google: 2010)



The Project Area is floodplain bounded by residential and light industrial land to the north and east, vegetation conservation zones to the west extending to Oyster Channel, rural lands and nature reserve extending to Wooloweyah Lagoon to the south.

1.4 Report Authorship

The site survey was undertaken by qualified archaeologist Adrian Piper, assisted by Ken 'Fox' Laurie and Ken Laurie (Junior), Sites Officer of the Birrigan-Gargle Local Aboriginal Land Council (LALC). The desktop study was undertaken by Adrian Piper, Tim Robins and Helene Tomkins. This report was written by Adrian Piper, assisted by Tim Robins and Helene Tomkins.

2. LEGISLATIVE AND PLANNING CONTEXT

The following legislation provides the context for cultural heritage in NSW: the *National Parks and Wildlife Act 1974* (NSW), the *Environmental Planning and Assessment Act 1979* (NSW) and the *Heritage Act 1977* (NSW). The Commonwealth also has a role in the protection of nationally significant cultural heritage through the *Environmental Protection and Biodiversity Conservation Act 1999* (Cth), *The Protection of Movable Cultural Heritage Act 1986* (Cth) and the *Historic Shipwrecks Act 1976* (Cth).

For the purposes of this assessment it is the State and local legislation that is relevant. The consent authorities will be the Clarence Valley Council and, where a referral agency is required to be reported to, the OEH. Approval from the OEH will also be required should the Project impact on identified Aboriginal Objects. The information below lists the legislative and policy framework within which this assessment is set.

2.1 The *National Parks and Wildlife Act 1974* (NSW) and the *National Parks and Wildlife Regulations 2009* (NSW)

The *National Parks and Wildlife Act 1974* (NSW) (NPW Act) is the primary legislation concerning the identification and protection of Aboriginal cultural heritage. It provides for the management of both Aboriginal Objects and Aboriginal Places. Under the NPW Act, an Aboriginal Object is any deposit, object



or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area, regardless of whether the evidence of habitation occurred before or after non-Aboriginal settlement of the land. This means that every Aboriginal Object – regardless of its size or seeming isolation from other Objects – is protected under the Act.

An Aboriginal Place is an area of particular significance to Aboriginal people which has been *declared* an Aboriginal Place by the Minister. The drafting of this legislation reflects the traditional focus on Objects, rather than on areas of significance such as story places and ceremonial grounds. However, a gradual shift in cultural heritage management practices is occurring towards recognising the value of identifying the significance of areas to Indigenous peoples beyond their physical attributes.

With the introduction of the *National Parks and Wildlife Amendment Act 2010* (NSW) the former offence provisions under Section 86 of ‘disturbing’, ‘moving’, ‘removing’ or ‘taking possession’ of Aboriginal Objects or Places have been replaced by the new offence of ‘harming or desecrating’. The definition of ‘harm’ is ‘destroying, defacing or damaging an Object’. Importantly in the context of the management recommendations in this assessment, harm to an Object that is ‘trivial or negligible’ will not constitute an offence.

The new amendments also significantly strengthen the penalty provisions. The issue of intent to harm Aboriginal cultural heritage has been formally addressed by distinguishing it from inadvertent harm. The penalty for individuals who inadvertently harm Aboriginal Objects has been set at up to \$55,000, while for corporations it is \$220,000. Also introduced is the concept of ‘*circumstances of aggravation*’ which allows for harsher penalties (up to \$110,000) for individuals who inadvertently harm Aboriginal heritage in the course of undertaking a commercial activity or have a record for committing similar offences. For those who knowingly harm Aboriginal cultural heritage, the penalty will rise substantially. The maximum penalty will be set at \$275,000 or one year imprisonment for individuals, while for corporations it will rise to \$1,100,000.

Where a land user has or is likely to undertake activities that will harm Aboriginal Objects, the Director General (OEH) has a range of enforcement powers, including stop work orders, interim protection orders and remediation orders. The amended regulations also allow for a number of penalties in support of these provisions. The NPWA also now includes a range of defence provisions for unintentionally harming Aboriginal Objects:

- (a) Undertaking activities that are prescribed as ‘*Low Impact*’.



- (b) Acting in accordance with the new *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (2010) ('Due Diligence Code'); and
- (c) Using a consulting archaeologist who correctly applies the *OEH Code of Practice for Archaeological Conduct in New South Wales* (2010) ("Archaeological Code of Practice") (see Appendix B).
- (d) Acting in accordance with an Aboriginal Heritage Impact Permit (AHIP).

2.1.1 Low Impact Activities

The new regulations allow for a range of low impact activities to be undertaken without the need to consult the OEH or a consulting archaeologist. Generally, those who undertake activities of this nature will not be committing an offence, even if they inadvertently harm Aboriginal objects. These activities include:

- (a) Maintenance – For example on existing roads and tracks, or on existing utilities such as underground power cables and sewage lines.
- (b) Farming and Land Management – for land previously disturbed, activities such as cropping, grazing, bores, fencing, erosions control etc.*
- (c) Removal of dead or dying vegetation - only if there is minimal ground disturbance.
- (d) Environmental rehabilitation – weed removal, bush regeneration.
- (e) Development in accordance with a Development Certificate issued under the EPA Act 1979 (provided the land is previously disturbed).*
- (f) Downhole logging, sampling and coring using hand held equipment.
- (g) Geochemical surveying, seismic surveying, costeaning or drilling.*

* This defence is only available where the land has been disturbed by previous activity. Disturbance is defined as a clear and observable change to the land's surface, including but not limited to land disturbed by the following: soil ploughing; urban development; rural infrastructure (such as dams and fences); roads, trails and walking tracks; pipelines, transmission lines; and stormwater drainage and other similar infrastructure.

2.1.2 Due Diligence Code of Practice for the Protection of Aboriginal Objects

The Due Diligence Code has been applied in Section 7.2 of this assessment. It operates by posing a series of questions for land users before they commence development. These questions are based around assessing previous ground disturbance. An activity will generally be unlikely to harm Aboriginal Objects where it:



- (a) will cause no additional ground disturbance; or
- (b) is in a developed area; or
- (c) is in a significantly disturbed area.

Where these criteria are not fulfilled, further assessment for Aboriginal cultural heritage will typically be required prior to commencing the activity.

2.2. The ACHCR (2010)

The OEH has recently published the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010) (ACHCR). These requirements replaced the former *Interim Community Consultation Requirements for Applicants* (2004) (ICCR) as of 12 April 2010. The ACHCR provide an acceptable framework for conducting Aboriginal community consultation in preparation for Aboriginal Heritage Impact Permits. Proponents are also required to follow the ACHCR where undertaking a Project that is likely to impact on cultural heritage and where required by Council.

The proposed development is of low likelihood of impacting significant Aboriginal cultural heritage and the ACHCR has not been followed for this assessment.

2.3 The Heritage Act 1977 (NSW)

The Heritage Act 1977 (NSW) (Heritage Act) is aimed at identifying and protecting significant items of historic (as opposed to Aboriginal) cultural heritage. The focus of the legislation is on identifying places of either local or state heritage significance, and protecting them by registration on heritage registers. Significant historic heritage items are afforded little protection (other than at the discretion of councils) where they are not on a heritage register.

Of note are the provisions allowing for interim heritage orders (Part 3), which grants the Minister or the Minister's delegates, (which importantly may include a local government agent) the power to enter a property and provide emergency protection for places that have not yet been put on a heritage register but that may be of local or State significance.



The Heritage Act 1977 (NSW) also makes allowances for the protection of archaeological deposits and relics (Part 6). An archaeological "relic" means any deposit, object or material evidence which relates to the settlement of the area, not being Aboriginal settlement. Importantly, a former requirement for an archaeological relic to be 50 years or older has recently been repealed. The focus is now on the item's potential heritage significance, not its age. As will be discussed below, it is highly unlikely that archaeological relics of significant historic sites are located within the Project Area.

2.4 *The Maclean Local Environmental Plan 2001 and Draft Clarence Valley Local Environment Plan 2010*

The Maclean LEP 2001 provides statutory and planning protection for items already listed as being of heritage significance, and additional protection for places of Aboriginal heritage significance. It ensures that essential best practice components of the heritage decision-making process are followed. A listed environmental heritage item is an item that is described in Schedule 1 of the Maclean LEP 2001.

For listed heritage items, a person may not demolish, damage, excavate, erect or subdivide that land without the consent of the Council. Consent may not be given unless a Heritage Impact Assessment has been undertaken (25(4)). In addition, in the event that a place of Aboriginal heritage significance may be impacted by a development, Council must not grant consent unless:

- (a) It has considered the impact such a consent would have on the significance of the place; and
- (b) It has notified the Aboriginal community that such a consent is being considered, and allowed at least 21 days for members of the community to respond.

The Clarence Valley Council has also published on its planning website a copy of the draft Local Environment Plan 2010. Schedule 5 of the draft LEP contains a list of heritage items of local significance. Under the proposed activity, any development that may impact a significant heritage item will require development consent. This includes provision for the preservation of trees within or adjacent to a heritage item (Part 5: 5.9(7)). Part 5 Section 5.10 lists the primary provisions relating to cultural heritage. They substantially mirror those of the Maclean LEP 2001.



2.5 The North Coast Regional Environmental Plan 1988

The North Coast Regional Environmental Plan 1988 (NCREP 1988) recognises the importance of regionally significant heritage items and places to the State of NSW. It provides statutory protection for a select number of state and regionally significant heritage items and places in northern NSW. A "heritage item" means a building, work, relic, tree or place of heritage significance to the North Coast Region specified or described in Schedule 2 or 3 of the NCREP 1988. For these items, the Ballina Shire Council remains the consent authority. Under the NCREP 1988 Council must consider:

- the views of the Heritage Council;
- the heritage significance of the item to the State or region;
- the extent to which the carrying out of the development would affect the heritage significance of the item and its site;
- whether the setting of the item, and in particular, whether any stylistic, horticultural or archaeological features of the setting should be retained;
- measures taken to conserve and preserve the heritage item, including where appropriate, any conservation plan; and
- whether the item constitutes a danger to the users or occupiers.

The main difference between the NCREP 1988 and other Council planning controls is that it focuses on regional significance rather than local significance. It also involves referral to the NSW Heritage Council, regardless of whether the item is on the NSW Heritage Register.

2.6 The NSW Heritage Manual

The NSW Heritage Manual lists an 8-step process that is generally considered a best practice guide to assessing significant items. The process steps are:

1. Summarise what is known about the item.
2. Describe the previous and current uses of the item and the associations it may have to individuals or groups and its meaning for those people.
3. Assess the significance using the NSW heritage criteria.
4. Check if a sound analysis of the item's heritage significance can be made.
5. Determine the item's level of significance.



6. Prepare a succinct statement of heritage significance.
7. Get feedback.
8. Write up the information.

Contrary to common belief, a significant heritage item need not be particularly 'old' (the exception to the rule being the definition of an Archaeological Relic discussed above). Rather, the focus is on identifying what aspects of a particular item may be significant.

The NSW Heritage Manual contains a set of 7 assessment criteria that act as a guide to assessing significance. They are:

- **Criterion (a):** An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area);
- **Criterion (b):** An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area);
- **Criterion (c):** An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area);
- **Criterion (d):** An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons;
- **Criterion (e):** An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area);
- **Criterion (f):** An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area); and
- **Criterion (g):** An item is important in demonstrating the principal characteristics of a class of NSW's
 - cultural or natural places; or
 - cultural or natural environments.

3. DESCRIPTION OF DEVELOPMENT PROPOSAL

This assessment has been commissioned in support of a proposed Development Control Plan (DCP) for West Yamba. It is proposed that under the DCP the Project Area would be rezoned as residential. The nature of the proposal means that precise construction details within the Project Area are unknown. The



engineering plans have yet to be finalised, and at the time of undertaking this assessment the amount of benching, cut or fill (if any) required for the development is unknown. For the purposes of this assessment therefore, it has been assumed that all of the Project Area may be the subject of significant surface and subsurface ground disturbance.

4. HERITAGE REGISTERS: ABORIGINAL AND HISTORIC HERITAGE

4.1 The OEH Aboriginal Heritage Information Management System

Care should be taken when using the AHIMS database to reach conclusions about site prevalence or distribution. For example, a lack of sites in a given area should not be seen as evidence that the area was not occupied by Aboriginal people. It may simply be an indication that it has not been surveyed, or that the survey was undertaken in areas of poor surface visibility. Further, care needs to be taken when looking at the classification of sites. For example, the decision to classify a site an Open Campsites containing shell rather than a Midden can be a highly subjective exercise, the threshold for which may vary between archaeologists. There are also errors with the data.

A search was conducted on 1 March 2011 of the OEH Aboriginal Heritage Information Management System over 25 km² centring on the Project Area. The search identified 40 registered Aboriginal sites within the search area (Figure 4). The majority of the registered sites are Open Campsites, listed as containing artefact and shell deposits (21). Two of these also contained human burials. An additional two burial sites were also listed in the search area, not being associated with any archaeological deposits.

Five Open Sites were listed as containing only artefacts, whilst two contain only shell. The search also identified two story place/dreaming sites.

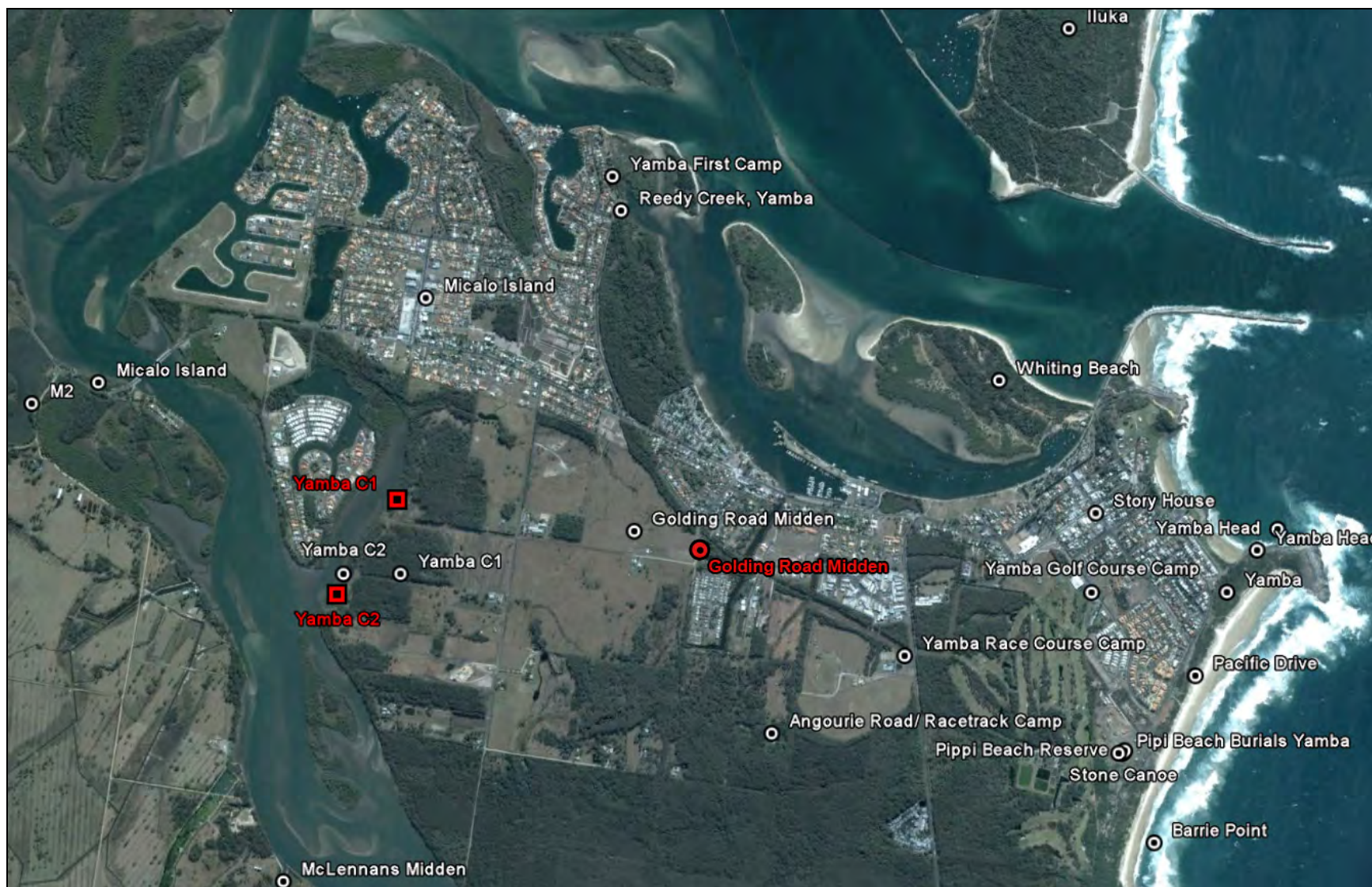


Figure 3: AHIMS GIS Search Results in close proximity to the Project Area (as shown in Database (White) plus Correct location (Red))



The AHIMS search listed one Aboriginal site within the Project Area: the Golding Road Midden (Figure 3). The site card for the midden is shown in Appendix D. On the evidence available, it appears that there has been an error in recording the location of the site, either initially or in subsequent conversion of the co-ordinates. This is a situation that is quite common over northern New South Wales. Figure 3 shows the locations of Yamba C1 and Yamba C2 as listed on the AHIMS (in white) and their true location as identified in heritage surveys by the Consultant (in red). The inconsistent discrepancies between the two demonstrate that the error is not simply related to failure to convert from Australian Geodetic Datum (AGD) to Geodetic Datum of Australia (GDA).

Figure 3 shows the location of the Golding Road Midden as described in the AHIMS Site Card (Appendix D). An inspection of the location described in the Site Card shows that this section of Goldings Street has been surfaced with asphalt since the midden was first recorded in 1982. Unfortunately, it appears likely that the site was destroyed during these road works. Should any Aboriginal cultural material remain from this site, it is likely buried under the road surface or the road shoulder.

4.2 Other Heritage Registers: Indigenous & Historic Cultural Heritage

The following heritage registers were accessed on 1 March 2011 for Indigenous and historic places within the Clarence Valley Council LGA:

- **The World Heritage List:** Contains no place listings in close proximity to Yamba.
- **The National Heritage List** (Australian Heritage Council): Contains no place listings in close proximity to Yamba.
- **Commonwealth Heritage List** (Australian Heritage Council): Contains no place listings in close proximity to Yamba.
- **Register of the National Estate** (Australian Heritage Council): Contains 5 place listings for Yamba. Two are natural places, and three are indicative Aboriginal heritage places. As indicative places, they are yet to have their significance assessed for entry onto the register. Although the locations of each of the three Aboriginal places are not listed on the register, none are thought to be within the Project Area.
- **The State Heritage Register** (NSW Heritage Office): Contains no place listings in close proximity to Yamba.
- **Maclean Local Environment Plan 2001:** Lists 22 Environmental Heritage places. None are within close proximity to the Project Area, such that they may be at risk of any impact by the proposed project activities, including visual impact.



The Clarence Valley Draft LEP (2010) and the Maclean Community Based Heritage Study (2006) were also consulted as part of this assessment. No heritage items of interest were identified in either of these documents within the Project Area.

4.3 Synthesis of Archaeology and Ethnohistory

4.3.1 *Settlement*

The Aboriginal people of the lower Clarence River were part of linguistically and culturally associated groups called the Bundjalung, the coastal extent of which occupied the Clarence to Logan Rivers and west to the Dividing Range (Crowley 1978). Tindale (1974) recorded a Jiegera tribe occupying the Clarence River upstream to Grafton. Modern usage refers to the 'Yargir' (Yaegl) as the traditional Aboriginal occupants. Heron (1991) records that the 'Yargir' is more closely related to the southern Gumbaybggir than the Bundjaung, their territory extended south to Corindi Beach, west to Ulmara and north to the Clarence River including ninety-eight of the hundred islands of the Clarence River (Heron 1991:10). While 'Yargir' country is smaller than neighbouring territories, it is one of the richest in the region in terms of natural resources (Heron 1991:16).

4.3.2 *Movement*

From the few eye witness sources available for the North Coast we can suggest that contact between elements of the coastal clans was frequent and may have involved relatively large numbers. However it may have been a way of life that rapidly disappeared under the impacts of disease and restrictions on Aboriginal groups by 'authorities' on the movement of Aboriginal people. A review of sightings of Aboriginal coastal groups in Coleman's review of ethno historical sources led her to the conclusion that in the initial stages of European contact, observers of coastal groups describe, '...consistently high, semi sedentary local populations on the coast with a highly sophisticated organic material culture which vanished almost overnight with European contact' (Coleman 1982:7).

Population densities for the lower Clarence are considered high, no doubt reflecting the wide variety of ecologies and hunting/gathering opportunities contained. Fry, Commissioner for Lands in the Clarence District, estimated the population for the Clarence as between 525 and 1050 persons (Fry 1894 in Belshaw 1978), a density of one person per three to six square miles.



Later researchers consider that populations for the coastal plains and estuaries were much higher, at possibly one person per three square miles between the Clarence and Evans Rivers (Belshaw 1978:730). In areas where marine and terrestrial foods were particularly abundant, which would apply to the lower Clarence, estimates may be placed even higher (Pierce 1978; Heron 1991). Population estimates by eye witnesses of Aboriginal numbers for the coastal regions, immediately after European settlement, are highly likely to be underestimates of pre contact numbers due to the impacts of diseases, particularly small pox that spread throughout coastal groups prior to official settlement.

Land belonged to clan groups whose boundaries had been established in Yargir mythology (Creamer and Godwin 1984). Contact between local clans and more distant groups took place for the purposes of exchange, inter marriage, initiations, armed conflict and at times of seasonally abundant food supply. There are two current demographic models to describe possible settlement/movement patterns. One suggests that clan groups would range between the sea coast and the foothills of the coastal ranges on a seasonal basis (McBryde 1974). On ethno-historical evidence McBryde suggests that some seasonal movement was usual and that the basic subsistence economy of hunting, fishing and gathering was neither static, nor completely migratory, but characterised by movement between the coast and the foothills (McBryde 1974:337). A number of early references refer to seasonal movement on a limited scale including Ainsworth (1922) on the Richmond River, Dawson (1935:25) and McFarlane (1934) on the Clarence River. Bray (1923) states that the Lismore 'tribe' used to go to Ballina at the mouth of the river. Sullivan (1976:20) notes that inland groups were allowed to come to the Tweed coast for a time. The archaeological evidence for movement in the coastal river valleys is less conclusive (McBryde 1974: 338).

A second model suggests movement of coastal peoples was not frequent, rather almost sedentary and that coastal groups moved north and south within the coastal plain rather than to the upper rivers (Coleman 1982). The view is based on the apparent permanence of numbers of small villages composed of dome shaped weatherproof huts recorded between the mid NSW coast and Moreton Bay. Flinders described a small group of huts in the vicinity of Yamba township on 12 August 1799. Perry described two villages on the banks of the lower Clarence in 1839. Similar instances are recorded by Rous on the Richmond River (McBryde 1974), Oxley on the Tweed River (Piper 1976) and at Moreton Bay (Hall 1982). The descriptions of their construction suggest they took account of seasonal heavy rains and wind. They may reflect occupation for periods of months at a base camp rather than a constant wide ranging pattern of land use.



Movement took place within territories in response to the availability of food supplies and across group territories for purposes of ceremonial occasions and tribal conflicts, in addition to exploiting the seasonal abundance of particular food resources. However, it has been suggested that movement in the coastal river valleys does not seem to have been caused by food shortages as such, but rather to take advantage of different food types (Belshaw 1978:75).

4.3.3 Economy

Early recorders of the Yargir economy emphasise the major role of marine foods in their diet. Small, an early resident, observed that while on the coast Yargir people lived on fish and shellfish of all kinds, especially oysters (Small 1898:46-47). Gray described the Yargir fishing near Micalo Island at the western end of the study area. 'Each man had a net made of stinging bark tree attached to a bough about six feet long. Holding a net in each hand they would encircle a school of sea mullet and catch dray loads of the best fish I ever saw' (Gray 1972). Fishing was conducted by spear (single point) and net on the Clarence, Tweed and Richmond Rivers. Neither the shell fishhook, nor pronged or barbed spear is evident in the archaeological record or in the ethnohistorical record (McBryde 1974). Fish traps were 'made by mangrove bushes arranged in such a way, fish found their way to the centre and weren't able to find their way out...' (McCarthy 1917). The use of a natural fish trap on a rock platform at Angourie is recorded by Heron (1993:24).

Ethnohistorical records are largely directed towards descriptions of hunting techniques employing large groups of people and obvious types of technology requiring demonstrable physical skills: the use of spears, clubs, boomerangs, the 'tow-row' (net) etc. The role of plant foods in the local economy is often understated or overlooked entirely. Certainly, vegetable foods are given no particular prominence in Ainsworth's recollections at Ballina. He refers to yams obtainable in the scrubs, and to bread made from nuts which grew on the coastal headland (Ainsworth 1922:43). McFarlane (1934), writing of the Clarence River, placed greater emphasis on the role of vegetable foods '... the woods supply much variety in the shape of fruit or berries but every description of vegetable contributed to the digestive requirements of the collector of food necessities...'

Aboriginal use of plant foods in the Yamba area has been documented in Heron's (1991) study of the Yargir people. Heron's informants describe the use of Cheeky face yam (*Dioscorea bulbifera*), Rock fig (*Ficus platypoda*), Lillypilly (*Syzygium paniculatum*), Pigface (*Carpobrotus glaucesens*), Mistletoe (*Amyema* sp.) and cunjevoi (*Aloasia macrorrhizos*) both as a food and medicine. The use of the scrub lily



and cunjevoi, a poisonous plant rendered edible after being soaked, ground and kneaded into a cake, is recorded by Small (1898).

The most detailed analysis of material culture of the North Coast has been that undertaken by McBryde (1978). McBryde's sources refer to shields (McFarlane 1934; Dawson 1935), single point fire hardened spears, three types of boomerangs (Dawson 1935), clubs – nulla nulla and pademelon sticks (McFarlane 1934), wooden battle axes, stone axes, digging sticks, bark and palm leaf bags, wooden water vessels, possum rugs, cane and shell necklaces and stone knives (Bundock 1898).

The region of the Tweed, Richmond and Clarence Rivers appears to form a distinct unit. This is particularly so in the case of fishing technology. The multi-pronged fishing spear and the shellfish hook are both absent from this region. Fish were caught in nets or speared in the shallows (McBryde 1978:187). Spears were single pointed fire hardened weapons (Dawson 1935:22), of both lighter and heavier varieties (Byrne 1986:3). Neither the woomera nor the spear throwing stick was used in this region (Dawson 1935:22). The range of materials is considered wider than observed in central Australian tribes with fewer all purpose items, few composite tools and a number of specialised ones. This may reflect a more sedentary life style in a rich environment that required fewer, but more specialised, tools (McBryde 1978:187). The stone tool element in the material culture was small and unspecialised. The archaeological evidence suggests changes to a simpler stone technology took place only centuries before European settlement. The stone tools in use immediately prior to European settlement, '... show little typological sophistication and did not demand highly skilled craftsmanship' (McBryde 1978:198).

4.3.4 Archaeological Context (Prehistory)

The earliest dated coastal site in the Clarence area is the estuarine midden at Woombah, now located 10km inland. The deposit indicated an occupation phase between c. 3260 BP and the contact period (McBryde 1974). The Woombah site had been the earliest known coastal occupation site in northern New South Wales until a shell midden excavation on the Tweed River indicated an occupation phase between 4,700 BP and 4,200 BP (Appleton 1993). At the Woombah site the bulk of shell remains were oyster (90%). Animal and fish bone were rare, suggesting that the economy was based almost entirely around the gathering of shellfish (McBryde 1974:290). Few stone artefacts were represented. The stone kit consisted of unifaced pebble tools, perhaps used for preparing plant foods, ground edge axes, utilised flakes, some small retouched tools and a few bone points (McBryde 1974:290). The presence of glass artefacts indicated use of the site into the contact period. In spite of the high volume of shell, McBryde



concluded the site represented a great number of short sporadic occupations of the site, seasonal visits lasting only a few months (McBryde 1974:288). Bailey (1975) drew similar conclusions from his calorific research of the North Creek Ballina oyster middens. The oysters provided little more than a minor supplement to the diet and the middens could only have been amassed by large groups over a matter of days (Bailey 1975:57-59).

Foredune sites have tended to reflect more recent phases of occupation. Sullivan suggests that most pipi middens on the north coast date from around 1000 years BP and many between 300-500 years BP or even later (Sullivan in Byrne 1986: 21). Shallow pipi middens at Jerusalem Creek are dated to 200 BP (McBryde 1982:77). Foredune sites without associated occupation deposits have been excavated at Schnapper Point where more than 2000 predominately unifaced pebble tools were recovered. Surface collections from Yamba foredune sites also indicate that the unifaced pebble tool is by far the most common stone tool, in addition to the stone axe, in the recent occupation period (McBryde 1982).

The most extensive archaeological investigation of sites on Pleistocene sand substrate has been that conducted by Rich (1994) at what is now known as Angels Beach Estate, Ballina. This study resulted in the recovery of 40,000 shells and shell fragments, bone fragments, a piece of ochre and 9,000 stone artefacts. Rich's investigation at Angels Beach Estate produced results which are largely in accord with those from other studies in the Lennox Head-Ballina area, revealing an assemblage of unmodified flakes, backed blades, cores, hammerstone, uni- and bifacially faced pebble tools, manufactured chiefly on chalcedony, chert and acid volcanic beach/river pebbles. Bone and shell fragments indicated exploitation of estuarine shellfish and terrestrial animals, in addition to fish. Rich concluded that evidence for the spatial distribution of intra-site activities, specifically meat butchering and tool manufacturing, suggested that the sites were not the product of itinerant or random occupation, but of repeated occupation by groups larger than a single family unit (Rich 1994:204). Radiocarbon determinations for shell samples revealed an occupation phase dating between c. 100 BP and 530 BP. On technological grounds, stone working events were dated to within the last 2,000 years (Rich 1994:9).

4.4 Previous Archaeological Assessments

Previous studies for specific impact assessments (Creamer and Godwin 1982; Gorecki 1996; Heron 2005; Piper 1980, 1982, 1996), resource management assessment (Byrne 1986) and anthropological studies (Claydon 1996; Heron 1991, 1993) have been conducted in the Yamba and west Yamba area. Other



studies containing pertinent comparative information include Starling (1974), Sullivan (1976) and Rowland (1977). These studies refer to assessments south of Angourie, between Red Rock and the Sandon River.

The **Creamer and Godwin** study (1982) was an impact archaeological assessment of the proposed Yamba Waters Resort Development and an anthropological assessment of the Yamba locality. Godwin noted that the effectiveness of the ground survey was severely limited due to poor visibility. Creamer and Godwin recorded a shell scatter in the access track to the Yamba Waters site, now an extension of Goldings Street. The site was identified as patches of shell in areas of 1-2 sq m and composed mainly of oyster with mud whelk and cockle. No stratigraphy was evident nor artefacts of any kind (NSW NPWS Site Card #13-1-0072: Appendix D). This site adjoins the eastern boundary of the Bate property under the current assessment. Creamer and Godwin also recorded a contact site in the floodplain zone on the banks of the Clarence River, occupied prior to 1920, north of the study area. This was presumably the Reedy Creek Campsite referred to in the Heron (2005) report. Creamer and Godwin also recorded a mythological site, burials, middens and open sites in the Pippi Beach area.

Additional studies in the foredunes in the south of the Maclean Shire include Starling (1974), Sullivan (1976), and Rowland (1977) in the coastal strip between Red Rock and Sandon River. These studies identified a large number of shell middens, open sites and a quarry site. Taken together the results of these studies indicate a great concentration of shallow linear shell middens and stone artefact scatters across disturbed foredunal areas. The concentration decreases in areas of dense vegetation undisturbed by sand mining and in estuarine areas where visibility is similarly poor.

Byrne (1986) conducted an archaeological sites survey of the coastal dunes and flood plain in the Maclean Shire. He recorded new sites and summarised the Starling (1974), Sullivan (1976), Rowland (1977), and Creamer and Godwin (1982) surveys. The purpose of the study was to provide management options for archaeological resources in the Maclean Shire. Dennis Byrne documented 23 sites located in the Yamba/Angourie coastal strips and west to Micalo Island. In the coastal/coastal wetlands of the above he documents 16 sites, chiefly shell middens (9), contact camps (4), burials (1) and sacred/significant sites (1).

In the western floodplain, west of Yamba township, he documented five middens and one open site, including a shell midden at Ryans Lagoon located in the Creamer Godwin study (1982). The site was a 'small density' shell midden (Byrne #13-1-92) disturbed by sand mining. There was no trace of this site at the time of the Piper (1996) survey. The consultant understands the lagoon was filled. It no longer appears on the Yamba 1:25000 map sheet. The second and third sites are a midden and an open site on



the ridge line bordering Wooloweyah Lagoon (Byrne #13-1-21; #13-1-75). Both sites were previously located by Godwin (1982). Site #13-1-21 is a large estuarine midden including flakes and backed blades, disturbed by sand quarrying. Burials were exposed at this site in 1992 as a result of excavations for turf strips. This site appears in the NPWS site catalogue. However the incidence of burials, which elevates the site into the sacred/significant category, does not yet appear in the official record. The second ridgeline site is a surface scatter of stone artefacts in the vicinity of the water tower, west of the Angourie Road, recorded by Godwin. Heron (1993:21) refers to this site and an extended site of stone flakes and scattered shell extending from the 10m contour line at the northern end of the ridge south to the Reservoir area, a distance of 600m. Piper was of the opinion that the crest of the Reservoir ridge and the northern dunal end is virtually a continuous archaeological site (Piper 1996: 15).

A fourth site within Byrne's study area was a midden, as located by Godwin, at the access track to Yamba Waters Holiday Village and now the extension of Goldings Street that adjoins the eastern boundary of the Bate property. The site was described by Godwin as a low density shell scatter disturbed by the vehicle track. Byrne found no trace of this midden which Piper, in 1996, surmised may have been eliminated by the use of the vehicle track and/or cultivation of the adjoining paddocks either side of the road.

Byrne made a number of predictive statements concerning the potential for concealed sites in the dunes to the rear of the foredunes and estuarine margins of Lake Wooloweyah and Oyster Channel, where the concentration of known sites is far lower than for foredunes and headlands. Byrne inspected the eastern bank of Oyster Channel at the southern end of Carrs Lane and no sites were located. He also conducted spot checks on Micalo Island, to the west of the survey area where an open site of 'stone chips' was recorded (#13-1-58). Law (1979:57) noted extensive middens, quarried last century for their shell but were not identified by Byrne. Joss Island immediately to the south of Micalo Island, contains a small estuarine shell midden, disturbed by erosion. Cores and flakes were evident. This site had originally been recorded by Godwin (1982 in Byrne 1986:44-45). The few sites recorded for the estuary led Byrne to suggest (1986:27) that due to lack of thorough surveys of estuarine and inner barrier dunal areas in comparison to foredunes and headlands, double or even four times the numbers of sites may occur than were known in 1986.

There are Aboriginal sites which it is impossible to predict. These include burials and sacred/significant sites. Byrne (1986:28) suggested burials, singularly or in groups, may be concealed unrecorded in the dunes of the Maclean Shire. This has been verified, though to what extent is uncertain, by the exposure of burials at the northern extent of the 'Reservoir Hill' or ridgeline. Burials are normally exposed by sand mining, sand quarrying, turf stripping or road making. The recording of other forms of sacred/significant



sites is almost wholly based on the fund of knowledge from deceased, and in fewer cases, living informants (Heron 1993). A number of these types of sites, together with contact sites, have been documented by Heron's anthropological studies of the Clarence River Aboriginal communities. Byrne's recommendation as to the management status that should be accorded to this study area was Class 2 management status (Byrne 1986:29,43). The description of Class 2 management practices required that designated developments in undisturbed areas or in areas including known sites be preceded by archaeological survey and assessment. It was not recommended that all sites in this class be retained. Rather that individual assessment of each site should be made in the context of specific development proposals (Byrne 1986:8).

Piper 1996. In 1996 Piper conducted a wide ranging indigenous cultural heritage assessment of approximately 600ha of the Yamba area including dune topography east and west of the Angourie Road and floodplains of West Yamba between Wooloweyah Lagoon, Oyster Channel and north to residential areas on Yamba Road. The assessment reviewed and assessed by field survey, areas previously assessed by Byrne (1986), Creamer and Godwin (1982). The 1996 assessment included almost all of the present lands under cultural assessment with exception of Yamba Waters Holiday Village and the Kahuna 2 property, in what was defined as Area C in the 1996 report (Piper 1996:4).

No sites were identified within the lands under this assessment. A search for a midden site (#13-1-72) in the Goldings Street extension to the Yamba Waters Holiday Village failed to find any trace of shell which might indicate a midden site. The survey recorded two shell deposits on higher (c. 0.5m) ground within 50m of the foreshores of Oyster Channel that appeared to be midden sites (Yamba C1, Yamba C 2) but, without further investigation, there is the possibility that their origin may have been due to European oyster harvesting.

Gorecki 1999 conducted a cultural heritage assessment in relation to sections of sewage augmentation north of Yamba Road and east of Angourie Road. No new archaeological sites were found (Gorecki 1999:28).

Heron 2005 conducted an Aboriginal cultural heritage sites assessment in relation to the Blue Dolphin Holiday Resort approximately 300 metres north of the northern boundary of this assessment. The survey did not "...reveal any Aboriginal cultural heritage sites of significance..." (Heron 2005:7). The report noted that the property is 'next door' (sic) to the Reedy Creek campsite and a midden site that is associated with "...the first permanent Aboriginal settlement of modern times, after white contact and the development of Yamba township..." (Heron 2005:4).



Anthropological studies have been conducted by Heron (1991, 1993) and Claydon (1996) in the Yamba area. These studies record areas of mythological and spiritual significance to the Yamba Yargir community. These areas derive their significance from their links with traditional lore and practices. Heron (1994) documents 34 sites which include mythological sites, increase sites, a fish trap, and historical sites, in addition to archaeological sites (Heron 1993:21). The Claydon (1996) report assessed in detail the significance and status of the Dirrangun rock reef site at the mouth of the Clarence River. It was found that while the site had been recorded in reports by Creamer and Godwin (1982) and Byrne (1986) that the site had inadvertently been removed from the NPWS record and subsequently re-instated. The issues addressed in the Claydon report did not directly relate to the study area other than to highlight the great concern felt by the Yamba Aboriginal community, Birrigan-Gargle Land Council for the protection of their cultural heritage.

4.5 Aboriginal Sites and Features (Range and Nature)

From the review of previous archaeological and cultural heritage assessments in the Yamba locality specific environment contexts contain all of the known archaeological sites. These are beach dunes, elevated sand plain landforms adjacent to wetlands or former wetlands and estuarine creek banks. The following site types and potential types have been identified in the above contexts.

4.5.1 *Isolated artefacts*

These will consist of single stone artefacts, which may have been randomly discarded or lost. They may occur in almost any environmental context exploited by Aboriginal people. They are commonly stone axes, single cores, hammer stones, bevelled pounders, pebbles and flakes. Their presence may indicate that more extensive scatters of stone artefacts exist or existed nearby, perhaps obscured by vegetation or dispersed by mechanical means.

4.5.2 *Open Campsites / Artefact Scatters*

They consist of scatters of stone artefacts and possibly bone and hearths. Their exposure to the elements means that evidence of food resources used on the site (with the exception of shellfish) is usually lacking. In the Yamba area open campsites are invariably found in elevated dunal positions and



adjacent to estuarine creeks or wetlands. An open campsite containing a large component of shell refuse may be described as a midden. They invariably consist of low or high density scatters of primary and secondary flakes in addition to the types of artefacts found as isolated finds. Open campsites may contain burials as in the case of sites in the Reservoir Hill area when located on sand strata (Piper 1996: 15).

4.5.3 Middens

Middens are campsites which are dominated by shellfish remains. Middens are usually situated near a source of shellfish and comprise predominantly, mature oyster, pipi, whelk, cockle and cartrut species in addition to terrestrial animal and fish bone, stone artefacts, charcoal and ash from fireplaces. Human burials have been associated with a number of middens in the Yamba locality at Micalo Island (Heron 1991:34) and the Reservoir area off Angourie Road (Piper 1996: 15).

Middens may be composed of deep compacted debris reflecting consistent use over long periods of time, or thin scatters of shell which reflect use on a single occasion by a small group, perhaps in transit or gathering food away from a large campsite. All recorded middens have been located in elevated positions beside estuarine waterways or on elevated sand substrates close to wetlands. The dominant species found in estuarine middens is oyster, while locations away from the waterways contain pipi or combinations of estuarine, open beach and rock platform species.

4.5.4 Quarry Sites

Sullivan (1976) and Rowlands (1977) both recorded a quarry during surveys between Red Rock and the Sandon River. As there are no visible suitable rock outcrops or known sources of siliceous material in the Project Area the potential for quarry sites to be found is nil.

4.5.5 Scarred Trees

The majority of scarred trees on the North Coast of NSW result from the removal of bark for use as covering, shields, containers or canoes. No doubt, as an outcome of widespread intensive land clearing and natural causes scarred trees are rare. It appears unlikely there are trees of sufficient age to contain



scarred trees as the subject land is mainly cleared open floodplain with isolated clumps of melaleuca that are probably regrowth.

4.5.6 Burial Sites

Burials recorded to date in the Yamba area occur in coastal dunes and or sandy soil substrates. Burials have been found as individual and group interments in association with middens. Heron (1991) quotes George Gray's description of a burial ground on Micalo Island in 1867 or 1868 "...We felled the trees to burn the shells and found many skeletons when we dug into the heap. In places, there were seven or eight lying in a row, as if all had been buried at the same time, then a little further on, there would be another line all buried the same way. In fact the best of our oyster shells was taken up by the skeletons..." (Gray n.d.:128-130 in Heron 1991:34). Most of the known burials located in recent times have been by accidental means through mechanical disturbance or natural erosion, for example, the reservoir area west of the Angourie Road (Piper 1996: 15).

The low damp nature of the original melaleuca swamp forest cover mitigates against burials being located within the Project Area. Further, the possibly acidic nature of the soils in the subject area and the additional impact of land clearing, etc make it highly unlikely that a human burial could remain intact.

4.5.7 Ceremonial Sites

There is no potential for the Project Area to contain ceremonial sites in the order of Bora grounds, which contain raised features in the form of earth or stone mounds. Surviving Bora grounds in this coastal region are without exception found in sand based ground. There is a reference to a ceremonial ground (Bora) at Griffiths Point on Wooloweyah Lagoon (Mrs. Garbet nee Carr pers comm. 1996). Given the 'completeness' of clearing since the early twentieth century, there is no possibility of stone or earth structures that would indicate ceremonial grounds.

4.5.8 Mythological Sites

These sites are natural features, which derive their significance from an association with stories of the creation and mythological heroes. At Yamba the Aboriginal community have the Dreaming story of Dirrangun a creator of the Clarence River who threw herself into the sea at the Clarence Heads and is now a reef submerged across the entrance. The roar of the sea is said to be Dirrangun looking for her son



and two grandsons whom she caused to drown at Ballina. The Dirrangun creation story is told in different forms at Tooloom, Baryulgil and Yamba (Robinson 1989:80-87, Heron 1991:41). Other 'origin stories' of Yamba and the Clarence River are related by Heron (1991:40-43).

4.6 Predictive Models – Land Use Strategies

All previous archaeological and anthropological assessments suggest that the focal areas for indigenous occupation, ceremonial/spiritual and burial activity are the dune areas of the outer barrier terraces and inner barrier plain, together with the fringes of estuarine waterways. It is highly unlikely that the lands under assessment would provide a suitable 'venue' for any of the above activities. These lands no doubt provided a resource zone for the hunting of terrestrial animals, wood and fibre materials by groups primarily exploiting marine foods of Wooloweyah Lagoon, Oyster Channel and the foreshores of the Clarence River a short distance to the north. The Reedy Creek campsite and the Reedy Creek midden site are both pre and post European settlement sites of significant prehistoric and historic cultural heritage value. All of the lands under assessment would be within easy distance of the Reedy Creek campsite and Reedy Creek midden, on the bank of the Clarence River.

In oral statements to Piper (1996), Mrs Garbet (nee Carr) daughter of the original European settler (c1912) described these lands as originally covered in melaleuca forest that was cleared out by the roots and drained. She also related her father's (Mr. Albert Carr) recollections of c. 1894 that "...Aborigines camped at the top of the lagoon, there is a Bora ring there and work their way down to Micalo Island and across to Oyster Channel, crabbing, oystering, fishing etc. Then they would work their way across to the beach and back to the top of the lagoon..." (Garbet pers comm. 1996).

5. LANDSCAPE CONTEXT

5.1 Environment Locality

The Project Area (135ha) is part of a sediment basin of mixed estuarine and aeolian origin forming a level plain. Relief is less than 2m, elevation less than 2m and slope less than 1%.



5.2 Topography

The only obvious land form element is a level floodplain. There is no evidence of active aggradation or erosion across the site.

5.3 Geology & Soils

Quaternary estuarine alluvium overlain by and or mixed with Quaternary (Pleistocene) sands. The sands are generally aeolian originating from the adjacent beach ridge systems (Morand 1994:160).

Soils appear to be black loamy sands overlying bleached sands possibly with a coffee rock pan at greater depths.

5.4 Vegetation

Vegetation was originally open and closed swamp forest dominated by melaleuca (*melaleuca quinquenervia*) and swamp oak (*Casuarina glauca*). Present vegetation is a heavy grass cover over most of the properties with the exception of the three easements to Oyster Channel where tidal marsh and mangrove/mud flats prevail. Regrowth open and closed forest clumps vegetate small areas to the rear of the Carrs Drive School and in the south east of the Kahuna 1 property.

5.5 Land-use History

5.5.1 Historic Record of Land Use

The greater proportion of the study area has been cleared at least once, with some sections several times more, since the selection of farming blocks in 1912 by Mr Albert Carr (Mrs.Garbet nee Carr pers comm. 1996). This area, in its original state, was dense melaleuca/casuarina forest which had to be dug out by the roots. The extensive wetland Nature Reserve, extending east from Oyster Channel, had been farming/grazing land until its resumption in 1972. Almost all tree growth in the area is regrowth. The remainder of the land north of the Nature Reserve is occupied by small farms, grazing holdings and a Catholic school site on Carrs Drive. It is probable that very little of the surface area has not been heavily



disturbed. Aboriginal sites in the lands under current assessment, if they existed, could be expected to have suffered considerable surface damage.

5.5.2 A Review of Historic Aerial Photography

Historic aerial photographs of the Project Area were reviewed to ascertain the level of past ground disturbance. This information is used to assist in developing a predictive model for potential cultural heritage site locations. Aerial photographs from 1958, 1967, 1978 and 1989 were reviewed as part of this assessment (Appendix E).

The 1958 aerial photograph of the Project Area shows that much of the southern and north western portions of the Project Area have been cleared for agricultural purposes. A small portion in the north west of the Project Area appears to be under cultivation of some kind. Otherwise, there is very little evidence of significant ground disturbance. The eastern half of the Project Area has seen some sporadic clearing, although large stands of remnant vegetation remain.

Little change is evident in the 1967 and 1978 aerial photographs. There has been some additional clearing in the south east portion of the property. Clearing during this period would almost certainly have been undertaken mechanically, and would have had a catastrophic affect on the integrity of any Aboriginal sites, particularly given the largely soft sandy soils of the Project Area. The cleared areas appear to be exclusively used for the grazing of livestock at this point in time.

Further clearing of original vegetation is evident in 1989, largely in the central and north eastern portion of the Project Area. Some rows of plantation are evident in these parts. In addition, the far eastern portion of the Project Area has been cleared by 1989 and appears to be used for grazing purposes. By 1989 the Caravan Park has been constructed on Kahuna Property 1, involving the construction of a canal and the deposition of a large amount of fill over the remainder of the site.

By 2009, almost all the Project Area has been stripped of original vegetation for farming purposes.

Summary: The relatively late clearing of much of the Project Area, means that significant ground disturbance has occurred over almost all of the Project Area. However, subsequent disturbance appears to have been largely limited to impacts caused by grazing activities. There is little evidence of ground modification, other than the occasional drain. Minimal cultivation has occurred.



It should be remembered that as the historic aerial photographs were taken 10 years apart, significant disturbance may have occurred in the intervening years. However, having regard to the archaeological analysis contained below, further research of historic aerial photography is not considered warranted.

6. PREDICTIONS

6.1 A Predictive Model: Aboriginal Cultural Heritage

The following discussion presents a summary of the archaeological, ethnographic and land use information provided above.

From the desktop review, there is a low potential association between the Project Area and Aboriginal cultural heritage. While the Project Area may have contained important organic material and food resources, the physical evidence of access to these resources is unlikely to have remained. There is no possibility that cultural materials of organic materials such as wood, fibre or cordage would survive nor is there any possibility that above ground earth mound or stone arrangements could remain 'in situ'. The location as a choice of burials is considered remote due to its proneness to inundation and dense swamp forest vegetation, compared to the favourable conditions for interments in beach terraces to the east.

A background scatter of stone artefact materials from resource gathering activities by groups primarily accessing the foreshores of Wooloweyah Lagoon/Oyster Channel and the shores of the Clarence River cannot be totally eliminated. The 'detectability' of scattered materials if they exist will be impeded by heavy grass cover, past cultivation and drainage activities in addition to original clearing. Very low levels (<5%) of surface exposure due to heavy grass cover are the norm for field assessors in this situation. Due to heavy rain, grass cover has reduced surface visibility to zero over most of the Project Area.

The potential of this area to contain archaeological sites is assessed as low. Prior to Selection in the early 1900s the entire area was vegetated with dense melaleuca/casuarina forest extending to the higher ground on which the Yamba village is located. Thin bands of mangrove swamp and sedgelands skirt the shores of northern Wooloweyah Lagoon and Oyster Channel. The area has been surveyed by Creamer and Godwin in 1982, recording one shell midden on Goldings Street to the east of the Project Area. A large part of the area has been under sugarcane for varying periods.

Given the low laying terrain and the density of the forest cover it is most probable that fringes of the estuarine channel and lagoon would have contained camp sites, possibility reflecting a pattern of land use



described by Mr. Albert Carr c 1894 (see Section 4.6). It is probable that this extensive wetland provided a food gathering resource zone which was accessed from camp site locations on higher ground to the north. The Reedy Creek midden and Reedy Creek campsite are examples of these sites, located on the banks of the Clarence River where extensive middens in area and depth are located (Heron 2005: 6). The area was also accessible from the inner barrier dunes to the east that are known for extensive midden, open campsites, burials and ceremonial sites.

6.2 Aboriginal Cultural Heritage Due Diligence Assessment

It is possible at this stage to assess the proposed development activities against the OEH Due Diligence Code. The Project Area has seen extensive ground disturbance within the meaning of the Due Diligence Code. This would have occurred primarily through initial clearing, and subsequent land use practice such as cultivation and grazing (see discussion in Section 5 above). The proposed project activities are unlikely to cause additional disturbance to any Aboriginal Objects, should they be located within the Project Area.

6.3 A Predictive Model: Historic Cultural Heritage

The desktop review identified no items of historic cultural heritage significance. It is assumed that the types of items of potential historic heritage significance would be associated with early European settlement, sugar cane cultivation and dairying activities. As there are no original dwellings or remnants of dwellings within the Project Area, this would generally be limited to farming infrastructure such as machinery, fences, dams, bridges or evidence of significant land modification. However, the desktop review identified nothing of potential significance.

7. FIELD METHODS & RESULTS

7.1 Sampling Strategy & Survey Methods

The effectiveness of a sampling strategy is based upon the extent (%sq m) and 'quality' (eg: 5%, 90%) of surface visibility. The available area of surface visibility and its 'quality' is dependant upon natural erosional processes and man made (accelerated) erosional process eg construction, cultivation



(McDonald et al. 1990:92) 'Quality' or clearness is usually impeded or enhanced by the denseness of vegetation cover.

The Project Area has been the subject of archaeological assessment in 1982 (Creamer and Godwin) and 1996 (Piper) so the topography and conditions for field survey were known. The purpose of this survey was to assess if conditions had changed from those of 1996 and to comply with recent amendments to the *National Parks and Wildlife Act 1974* (NSW) (See section 2 above).

In such a flat and generally open area as this, an intensive survey in systematic transects of the whole site would be feasible, if not for heavy grass cover. As a result, the only option available was a 'spot check' search of all possible exposed sand/soils. These were restricted to very limited sand exposures in grazed areas (Bate property) and beneath melaleuca tree clumps.

The field inspection was conducted on foot by the Consultant and Sites Officers of the Birrigan-Gargle LALC on the 13th March 2011 and 6th May 2011. Photographs were taken as a record of general features and conditions, to indicate the degree of surface visibility and the content of any sites found. Notes were made of the degree of surface visibility, the area of visibility, ground cover, land uses and any other relevant features. An over-view of surface conditions and site detection conditions is given in Sections 7.2 and 7.3.

7.2 Limiting Factors to the Survey

The field inspection intended a broad ranging sampling assessment of exposed surfaces. However poor to nil surface visibility over 95% of the area, severely restricted the effectiveness of survey coverage.

Approximately 95% of the area was under very heavy grass and inundated by surface water. Ground visibility was generally nil due to the dense grass cover. Approximately 95% of the area is cleared grazing or former grazing land.

European impacts have followed a pattern of primary clearing, excavation of drainage channels, cultivation/grazing, forest regrowth and secondary clearing. The above impacts are generally surface disturbances and unlikely to have impacted upon subsurface sites. However the presence of substantial subsurface sites is unlikely given the low lying frequently inundated nature of the terrain.



7.3 Survey Units

Survey units are indicated (Figure 4). They are broadly a single landform-floodplain, varying only by slight variations in elevation with a slight fall from north to south. A summary of general conditions for survey are indicated by property below.

Tory (Figures 7 & 8) Floodplain, waterlogged. Small clumps of Melaleuca swamp forest. Slope: level falling west, heavily grassed.

Survey includes easement carrying underground cable, tidal marsh in the easement to Oyster Channel. Area of surface exposure: <1%. Type: tidal drainage bank. Surface visibility: 100 %.

Lawson (Figure 9) Floodplain, waterlogged, heavily grassed. Area of surface exposure: <1%. Types: nil. Survey includes power line easement to Oyster Channel, waterlogged, open tidal drain, heavily grassed

Kolher (Figures 10, 11 & 12) Floodplain, waterlogged, heavily grassed.

Survey includes a drainage easement connecting to a northern branch of Oyster Channel, heavily vegetated with swamp forest regrowth, grasses and reeds extending into the grazing land bordering existing residential development at the northern end of the property. Area of surface exposure: <1%. Type: nil.

Dougherty (Figure 6). Floodplain, waterlogged, open grassed land. Area of surface exposure: <1%. Type: nil. Surface visibility: nil.

Bate (Figures 5 & 6) Floodplain, waterlogged with exception of small sanded area at the northern boundary. Cattle grazed, grass cover short with sand exposures and swale reed depressions. Area of surface exposure: c. 5%. Type: cattle pads. Surface visibility: c. 20%.

'Kahuna' 1 (Figures 13, 14 & 15) Floodplain, waterlogged, grazing land, heavily grassed, clumps of regrowth swamp forest in the south eastern sector. Area of surface exposure: <1%. Surface visibility: nil.

'Kahuna' 2 Floodplain contains a compound housing a building contractors premises surrounded by managed lawns.

Yamba Waters Holiday Village Floodplain filled to approximately 1.5 metres.

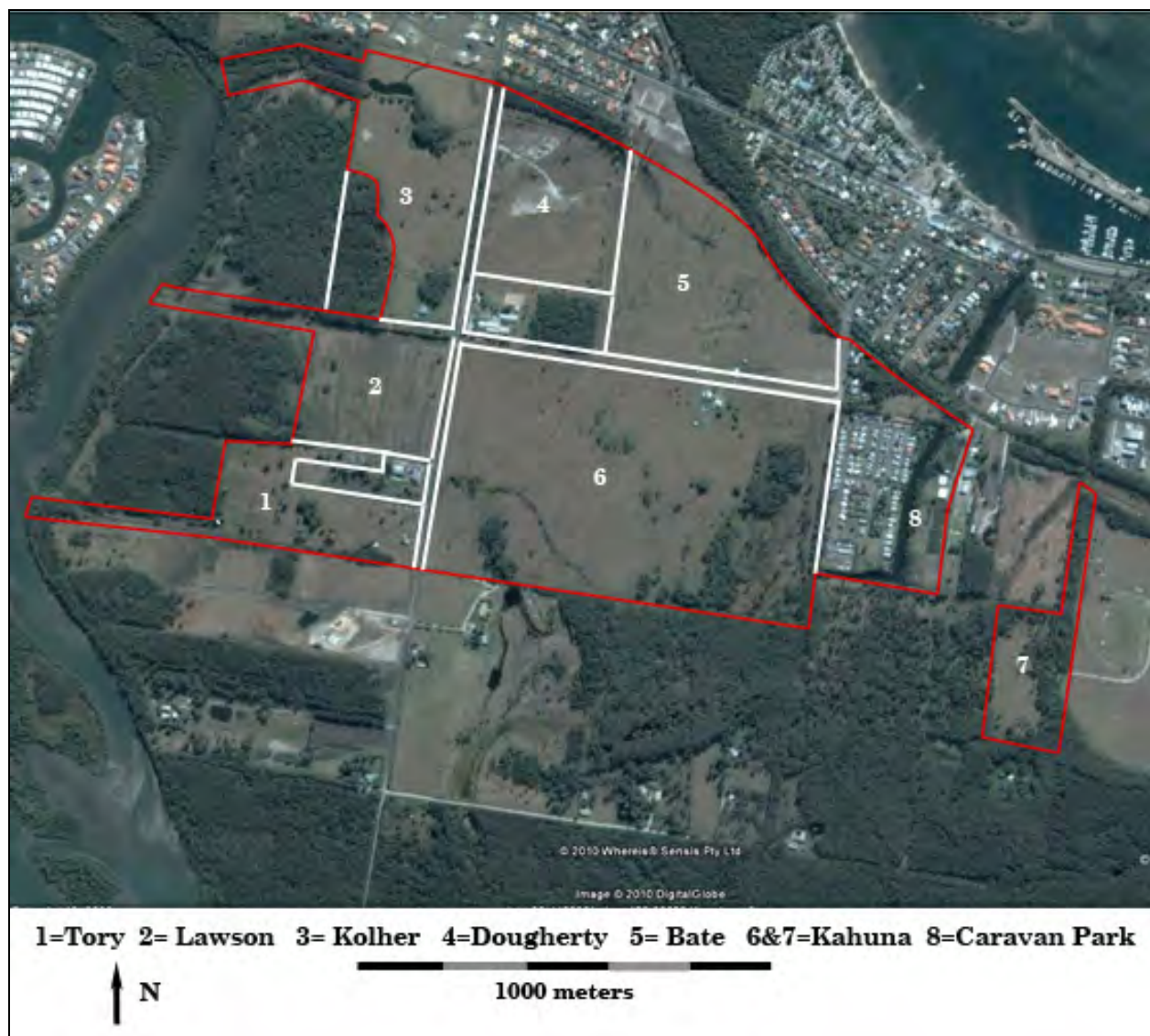


Figure 4: Project Area Survey Units



Figure 5: View north. Bate Property. Grazed Land. Visibility poor with some sand exposure.



Figure 6: View north over boundary of Bate and Dougherty properties. Surface water. Visibility poor to nil.



Figure 7: View west in easement from Tory property to Oyster Channel. Visibility poor to nil with the exception of tidal drain banks.



Figure 8: View north west over Tory property to rear of dwelling. Visibility nil.



Figure 9: View north west over Lawson property. Heavy grass cover with nil visibility.



Figure 10: View north over Kohler Property. Grazed land. Visibility poor to nil.



Figure 11: View north. Kohler property. Regrowth swamp forest on a watercourse.



Figure 12: View west. Swamp forest in easement to Oyster Channel.



Figure 13: View south west. Kahuna 1 property. Heavily grassed grazing land. Visibility poor to nil.



Figure 14: View south. Kahuna Property.



Figure 15: View South East: Kahuna 1 property. Regrowth open swamp forest. Heavy grass, reed and fern cover. Visibility poor to nil.

7.3 Survey Coverage

Requirement 9 of the *Checklist for Compliance with the NSW OEH Aboriginal Archaeological Code of Practice Requirements* requires that the analysis of survey coverage be presented in table format. The following table indicates all of the area of survey as floodplain. The features of survey conditions are indicated by the given property names as supplied by Ms Wendy Shepherd of Yamba Surveys (Figure 4). The Yamba Waters Holiday Park and Kahuna 2 were not surveyed. The Holiday Park was not surveyed due to the introduced fill covering the property. This site was surveyed in 1982 by Creamer and Godwin prior to being filled to its current level. Kahuna 2 is part of a light industrial complex, and there was no reasonable likelihood of any Aboriginal cultural heritage being identified through surveying this area.



Table 1: Survey Coverage

LANDFORM ELEMENT	AREA (ha)	EXPOSURE %	AREA OF EXPOSURE (ha)	VIZIBILITY %	AREA FOR SITE DETECTION (ha)	% OF LF FOR SITE DETECTION	SITE
FLOODPLAIN							
TORY	10.5	<1	0.105	90	0.09	0.9	0
LAWSON	7	<1	0.07	<5	0.035	0.05	0
KOLHER	14.5	<1	0.145	<5	0.007	0.05	0
DOUGHERTY	13.5	<1	0.135	<5	0.006	0.05	0
BATE	16.5	5	0.8	20	0.165	1.0	0
KAHUNA 1	38.0	<1	0.38	<5	0.019	0.05	0

7.4 Results

7.4.1 Indigenous Cultural Heritage

There were no Aboriginal archaeological sites identified as a result of the field inspection.

7.4.2 Historic Cultural Heritage

There were no historic (non-Aboriginal) cultural heritage places of interest identified as a result of the field inspection.

8. ANALYSIS AND DISCUSSION

The field inspection could find no evidence of Aboriginal or European cultural heritage sites or materials. The view of the Birrigan-Gargle LALC as to the cultural heritage significance of the Project Area has been confirmed in writing as not significant (Appendix A).



The effectiveness of the assessment was hampered by very low to no areas of surface area possible to inspect and very low levels of surface visibility, less than 1% in all but the Bate property where approximately 1% of the surface area had visibility of approximately 20%. This was due to almost complete grass, reed and leaf fall cover.

The final assessment of the 1996 survey when survey conditions were far more favourable is pertinent here. Note that Area C referred to below includes all of the current assessment area with exception of the Yamba Waters Holiday Village and the Kahuna 2 property, "... Poor visibility again and the large area involved have made it impossible to say with any certainty that sites do not exist in the estuarine margins. In the northern portions of Area C, cleared for farming/grazing purposes, visibility is poor-moderate. The survey was able to confirm the presence of archaeological materials was likely to be low, in fact no sites were recorded in those areas zoned Rural with exception of Yamba C1. and Yamba C2.... I am of the view that the results of the survey, at least in the area bounded by Sullivans Road, Oyster Channel and Yamba Waters Caravan Village, do reflect the likely archaeological resource. In this section I am of the view that further archaeological research is unlikely to be warranted..." (Piper 1996: 32).

9. SCIENTIFIC VALUES AND SIGNIFICANCE ASSESSMENT

9.1 Aboriginal Cultural Heritage

9.1.1 *Principles of This Significance Assessment*

The assessment of archaeological (scientific) significance is a key aspect of developing future management strategies for the proposed development. There are many considerations that go into evaluating a site or landscape's potential archaeological significance. Two important criteria, listed in the New South Wales *Aboriginal Heritage Standards and Guidelines Kit* (1997:88), are research potential (defined as the potential to elucidate past human behaviours) and educational potential. The primary considerations when evaluating a site's research potential are discussed below.

Rarity: This is related to how prevalent a particular site type is in a given region. Sites that are particularly scarce have the potential to contribute more to our knowledge of past behaviours relative to sites which are common place. For example, in the north coast of New South Wales, coastal (beach) middens would have been common prior to European settlement. However, the impacts of sand mining and development



have resulted in coastal middens becoming relatively rare, thus increasing their archaeological significance.

Antiquity: The value in a site's antiquity is closely linked to its rarity. As a general rule, the numbers of particularly old sites will reduce as time progresses. When sites of great antiquity are identified, they are of high archaeological significance.

Representativeness: A site's representativeness indicates whether a site is considered to represent a particular pattern of past human behaviour. It is important to identify sites that have high representative value and conserve them for future generations (Pearson and Sullivan 1995:148). Representativeness is assessed based on current research questions and technologies, and may change through time. It should be noted that a site's representativeness is also related to its cultural value, as distinct from its purely scientific value.

Complexity: A site may demonstrate a range of human behaviours and/or past climate and environmental changes (Pearson and Sullivan 1995:148).

Integrity: The stratigraphic integrity of a site relates to the subsequent disturbance of a site once it has entered the archaeological record. Disturbance may have been the result of impacts by humans (such as land clearing) or natural causes (such as erosion or bioturbation from ants). It is generally the case that the greater a site's integrity, the greater its archaeological significance.

Connectedness: A site should not be viewed in isolation, as the human behaviours that were responsible for the creation of the site were invariably connected to other sites reflecting different behaviours nearby.

9.1.2 Limitations

With all scientific research, including the assessment of 'scientific significance', it is important to acknowledge the limitations of any conclusions that have been drawn in relation to the assessment of the Project Area.

The assessment of archaeological significance is a highly subjective activity, and depends much on the values of the researcher(s) involved. In this assessment, we have looked to categorise that Project Area into areas of 'High', 'Moderate – High', 'Moderate', 'Low – Moderate', 'Low' and 'No/Nil' archaeological significance. The values we have used are not precise. They exemplify arbitrary distinctions that are necessary for ease of demonstrating the scientific value of the Project Area as a whole. These categories



represent a relative continuum of significance, which is demonstrated by the diagram in Figure 5. The intention of Figure 5 is to show examples of the values used in this assessment. Of course, it is quite possible that even a single artefact may be of high archaeological significance, where it can be demonstrated that the artefact exhibits one or more of the criteria above.

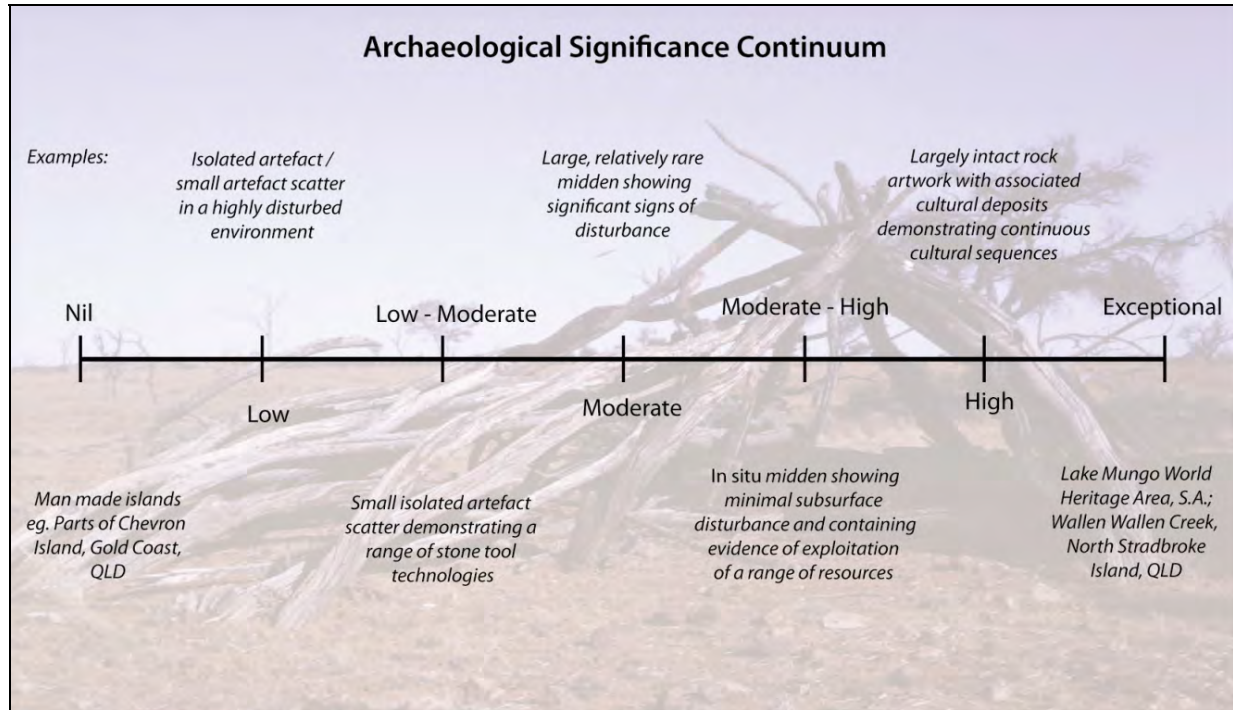


Figure 16: Archaeological Significance Continuum applied in this assessment

9.1.3 Aboriginal Cultural Heritage Statement of Significance

The Project Area is situated within an area of Low archaeological significance. The area has no features that make it particularly likely to contain Aboriginal Objects. The Project Area would be unlikely to be a suitable campsite location. It is anticipated that if the area is to contain Aboriginal Objects, they would be limited to isolated artefacts, or what is commonly known as a 'background scatter'. In addition the Project Area has been highly disturbed, and any Aboriginal Objects located within the project Area are likely to be of low scientific value. For these reasons, the Project Area has little potential to add to our understanding of past lifeways of Indigenous peoples in the region.



Aboriginal connection to the land is generally strong, and although there are unlikely to be Aboriginal Objects within the Project Area, this should not be taken as an indication that the area is not significant for cultural reasons. However, there are no geographic features (rock overhangs, resource areas, sand ridges) that make any parts of the Project Area likely to hold special cultural significance to local Aboriginal groups. Discussions with the Birrigan-Gargle LALC have not identified any areas of *particular* cultural or spiritual significance within the Project Area.

9.2 Historic Cultural Heritage

There are no items of potential historic heritage significance within the Project Area.

10. IMPACT ASSESSMENT

10.1 Indigenous Cultural Heritage Impact Assessment

The Project will likely result in the destruction of any Aboriginal sites within the Project Area. However, as discussed in the significance assessment above, the likelihood of Aboriginal Objects being located within the Project Area is low. The potential impact of the project on Aboriginal cultural heritage must therefore also be considered low. Impact mitigation strategies are provided in Section 11 below to address this risk.

It is of note that any residential development on this site would require a considerable amount of introduced fill. This further reduced the likelihood of Aboriginal objects within the Project Area being impacted by the proposal. Potential impacts would likely be limited to the construction of services such as sewage and water.

10.2 Historic Cultural Heritage Impact Assessment

There were no non-Indigenous cultural heritage sites or relics within the Project Area. It is considered highly unlikely that the Project will impact on any unidentified items of historic heritage significance.



11. RECOMMENDED MANAGEMENT & MITIGATION MEASURES

11.1 Aboriginal Cultural Heritage

The following recommendations are based upon the desktop review, the results of the field assessment and consultation with the Birrigan-Gargle LALC (Appendix A).

Recommendation 1: Aboriginal Human Remains

It is recommended that if human remains are located at any stage during earthworks within the Project Area, all works must halt in the immediate area to prevent any further impacts to the remains. The Site should be cordoned off and the remains themselves should be left untouched. The nearest police station, the Birrigan-Gargle LALC and the OEH Regional Office, Coffs Harbour are to be notified as soon as possible. If the remains are found to be of Aboriginal origin and the police do not wish to investigate the Site for criminal activities, the Aboriginal community and the OEH should be consulted as to how the remains should be dealt with. Work may only resume after agreement is reached between all notified parties, provided it is in accordance with all parties' statutory obligations.

It is also recommended that in all dealings with Aboriginal human remains, the Proponent should use respectful language, bearing in mind that they are the remains of Aboriginal people rather than scientific specimens.

Recommendation 2: Aboriginal Cultural Material

It is recommended that if it is suspected that Aboriginal material has been uncovered as a result of development activities within the Project Area:

- (a) work in the surrounding area is to stop immediately;
 - (b) a temporary fence is to be erected around the site, with a buffer zone of at least 10 metres around the known edge of the site;
 - (c) an appropriately qualified archaeological consultant is to be engaged to identify the material;
- and



- (d) if the material is found to be of Aboriginal origin, the Aboriginal community is to be consulted in a manner as outlined in the OEH guidelines: *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010).

Recommendation 3: Notifying the OEH

It is recommended that if Aboriginal cultural materials are uncovered as a result of development activities within the Project Area, they are to be registered as Sites in the Aboriginal Heritage Information Management System (AHIMS) managed by the OEH. Any management outcomes for the site will be included in the information provided to the AHIMS.

Recommendation 4: Conservation Principles

It is recommended that all effort must be taken to avoid any impacts on Aboriginal Cultural Heritage values at all stages during the development works. If impacts are unavoidable, mitigation measures should be negotiated between the Proponent, OEH and the Aboriginal Community.

Recommendation 5: Golding Road Midden

It is recommended that, prior to any Development Applications being lodged with the Clarence Valley Council that may affect the general location of the Golding Road Midden (Figure 3), the Proponents consult with the OEH over management of the site. It may be that the OEH will be willing to list the midden as having been destroyed on the AHIMS register. Alternatively, an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the *National Parks and Wildlife Act 1974* (NSW) may be required in order to develop in those areas. For planning purposes, it should be noted that if an AHIP is required, a minimum of six months should be allowed for to undertake community consultation in accordance with the OEH *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010) and to allow the OEH to process the AHIP.

11.2 Historic Cultural Heritage

There are no further actions or recommendations warranted.



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APPENDIX A: CORRESPONDENCE – BIRRIGAN-GARGLE LALC



LOCAL ABORIGINAL LAND COUNCIL

ABN 64 452 801 918

P.O. Box 6
Yamba 246
Phone (02) 6646 188
Fax (02) 6646 167

5th September 2011

Everick Heritage Consultant

Attention: Mr Robins

RE: Carrs Drive Yamba

At a full Birrigan Gargle LALC members meeting I had presented your report to the members in regards to West Yamba and I have mention that Ken (Fox) Laurie Snr our senior sites officer had attended the sites with Adrian Piper.

Mr Laurie had informed BGLALC that there was no problem with West Yamba and that the Everick Heritage Consultant will not interfere with BGLALC Land.

Therefore members of BGLALC have agreed for Everick Heritage Consultant to continue with Carr's Drive Yamba if approved by Mr. Ken Laurie.

If you have any queries in regards to this letter please do not call the above number.

Yours truly

Norma Collins

CEO

Birrigan Gargle LALC



APPENDIX B: OEH ARCHAEOLOGICAL CODE OF PRACTICE CHECKLIST

Checklist for Compliance with OEH NSW Aboriginal Archaeological Code of Practice Requirements				
REQUIREMENTS MET		Yes	No	N/A
Requirement 1: Review previous archaeological work				
	Requirement 1a – The Review of previous archaeological work:			
•	is appropriate to the scope of works	✓		
•	includes an AHIMS search	✓		
•	synthesises the known archaeology and ethnohistory of the region	✓		
•	evaluates the results of any previous reports for the subject area in light of current knowledge	✓		
•	describes the range and nature of Aboriginal sites & features present within & near the subject area	✓		
•	describes existing predictive models that are relevant to the project and subject area	✓		
•	is presented as a map showing the location of previously recorded sites / areas of previous surveys	✓		
	Requirement 1b – The AHIMS searches:			
•	are contemporaneous with the project	✓		
•	include an area larger than, and wholly containing, the subject area	✓		
•	include an area large enough to allow adequate landscape interpretation	✓		
•	include a search for any previous reports relevant to the subject area	✓		
•	have been assessed to determine the robustness of the search	✓		
•	the date of AHIMS search & AHIMS client service number is referenced in the Archaeological Report			
•	Other registers searched include NSW State Heritage Inventory & The Australian Heritage Database	✓		
Requirement 2: Review the landscape context				
	The landscape description:			
•	describes the landscape history at a an appropriate scale	✓		
•	describes the landforms present within the subject area using generally accepted classifications	✓		
•	identifies the primary modes of geomorphic activity in the subject area: aggraded, aggraded or eroded (stable), or eroded	✓		
•	determines if objects are likely to be concealed below the ground surface or revealed by erosional processes	✓		
•	identifies the forms of erosion within the archaeologically surveyed area, and subject area as a whole	✓		
•	describes the soils present and, where available, outlines their formation history	✓		
•	describes the land-use history of the subject area	✓		
•	describes, and/or maps the natural resources & features that will have influenced past use of the landscape	✓		
•	is explicitly referenced in the predictive model (see Requirement 4)	✓		
•	The landscape context is documented in the Archaeological Report as set out in Requirement 11.	✓		
Requirement 3: Summarise the local & regional character of Aboriginal land use and its material traces				
•	Requirements 1 & 2 are synthesised in the Archaeological Report	✓		
REQUIREMENTS MET		Yes	No	N/A



Requirement 4: Predict the nature and distribution of evidence				
	Requirement 4a – The Predictive model:			
•	integrates the distribution of known sites, landscape units interpreted in terms of their archaeological potential	✓		
•	characterises the patterning of material traces, evidenced in the ethnohistorical review	✓		
•	considers the distribution of natural resources, and the probable land-use strategies	✓		
•	considers the spatial and temporal relationships of sites	✓		
•	identifies what sorts of material traces are predicted to be present, and in what densities	✓		
•	makes inferences about past Aboriginal occupation of the landscape based on the evidence collected	✓		
	Requirement 4b – The Predictive model results:			
•	present statements of archaeological potential about areas that can be verified using archaeological methodologies	✓		
Requirement 5: Archaeological survey				
	Requirement 5a – The Survey sampling strategy:	✓		
•	includes all landforms that will potentially be impacted	✓		
•	places a proportional emphasis on those landforms deemed to have archaeological potential	✓		
•	describes how sampling relates to the footprint that is proposed to be impacted by the development	✓		
•	clearly states when a full coverage survey will be undertaken and justify when it is not	✓		
•	is documented in the Archaeological Report as set out in Requirement 11	✓		
	Requirement 5b – The archaeological survey has:	✓		
•	surveyed an area, on foot, for the purposes of discovering Aboriginal objects	✓		
•	been conducted in accordance with the sampling strategy above	✓		
•	been carried out using accurately defined and named survey units (see Requirement 5c)	✓		
•	included representative photographs of survey units and landforms where informative	✓		
	Requirement 5b – The archaeological survey has:			
•	recorded landform and general soil information (see Requirement 2) for each survey unit	✓		
•	recorded the land surface and vegetation conditions encountered during the survey	✓		
•	recorded any Aboriginal objects (including those already on AHIMS) observed during the survey			✓
•	recorded survey coverage – see Requirement 9	✓		
•	been used to calculate survey effectiveness – see Requirement 10, and	✓		
•	been accurately mapped and presented visually at an appropriate scale		✓	
•	been documented and summarised in the Archaeological Report as set out in Requirement 11	✓		
	Requirement 5c – The archaeological survey units recorded include:	✓		
•	the beginning and end points of transects or boundaries of survey units as otherwise defined			✓
•	the beginning, length, and end points of transects using a handheld GPS receiver			✓
•	the spacing between survey personnel	✓		
•	the beginning and end of transects, or survey unit boundaries	✓		
Requirement 6: Site definition has been described using the following criteria:				
•	the spatial extent of the visible objects, or direct evidence of their location			✓
•	obvious physical boundaries where present, e.g. mound sites and middens, a ceremonial ground			✓
•	identification by the Aboriginal community on the basis of cultural information	✓		
Requirement 7: Site recording				
	Requirement 7a – Information to be recorded			
REQUIREMENTS MET		Yes	No	N/A



•	Site recording provides the information required to complete the current AHIMS Site Recording Form			✓
•	when applicable used the appropriate AHIMS Feature Recording Form			✓
•	identifies the site boundaries and indicate how they have been determined			✓
•	provides an accurate site plan, using professional judgement to determine appropriate scale and precision			✓
Requirement 7b – Scales for photography				
•	All photographs include an appropriate graded metric scale			✓
Requirement 8: Location information and geographic reporting				
Requirement 8a – Geospatial information recorded using a GPS receiver includes:				
•	the location of objects and sites			✓
•	the location of survey units (both location and area of survey units)	✓		
•	the location of landscape units (Requirement 2)	✓		
•	the location of test excavation units (Section 3.1)			✓
•	the location of other relevant features.			✓
Requirement 8b – Datum and grid coordinates are:				
•	reported as grid coordinates using the Map Grid of Australia 1994 (MGA94) cartesian coordinate system	✓		
•	checked and confirmed using a 1:25,000-scale topographic map (or the next best available scale)	✓		
Requirement 9: Record survey coverage data				
When recording survey coverage data:		✓		
•	visibility and exposure are independently described for each survey unit	✓		
•	visibility has been determined and recorded to the nearest 10%	✓		
•	exposure has been described in terms of the natural erosion processes and / or contributing processes	✓		
•	exposure has been estimated to the nearest 10% of the surface area of the survey	✓		
•	obtrusiveness of above-surface archaeological features and vegetation is described	✓		
•	coverage appropriately quantified by describing any sampling procedures	✓		
Requirement 10: Analyse survey coverage				
•	The survey results are presented in table format (see examples) or include justification for other format	✓		
•	The survey results include a summary of effectiveness of the survey for each landform unit & whole of subject area	✓		
Requirement 11 – Archaeological Report content and format				
General formatting compliance:		✓		
•	All pages must be numbered	✓		
•	All sections and sub-sections must be sequentially numbered	✓		
•	All tables, charts, plates, figures and appendices must be sequentially numbered	✓		
•	Headers or footers with a short project name should be included	✓		
•	Cover and title page complies with requirements	✓		
•	Report contents complies with requirements	✓		



APPENDIX C: AHIMS SEARCH RESULTS



Site ID	Site Name	Easting	Northing	Context / Type	Features
13-1-0081	Pipi Beach Burials Yamba	535030	6742230	Open site	Burial
13-1-0083	M2	529800	6743920	Open site	Earth mound, shell, artefact
13-1-0074	Pacific Drive	535400	6742600	Open site	Earth mound, shell, artefact
13-1-0075	Watertower	533900	6740400	Open site	Earth mound, shell, artefact
13-1-0077	North Head; Iluka	353890	6747960	Open site	Earth mound, shell, artefact
13-1-0020	Micalo Island	531700	6744420	Open site	Burial, earth mound, shell, artefact
13-1-0102	STY.1	534090	6747790	Open site	Modified tree(carved or scared)
13-1-0039	Yamba Head	535800	6743300	Open site	Earth mound, shell, artefact
13-1-0097	Yamba C2	531300	6743100	Open site	Earth mound, shell, artefact
13-1-0104	Paradise	534500	6740700	Open site	Aboriginal ceremony and Dreaming, shell, burial, stone quarry
13-1-0122	Story House	534922	6743380	Open site	Habitation structure, potential archaeological deposit (PAD)
13-1-0123	Reedy Creek, Yamba	532641	6744836	Open site	Habitation structure, potential archaeological deposit (PAD)
13-1-0098	Stone Canoe	535050	6742230	Open site	Artefact
13-1-0181	Micalo Farm	530099	6741133	Open site	Shell
13-1-0180	McLennans Midden	531004	6741627	Open site	Shell
13-1-0071	Yamba Golf Course Camp	534900	6743000	Open site	Artefact
13-1-0078	North Head: Iluka Bluff	535840	6747800	Open site	Earth mound, shell, artefact
13-1-0107	Paradise Burial	534200	6740700	Open site	Burial, shell, artefact
13-1-0069	Yamba Head Yamba Point	535700	6743200	Open site	Earth mound, shell, artefact
13-1-0079	Yamba	535550	6743000	Open site	Earth mound, shell, artefact
13-1-0073	Joss Island Midden; Joss Island	531600	6740600	Open site	Earth mound, shell, artefact
13-1-0076	Ryan's Lagoon	534500	6740500	Open site	Earth mound, shell, artefact
13-1-	Sleeper Island	537300	6746200	Open site	Shell, artefact



0183					
13-1-0080	Ryans Lagoon Barri Point Yamba	534700	6740280	Open site	Artefact, earth mound, shell
13-1-0095	Yamba A2	534450	6740325	Open site	Earth mound, shell, artefact
13-1-0013	Iluka	534800	6745700	Open site	Burial
13-1-0070	Yamba Race Course Camp	534000	6742700	Open site	Artefact
13-1-0067	Barri Point; Seasonal Camp	534550	6740250	Open site	Earth mound, shell, artefact
13-1-0121	Whiting Beach	534460	6744017	Open site	Aboriginal ceremony and Dreaming, habitation structure, potential archaeological deposit (PAD)
13-1-0119	Pippi Beach Reserve	535059	6742241	Open site	Habitation structure, potential archaeological deposit (PAD)
13-1-0068	Yamba First Camp	532600	6745000	Open site	Artefact
13-1-0017	Barrie Point	535200	6741800	Open site	Earth mound, shell, artefact
13-1-0101	Restriction applied.			Open site	
13-1-0096	Yamba C1	531575	6743100	Open site	Earth mound, shell, artefact
13-1-0058	Micalo Island	530120	6744020	Open site	Earth mound, shell, artefact
13-1-0072	GoldingsRoad Midden	532700	6743300	Open site	Earth mound, shell, artefact
13-1-0120	Angourie Road/ Racetrack Camp	533359	6742331	Open site	Habitation structure, potential archaeological deposit (PAD)
13-1-0021	Yamba	534000	6740300	Open site	Earth mound, shell, artefact
13-1-0094	Yamba A1	534275	6740625	Open site	Artefact

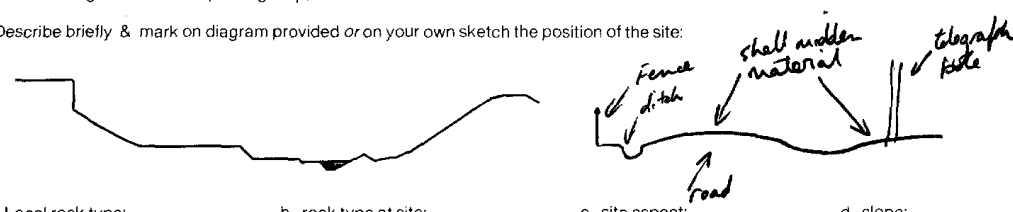


APPENDIX D: GOLDING ROAD MIDDEN AHIMS SITE CARD

 National Parks and Wildlife Service Standard Site Recording Form				 13-1-0072
MAP NAME YAMBA 7539-11-3 MCLEAN SH 56-7	EDITION 1st 1st (metric)	SCALE 1:25,000 1:250,000	REFERENCE 327433 327433 5325.7432	HEAD OFFICE USE ONLY: NWPS site no: 13-1-72 Site types: OPEN MIDDEN File nos: Report filed with site no: Classification: Site status: Filed by: <i>[Signature]</i> Date: 19.1.83.
Site name: GOLDING ROAD MIDDEN				
Local post office: YAMBA, 2kms EAST OF SITE				
Locality/property name: NONE				
NPWSDistrict:		Region: NORTHERN		
Reason for investigation (give H.O. instruction no. or full title of accompanying report where applicable): GODWIN, L. F. CREAMER, M. 1992 A REPORT ON THE ARCHAEOLOGY OF THE PROPOSED YAMBA WATERS PROJECT AREA, AND AN ANTHROPOLOGICAL STUDY CARRIED OUT IN THE YAMBA DISTRICT, NORTHERN N.S.W.				
Portion no: A1 Parish: YAMBA		Other land category: County: CLARENCE		Plan/sketch/section of site attached? Yes/No How many?
Air photo refs. (for stereo pair)		Annotated photos attached? Yes/No How many?		
Condition of site: DAMAGED		Causes of damage/disturbance/threat to site: ROAD CONSTRUCTION AND POWER LINE ERECTION (Fill in separate management/protection recommendations sheet if necessary)		
How to get to the site (refer to permanent features, give best approach to site eg. from above, below, along cliff. Draw diagram on separate sheet if necessary). DRIVE WEST FROM YAMBA. APPROX. 2KMS WGT OF P.O. IS GOLDING ROAD, TURN LEFT. DRIVE RIGHT TO END OF GOLDING RD. TURN RIGHT. PROCEED ALONG THIS DIRT TRACK 100-150m SITE VISIBLE IN RD. AND ON RIGHT-HAND SIDE OF ROAD				
Other sites in locality? Yes/No		Site Types include: shell middens		
Are sites in NPWS Register? Yes/No		Unregistered sites-plans for future recording? Yes/No		
Have artefacts been removed from site? Yes/No/don't know . When? By whom? Deposited where?				
Is site important to local Aborigines? Yes/No/don't know Give contact(s) name(s) + address(es) ALAN LAURIE YAMBA ABORIGINAL RESERVE, PIPPI BEACH RESERVE, YAMBA, N.S.W.				
Contacted for this recording? Yes/No . (Attach additional information separately) If not, why not?				
Verbal/written reference sources: ABOVE REPORT.				
Site recorded by: L. GODWIN PREHISTORY DEPT.		Date: 4-82		
Address/institution: U.N.E. ARMIDALE, N.S.W. 2351.				



13-1-72

SITE POSITION & ENVIRONMENT		OFFICE USE ONLY: NPWS site no:
<p>1. Land form e.g. beach/hill slope/ridge top, etc:</p> <p>2. Describe briefly & mark on diagram provided or on your own sketch the position of the site:</p> 		
3a Local rock type:	b rock type at site:	c site aspect: d slope:
<p>PLEISTOCENE SAND</p>		
4. Distance from drinking water:	Source:	Perm/temp.?
5. Vegetation:		
<p>200m ephemeral Creek Temporary Grass with casuarine scrub</p>		
6. Edible plants noted:	None noted	
7. Faunal resources (include shellfish)	within 1km of estuarine resources. Possibly wallabies in the area.	
<p>CHECKLIST TO HELP: length, width, depth, height of site, shelter, deposit, structure, element eg. tree scar, grooves in rock. DEPOSIT: colour, texture, estimated depth, stratigraphy, contents-shell, bone, stone, charcoal, density & distribution of these, stone types, artefact types. ART: area of surface decorated, motifs, colours, wet, dry pigment, technique of engraving, no. of figures, sizes, patination. BURIALS: number & condition of bone, position, age, sex, associated artefacts. TREES: number, alive, dead, likely age, scar shape, position, size, patterns, axe marks, regrowth. QUARRIES: rock type, debris, recognisable artefacts, percentage quarried. OTHER SITES EG. structures (fish traps, stone arrangements, bora rings, mia mias), mythological sites, rock holes, engraved groove channels, contact sites (missions massacres cemeteries) as appropriate</p>	<p>DESCRIPTION OF SITE & CONTENTS.</p> <p>Site type(es): Shell midden</p> <p>Note state of preservation of site & contents. Do NOT dig, disturb, damage site or contents.</p> <p>Attach sketches etc. eg. plan & section of shelter, show relation between site contents, indicate scale.</p> <p>Attach annotated photos (stereo where useful) showing scale, particularly for art sites.</p> <p>The site is located on not a track and in exposures near this track. The exposure consist of patches of estuarine shell, mainly oyster (<i>C. Commercialis</i>) but mud-whelk and Sydney cockle also present. These were scattered over patches of c. 1-2m. The deposits were not stratified, although in undisturbed areas there might be some stratified deposit. The midden material is associated with a grey top soil. No stone tools or artefacts of any kind were found.</p>	



APPENDIX E: HISTORIC AERIAL PHOTOGRAPHY



Figure 17: 1958 Aerial Photograph of the Project Area



Figure 18: 1967 Aerial Photograph of the Project Area



Figure 19: 1978 Aerial Photograph of the Project Area



Figure 20: 1989 Aerial Photograph of the Project Area