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CULTURAL HERITAGE ASSESSMENT



FOR LOT 73 on DP 851902
BAYSIDE WAY, BRUNSWICK HEADS, NSW



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EXECUTIVE SUMMARY

The following report presents the results and outcomes of a cultural heritage assessment for Indigenous and non-Indigenous heritage items for the proposed residential subdivision at Bayside Way, Brunswick Heads, Northern NSW ('Subject Lands'). Everick understands that this report is to be submitted by Codlea Pty Ltd in support of a Concept Plan under Part 3A of the *Environmental Planning and Assessment Act 1979* (NSW).

As part of a desktop study, Everick undertook searches of the relevant Aboriginal and European heritage registers. A search of applicable European heritage registers identified no items of cultural heritage significance within the Subject Lands. A search conducted on 25 March 2009 of the Department of Environment, Climate Change and Waters ('DECCW') Aboriginal Heritage Information Management System ('AHIMS') found 14 recorded sites for the broader search area. These are indicated in Figure 15. None were recorded within the Subject Lands. The Subject Lands are within the area administered for Aboriginal cultural heritage purposes by the Tweed Byron Local Aboriginal Land Council ('LALC'). In our attempt to obtain as much information about the cultural significance of the Subject Land, the Tweed Byron LALC's internal database, the Bundjalung Mapping Programme ('BMP'), was reviewed. There were no sites or places of Indigenous cultural heritage recorded in the Subject Lands on this database. There are no Indigenous places within the Subject Lands listed in other heritage registers.

Two surveys for Aboriginal cultural heritage was carried out by the consultant and Yvonne Stewart, Sites Officer for the Arakwal Aboriginal Corporation (AAC) and Cyril Scott, Sites Officer for the Tweed Byron LALC, on 16 April 2009 and 14 May 2009 respectively. The Arakwal and the Land Council's views on the conduct and outcomes of the assessment are attached as Appendix A and C of this report.

Results

- No other items of Indigenous heritage were identified within the Subject Lands.
- No items of European (non-Indigenous) cultural heritage were identified.

Recommendations: Indigenous Cultural Heritage

The following recommendations are based upon the results of the desktop review, field inspections and consultation with the Sites Officer of the Tweed Byron LALC and the Arakwal Aboriginal Corporation. The recommendations are cautionary in nature.



Recommendation 1: Post Clearing Survey

During the survey, much of the eastern portion of the Subject Lands had either very poor surface visibility or were inaccessible to survey. Everick understands that this area is protected under an Environmental Protection Zone and the Proponent does not intend to disturb this part of the Subject Lands. However, as a cautionary measure the following recommendation has been made in the event that minor works in this area are considered suitable in the future.

It is recommended that, in the area identified in figure A below, where activities are to be undertaken that have the potential to disturb or damage Aboriginal cultural heritage, a member of the Arakwal Aboriginal Corporation be engaged to conduct a survey of that area after initial clearing works have been undertaken ('Post Clearing Survey'). Should any items of cultural heritage significance be identified, the processes outlined in Recommendations 2, 3 and 4 should be followed.



Figure A: Post Clearing Survey Area



Recommendation 2: Aboriginal Human Remains

It is recommended that if human remains are located at any stage during construction works within the Subject Lands, 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 Tweed Byron LALC, and the DECCW 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 DECCW 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 3: Aboriginal Cultural Material

It is recommended that if it is suspected that Aboriginal material has been uncovered as a result of development activities, including Post Clearing Surveys, within the Subject Lands:

- (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 DECCW guidelines: "*Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010)*" (2005).

Recommendation 4: Notifying the DECCW

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



Recommendation 5: 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 and the Aboriginal Community.

1. INTRODUCTION

Everick Heritage Consultants ('Everick') have been engaged by Codlea Pty Ltd to conduct a Cultural Heritage Assessment in preparation for a proposed residential subdivision at Bayside Way, Brunswick Heads, NSW ('Subject Lands'). The assessment involved a literature review, heritage register searches, consultation with the Aboriginal Community and other local community members and field inspections. Aboriginal Community Consultation was undertaken in accordance with the Department of Environment, Climate Change and Water's ('DECCW') *Interim Community Consultation Requirements for Applicants* (2005).

The Heritage assessment was undertaken as part of The Director General's Environmental Assessment Requirements. These include requirements to:

1. Identify whether the site has significance to Aboriginal cultural heritage and identify any appropriate measures to preserve any significance. Aboriginal Community Consultation should be undertaken in accordance.
2. Identify any other items of European heritage significance and provide measures for the conservation of such items.

1.1 Property Description

The proposed development land (the Subject Lands) is a 31.33 ha parcel of land at Bayside Way, Brunswick Heads, NSW (Lot 73 on DP 851902), situated within the Byron Shire Council Local Government Area. The Subject Lands are identified in Figures 1, 2 and 3.

The site is located immediately south and east of Stage 1 of the Bayside Brunswick Estate, which is approximately 1.5 km south of the Brunswick Heads commercial area. It has frontages to Bayside Way, Kingsford Drive, Omega Circuit and Torakina Drive. The site is bounded on the east by Simpson's Creek. The Pacific Highway runs approximately 500 metres to the west, and Andersons Lane, which runs along a low east-west ridge is located 750 m to the south.



Figure 1: General Locality of the Subject Lands

1.2 Proposed Development

The following works which have the potential to disturb cultural heritage are proposed for the Subject Lands:

- Creation of a residential subdivision of some 200 residential single dwelling, dual occupancy and medium density lots; and
- Provision for local parks and the dedication of an eight hectare parcel of land adjacent to Simpson's Creek for the purpose of an environmental park.



Figure 2: Boundary of the Subject Lands (Google 2008)

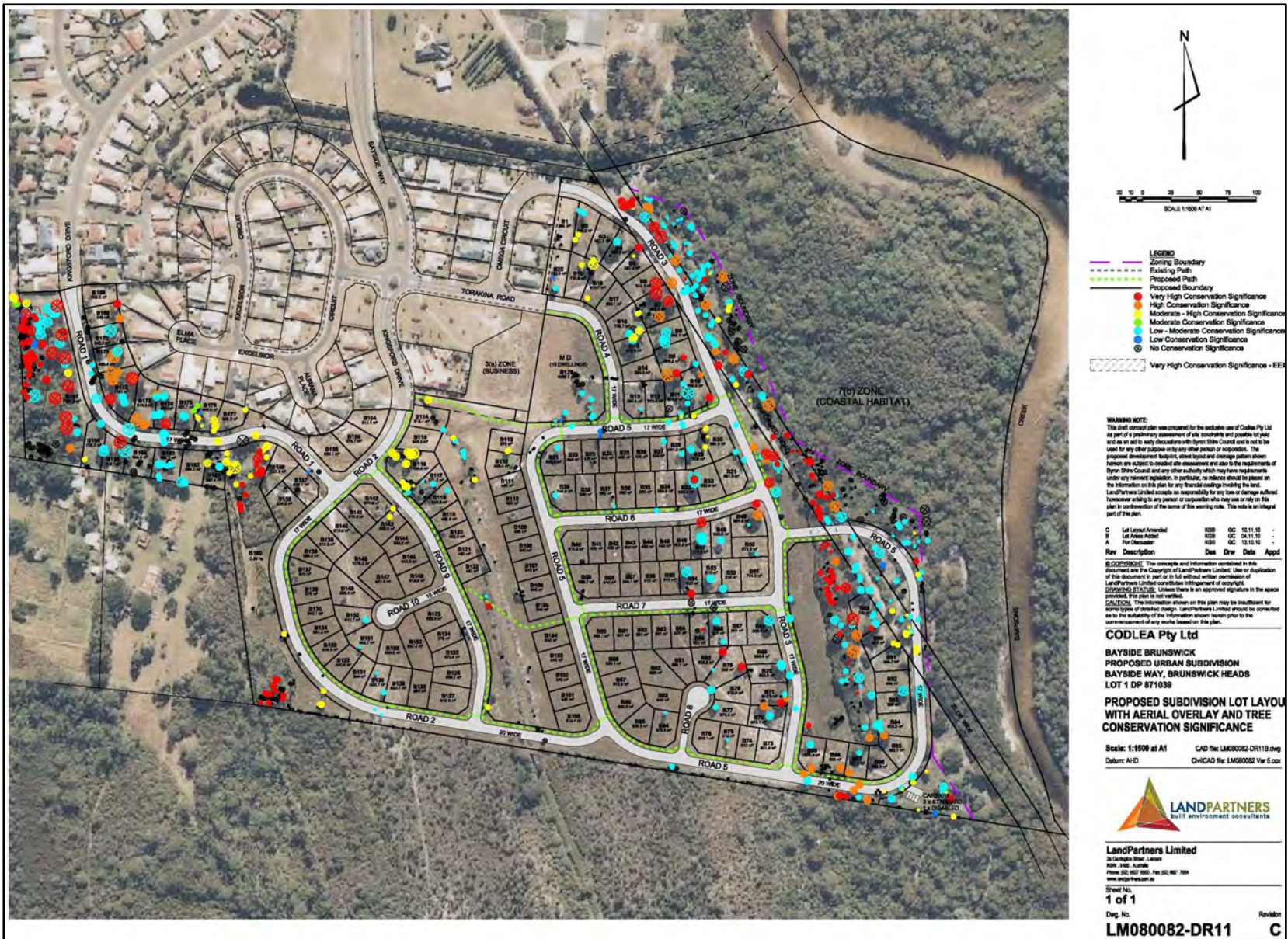


Figure 3: Concept Plan

1.3 Legislative Background

The consenting authority for the Concept Plan is the New South Wales Department of Planning. This means that the provisions of the *National Parks and Wildlife Act 1974* (NSW) will not apply.

As part of their Director General's Requirements, the Department of Planning requires a heritage assessment be undertaken in accordance with the NSW Department of Environment, Climate Change and Waters (DECCW) *Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (2005). This assessment has been structured to conform to these standards. The assessment also conforms to the cultural heritage standards adopted by the DECCW in 2010, being the:

- *Code of Practice for Archaeological Conduct in New South Wales* (2010); and
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010).

1.3.1 *The Heritage Act 1977 (NSW)*

The Heritage Act is aimed at identifying and protecting significant items of European cultural heritage. The focus of the legislation is on identifying places of either local or state heritage significance, and protecting them by entry onto heritage registers. The act allows for interim heritage orders (Part 3), which allows the minister or the minister's delegates (which importantly may include a local government agent) to enter a property and provide emergency protection for places that have not yet been put on a heritage register but may be of local or state significance. The Heritage Act also makes allowances for the protection of archaeological deposits and relics (Part 6). An archaeological "relic" means any deposit, object or material evidence which:

- (a) relates to the settlement of the area, not being Aboriginal settlement; and
- (b) is 50 or more years old.

1.3.2 *The NSW Heritage Manual*

The NSW Heritage manual lists an 8 step process that is generally considered a best practise 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 whether you can make a sound analysis of the items heritage significance.

5. Determine the items 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 just what aspects of a particular item may be significant, of which there are many.

The NSW Heritage Manual contains a set of 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);
- **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.

1.3.3 *The DECCW Interim Community Consultation Requirements for Applicants (2005)*

The Director General's Requirements (DGR's) for this project included community consultation in accordance with the DECCW *Interim Community Consultation Requirements for Applicants (2005)* (ICCR Guidelines). These requirements include the need for public notice of the assessment, preparation of a proposed methodology, undertaking site meetings and excavations where required, the production of a draft report, which is distributed to the registered Aboriginal groups and the production of a final report.

Although not strictly required, a thorough consultation process will treat the ICCR Guidelines as a minimum standard of community consultation. Generally, consultants must go to further effort to identify the significance of a given site to the Aboriginal community. This will likely include undertaking additional site inspections, fully resourcing the community by providing copies of past archaeological and environmental assessments in the region and contacting community members to ascertain their opinions of the site.

2. ABORIGINAL CONSULTATION

2.1 Aboriginal Community Consultation

The results of the initial community consultation conducted in accordance with the DECCW *Interim Community Consultation Requirements for Applicants* (2005) are detailed in this section.

2.1.1 *Traditional Owner Knowledge*

The Aboriginal community are the primary determinants of the significance of their cultural heritage. Members of the Aboriginal community have been consulted with regard to their concerns not only about known archaeological sites in the region, but also about cultural values such as areas with historic and spiritual significance, and other values relating to flora and fauna of the area. We recognise that there may be Traditional Owner knowledge that would have to be treated in a confidential manner. We will be seeking advice from Traditional Owners as to the appropriate protocols to be adopted in regard to such knowledge.

2.1.2 *The Register of Stakeholders*

Everick makes a commitment to the Aboriginal community to document the consultation process as fully as possible. We will include all written comments we receive from the Aboriginal community in our final report to the DECCW. In doing so, we hope to make an informed and accurate assessment of the cultural heritage within the Subject Lands.

On the 14th, 16th and 17th of March 2009, public notices were placed in the Tweed Daily News and the Northern Star inviting Aboriginal persons/organisations with cultural heritage interests in the Brunswick Heads area to advise Everick Heritage Consultants in writing (Appendix B).

All responses formed our Stakeholders' Register. The following register of interested Aboriginal stakeholders was compiled:

- (a) Tweed Byron Local Aboriginal Land Council ('LALC'); and
- (b) The Arakwal Aboriginal Corporation (Bundjalung of Byron Bay).

The following authorities were notified and have responded to the proposal to produce a cultural heritage assessment for the Subject Lands:

- (a) New South Wales Native Title Services;
- (b) Cultural Heritage Unit of the DECCW; and
- (c) The Byron Shire Council.

2.2.3 On-site Meeting

An on-site meeting was arranged for 16th April 2009, which was attended by Yvonne Stewart, Sites Officer of the Arakwal Aboriginal Corporation. Unfortunately, due to a funeral commitment, Cyril Scott, Sites Officer of the Tweed Byron LALC could not attend on this date, so a meeting was arranged with Mr. Scott on 14th May 2009. During each meeting a survey of the Subject Lands was undertaken and both Yvonne Stewart and Cyril Scott made mention of Aboriginal sites on Andersons Ridge approximately 400 to 500 metres to the south of the Subject Lands. Ms Stewart commented that the Subject Lands is an area that Aboriginal people passed through between Andersons Ridge and the Brunswick River but were not camped in.

2.2.4 Ongoing Consultation

After the meetings the consultant contacted each of the Stakeholders to discuss their views regarding the results of the survey and possible future management recommendations. It was decided that a Stakeholders' meeting would therefore not be required at this stage and the consultant could distribute a draft copy of Cultural Heritage Assessment to the Arakwal Aboriginal Corporation and the Tweed Byron LALC in due course, at which time they would have the opportunity to comment further on the Assessment.

The recommendations contained herein have received the support of the Registered Stakeholders (Appendix A).

3. ENVIRONMENT

The Subject Lands comprise a low sand plain with local relief of less than two metres. The soil landscape of the subject lands fall within the Tyagarah Soil Landscape (Morand 1994). They are described as 'sediment basins of mixed estuarine and aeolian origin forming level to gently undulating plains' (Morand

1994: 160). The soils are described as 'very strongly acid, permeable, often waterlogged soils of low fertility and low water holding capacity ... Permanently high water tables and moderate wind erosion hazard' (Morand 1994:160).

The predominant vegetation communities in the centre of the site comprise mown, open heath, closed wet heath/ sedgeland and low open grassland. The eastern third has a mosaic of vegetation types including tall wet sclerophyll forest, tall open dry sclerophyll forest, and mangroves adjacent to part of Simpson's Creek (Glazebrook 2005) (Figure 4). Two low southeast-northwest dunes form the boundary between the extensively cleared lands of the development footprint to the west and the more densely vegetated land of an Environmental Protection Zone to the east. The westernmost part contains some tall closed wetland and some paperbark forest (*Melaleuca quinquenervia*).

For ease of description the development footprint lands are described as Areas A, B, C and D. The Environmental Protection Zone (EPZ) is described as Area E. The land within the proposed development footprint has been extensively disturbed. The mown heathland has been extensively cleared and mounds of cleared vegetation and dot the landscape (Figures 5-6). A central north south drain with a western offshoot drains the floodplain (Figure 7). Two large mounds of sand have been formed on the northern side of the east-west aligned drain (Figure 9). Areas adjacent the back yards of residences have been used for a variety of purposes including soil dumps, car parks and rubbish dumps (Figure 8). The eastern EPZ has a number of narrow tracks formed through it (some with gravel surfaces), and a small (disused) rubbish pit is located in it (Figures 10-14).

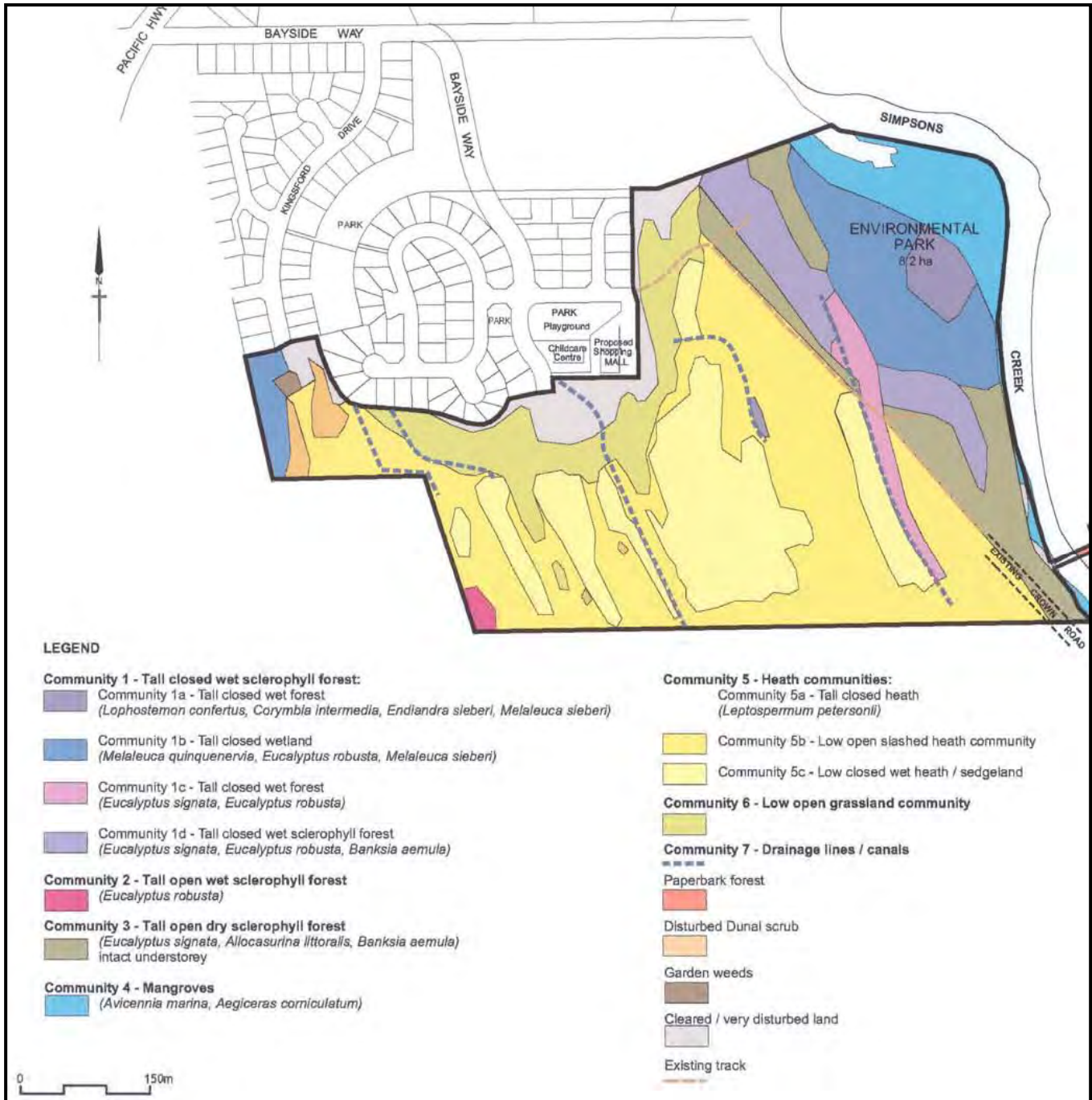


Figure 4: Vegetation Plan (Glazebrook 2006)



Figure 5: Cleared land with mounds of sand and tree debris



Figure 6: Cleared central heathland looking north from southern boundary



Figure 7: Central drain



Figure 8: Rubbish piles at back of residences



Figure 9: Large sand mound north of main east-west drain



Figure 12: Cleared sand ridge in the eastern section



Figure 10: Cleared sand ridge in the eastern section



Figure 13: Formed track marking the boundary between the cleared land and largely uncleared to the east



Figure 11: Rubbish dump in regrowth eastern section



Figure 14: Simpson's Creek

4. CULTURAL CONTEXT: ABORIGINAL CULTURAL HERITAGE

4.1 Prehistory

A broad outline of the known chronology of occupation of the immediate coastal zone between Tweed Heads and Ballina is outlined below. Doubtless the Aboriginal occupation of the Brunswick River Valley fits within the known chronology for the far North Coast. Coastal sites in northern N.S.W. date to within the Holocene period. The earliest of these is a shell midden at East Banora Point on the lower Tweed River where an occupation phase was dated between 4,700 BP and 4,200 BP (Appleton 1993:34). At Ballina a shell midden on Chickiba Creek was found to have accumulated between 1,750 BP and c.100 BP (Bailey 1975:52). Shell samples from the Angels Beach area at East Ballina are dated between 800 BP and 530 BP, with one sample at 900-1,000 BP (Rich 1994:195). Stone artefacts were assessed on technological grounds to date to within the past 2,000 years (Rich 1994:161). Bailey's basal date of 1,750 BP suggests that the modern resource-rich environment may not have been productive enough at an earlier time to support any more than small groups. In contrast, the Tweed River estuarine site was in use some 3,000 years earlier than this (Appleton 1993).

Beach foreshore sites investigated to date have been associated with more recent phases of occupation. Fore dune sites typically take the form of narrow bands of pipi shell, or surface scatters of pipi and stone artefacts. Pipi horizons at South Ballina and Broadwater have dated to 260 years BP and 200 years BP respectively (McBryde 1982:77). A more substantial pipi midden (AHIMS: #04-06-0061) investigated on the beach foreshore at Byron Bay had been used between approximately 1,000 and 400 years BP. The 80 cm deep midden deposit was overwhelmingly dominated by pipi shell, with minor inclusions of periwinkle, limpet, sand snail, oyster and cartrut. Bream was the most abundant vertebrate species. Although in lower quantities relative to bream, a broad range of fauna was represented in the midden, including other types of fish, tortoise, macropods, bandicoot, possums, rodents, birds and reptiles. The midden's stone assemblage was characterised by primary flaking debitage which reflected the poor knapping quality of the raw materials used. All of these materials are believed to have been collected from intertidal pebble beds adjacent to the site (Collins 1994).

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 flaked 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).

4.2 Settlement

The Aboriginal people of the Brunswick River Valley were part of a larger linguistic group, the Bundjalung, which spoke a range of dialects in the area between the Clarence and Logan Rivers extending west to Tenterfield. Dialect groups and sub clans composed of interlinked family groups occupied distinct areas within the wider Bundjalung association. Land belonged to individual clans whose territorial boundaries had been established in mythology (Creamer 1974). The Subject Lands are within the territory of the Minjungbal people, with the Kalibal/Widjabal to the west and the Arakwal to the south (Tindale 1974; Crowley 1978). The Minjungbal occupied the coastal plain and river valleys from a short distance north of Byron Bay to Southport and west to the coastal ranges. Keats (1988) and Crowley (1978) differ from Tindales' interpretation in that they generally agree on the northern boundary of the Arakwal but place the southern boundary of the Minyanbal on Cudgera Creek at Hastings Point (Keats 1988:30). Bray writing of his personal observations of the disbursement of the Tweed 'tribes' in the 1860s states that a probable coastal horde group the Coodjingburra "... had the part along the coast between the Tweed and Brunswick Rivers, about ten miles back from the coast..." (Bray 1901:9). Keats and Crowley for unstated reasons cut the southern boundary of the Coodjingburra on Cudgera Creek at Hastings Point (Keats 1988: 15, 30).

4.3 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. Bray records that the coastal Coodjinburra "...used to mix very much with the Ballina Richmond River Blacks" (Bray 1901:9). 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 a 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 numbers on the coastal plain were high, possibly reflecting the wide variety and high productivity of coastal ecologies. Ainsworth (1922) is the most detailed of early sources for the coastal plain and estuary, writing specifically of the Aboriginal people of east and west Ballina. Ainsworth (1922:43) recorded "...In 1847 there were between 400 and 500 in the native tribes belonging to East and West Ballina". Uniake an observer on John Oxley's ship 'Mermaid' estimated 200 men armed with spears observed the ship from Fingal Head following a brief exploration of the lower Tweed River (Uniake 1825:40). Bray observed in the 1860s, 600 camped on the Wollumbin plain near Murwillumbah. Doubtless this gathering included significant numbers of the Coodjngburra/Minjungbal clans, who would have only needed to travel for a maximum of little more than a day to reach the area of Bray's residence. Pierce estimates that if on the basis that the 200 men observed by Oxley's expedition were drawn from coastal clans between the Brunswick and the Tweed Rivers, the population density between the rivers and inland for some miles was "...of about three per square mile..." (Pierce 1971:13).

Contact between local clans and more distant groups took place for the purposes of exchange, inter-marriage, armed conflict and during times of seasonally abundant food supply. A number of models have been proposed to account for the systematic use of the hunter gatherer environment of northern New South Wales and southern Queensland. 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 sources. 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).

McBryde (1974 and 1976) argues for a seasonal movement of people between the coast in summer exploiting marine foods and hunting inland in winter. On the ethno-historical evidence McBryde suggested 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 and Dawson (1935) and McFarlane on the Clarence River. Bray (1923) states that the Lismore 'tribe' used to go to Ballina at the mouth of the river. Sullivan (1964:20) recorded 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).

Movement within a clan territory in response to local conditions or availability of different food sources also occurred. Aborigines at Byron Bay often shifted camps but seldom moved far from a flying fox camp (Sullivan 1964). Bundock noted that on the upper Richmond flying fox were taken more easily in wet weather (Bundock 1898:4-5). Davey on the Tweed suggests that movement may have been frequent

(Davey 1948). Moehead recorded that near Lismore the Richmond Aborigines, "...camped on the river flats until the rain set in and would then retire to the hills" (Moehead, nd:1).

At Ballina, Ainsworth describes movement over the short distance between the beaches and the 'big scrub', a distance of only a few kilometres. He suggests that Aborigines of east and west Ballina were scattered in small groups combining at times of abundant food resources:

"... the tribe usually camped in divisions at different places except during the oyster season when they assembled unitedly at Chickiba, on North Creek ... The blacks in the month of September each year flocked to the beaches for salmon fishing" (Ainsworth 1922:44).

An exception to normal movement practices across tribal boundaries was that documented by Petrie (1975) and Bundock (1898). Bundock recorded the movement of the upper Richmond River Aborigines in the Wyangarie area to the Bunya Mountain, "... every third year or so ... under a sort of 'Truce of God'... for the blacks went through each other territories unharmed" (Bundock 1898). These gatherings occurred every fourth year, attracting groups to their own traditionally defined camping areas and served to promote trade and strengthen kinship networks across a vast area of western Queensland, south-east Queensland, and north-east NSW.

4.4 Economy

According to Ainsworth (1922:43-44) the coastal Arakwal (Tindale 1974) or Nyangbal (Keats 1988, Crowley 1978) people relied on "... fish and oysters and the varied products of the chase ..." He refers to the spearing of salmon on the beaches and the netting of estuarine fish by means of "... a "tow-row"-a finely meshed net attached to a stick of bamboo bent in the shape of a bow ..." He is not specific about which estuarine fish were caught by this method, although an excavation of a North Creek shell midden at Ballina did indicate the exploitation of flathead and bream (Bailey 1975:55).

Ainsworth places an emphasis on the consumption of oyster to the exclusion of other estuarine, coastal rock platform and open shore molluscs, all of which are recorded in local shell middens (Bailey 1975; Campbell 1982; Hughes 1991). Modern research supports Ainsworth's assessment as to the prominence of oyster at least for certain periods, in the diet of the Ballina group to the extent that this species comprises the greatest volume of estuarine shellfish represented in Aboriginal middens (Hughes 1991).

Terrestrial animal foods mentioned by Ainsworth (1922:43) include pademelons, wallabies, bandicoots, and iguanas. He reports that flying foxes provided a source of food and were easily brought down with the

boomerang and pademelon stick. Bundock also records the hunting of flying fox "... by going into the camps where they sleep during the day, when it is raining heavily, as they will not fly..." (Bundock: 1898). At Byron Bay flying fox were so prolific and reliable that the natives though often shifting camp, seldom went far away on account of this source of food supply (Anon. n.d., b:1 in Sullivan1978:107).

Ethnohistorical records are largely directed towards descriptions of hunting techniques which employed 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..." In the Tweed/Brunswick coastal zone the rhizome of the Bungwahl Fern (*Blechnum indicum*) provided the major component of the vegetable diet. Thomas Pamphlett a shipwrecked convict observed that in the Moreton Bay region, "...fern root was a daily part of the diet and carried in bundles when the tribe moved. Women and children spent the bulk of the day procuring fern root...a part of which they gave the men in exchange for fish..." (Uniacke 1843:58).

The most detailed analysis of material culture of the North Coast has been that undertaken by McBryde (1978).The region of the Tweed, Richmond and Clarence Rivers would seem 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 a lighter and heavier variety (Byrne 1946:3). Neither the woomera nor the spear throwing stick were used in this region (Dawson *ibid*). The range of materials is considered wider than 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 requiring fewer 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).

The resources of sub-tropical rainforest were used extensively in the technology of the Richmond, which is heavily dependent on wood and bark fibre (McBryde 1978:197). Her sources refer to shields (McFarlane 1934; Dawson 1935), single point fire-hardened spears, three types of boomerang (Dawson 1935), clubs-nulla nulla and pademelon sticks, bark and palm leaf bags, wooden water vessels, possum rugs, cane and shell necklaces and stone knives (Bundock 1898). Bark was used for containers and

shelter. Stone axes are referred to by Dawson (1935:22) and Byrne (1946:2). Fishing nets and rope was made from twine spun from the flame tree (Byrne *ibid*). Fishing nets were made a couple of yards long with a stick at each end used individually or in combination with many of the same (Seymour 1976). Bundock (1898) and Ainsworth (1922) described the same type of nets used for game drives in rainforests.

5. DESKTOP REVIEW: INDIGENOUS CULTURAL HERITAGE

5.1 Previous Archaeological / Cultural Heritage Assessments

Collins 1992 conducted an Aboriginal heritage study of the Byron Shire in which eight parcels of land were selected to reflect the major landform units and assess their potential to contain Aboriginal sites. The nearest of these sample areas was a parcel of low hills and flats in the Saddle Road/ Andersons Hill area about 3.25 km north of Tyagarah. An artefact scatter/open campsite (AHIMS#04-05-0102) containing two stone artefacts was identified in the Saddle Road area. The study also investigated the status of a reported stone arrangement (AHIMS # 04-5- 0041) located on river flats between the Brunswick River and the Pacific Highway. The stone arrangement appeared to be associated with a series of earth/rock mounds.

Doubts as to the authenticity of an Aboriginal origin for the stone arrangement and the mounds were expressed by archaeologist Professor Isobel McBryde in 1964 and Collins 1992. Collins concluded that "...while it is possible that the stone located on the top of the mound have been placed there by Aboriginal people, the fact that similar stones were noted within the excavated mound portion indicates they too are likely to be natural occurrences..." (Collins 1992:23). The site/sites were recommended for removal from the DECCW AHIMS, however they remain on the register. A full review of the documentation pertaining to the sites is contained in the Statement of Heritage Impact of the proposed Brunswick Area Sewage Augmentation prepared for BSC (Heritage Concepts Pty Ltd 2005: 29-31 and 64-65).

A number of archaeological assessments have assessed sections of the road corridor prior to the construction of the Brunswick Heads bypass north and south of the Brunswick River.

Lomax 1995 identified low density artefact scatters (#04-5-0136, 04-4-0081) at the junction of The Saddle Road and the Pacific Highway immediately south west of the present Bayside residential area. Sub surface testing of one site indicated a low density of artefacts in shallow top soil and an absence of stratigraphy or discrete spatial patterning to the deposits (Lomax 1995:19).

Mills 1998 investigated the route covered by Lomax as well as the proposed route north of the Brunswick River to Billinudgel. One non Indigenous scarred tree, two isolated artefacts and seven areas of potential archaeological deposit (PADS) were identified north of the Brunswick River (Mills 1998:26). A subsequent sub surface testing program of PADS on four spur lines terminating at wetlands found one artefact (Mills 1998:9).

Collins 1996 conducted an archaeological assessment between Ewingsdale and Tyagarah in relation to the proposed dual carriageway corridor. No sites were identified however four areas of potential archaeological sensitivity, the nearest being 4.5 km south of the Subject Lands, were identified on low hills within the floodplain. These areas were not considered to warrant sub surface investigation but monitoring was advised over initial earthworks in these areas. The review of Aboriginal sites in the vicinity of the dual carriageway reported a Bora/ceremonial ground (AHIMS #04-05-0063) 2 km east of the corridor on an inner barrier sand ridge edging Belongal swamp.

A Bora/ceremonial ground was reported to have been destroyed by sand mining at Tyagarah, its location not given by the original source, Brokenshire (1988). Collins recorded a burial area used initially as a quarry on a low knoll surrounded by swampland at Ewingsdale. The burials were believed to be still intact (Collins 1996:15).

Curran 1997 conducted a pit testing programme of those areas recommended for monitoring by Collins 1996. No archaeological materials were found.

Hughes 1998 conducted an archaeological assessment over a section of the new motorway and interchanges 4.5 km south of the Subject Lands. A shell midden or a report of a shell midden was located on a sand ridge at the corner bounded by Grays Lane to the south and old Pacific Highway to the west. The following information is summarised from the AHIMS site report for the site. In 1982 RTA construction works exposed an area of a considerable amount of pipi shell and cobble stones. The area of raised sand was flattened and the shell completely destroyed and dispersed. Hughes found that a shell midden consisting of pipi shells occurred on an isolated sand ridge which rose slightly above the surrounding featureless plain. The midden may have contained stone artefacts or cobbles of rock carried onto the site (referred to as manuports). It is possible that archaeological material occurred more widely across the sand ridge about 90 m x 90 m in area (Hughes 1998 DECCW AHIMS site card #04-5-0150).

Everick Heritage Consultants 2008 conducted a cultural heritage assessment over 114.39 ha on the Pacific Highway at Tyagarah 3.5 km south of the Subject Lands. The lands included level floodplain

extending east to low dunes on Simpson's Creek. No archaeological materials were identified from the field inspections.

However an artefact collection gathered between 1992-1995, from an area adjacent to a fresh water stream was made known to the consultants and representatives of the Arakwal Aboriginal Corporation, Tweed Byron Local Aboriginal Land Council and the DECCW. The artefacts were collected at various times following clearing and cultivation. The collection included: edge ground axes (#2), bevelled pounders, stone slabs with possible grinding wear, pebbles (some with pitting (#3)) and chert pieces. Materials associated with the preparation of ochre included an ochre piece with a ground edge, ochre pebble (red), ochre piece (red) and haematite blocks. The materials were removed to the care and custodianship of the Arakwal Aboriginal Corporation, Byron Bay.

The Aboriginal Community Database (Bundjalung Mapping Project) (BMP) was accessed with the permission of the Tweed Byron LALC and participating Traditional Owners. The database was accessed and the results assessed on the 9th of April 2008. The BMP had records for Tyagarah of both anecdotal sources of Aboriginal cultural heritage information as well as the data derived from the DECCW AHIMS. A midden site (#04-5-0150) on the western side of the Pacific Highway is located approximately 4.5 km south of the Subject Lands in the vicinity of a roadside rest area. The site area originally known as Tyagarah Grass has both traditional and historical heritage associations. The area was a 'permitted' campsite for Aborigines until their removal by authorities. Everick was informed that large numbers of stone artefacts collected in the Prestons Lane area, 5.5 km to the south east of the Subject Lands, are in private hands. A stone arrangement consisting of two serpentine (coiled) arrangements of stones was collected from the Tyagarah area during the sand mining period. Part of this is still visible at the Mullumbimby historic park. The original site of this spiritual/mythological site is restricted information. Artefact scatters are reported on low knolls/slopes adjacent to the floodplain to the east of the highway opposite the turf farm in private property.

In summary, there is considerable evidence of Aboriginal occupation of the floodplain and adjacent slopes short distances south of the Subject lands in the Tyagarah area although some anecdotal observations are yet to be confirmed and have not been recorded on the AHIMS register (Everick 2008:28).

5.2 The DECCW Aboriginal Heritage Information Management System (AHIMS)

On the 8th of May 2009 a search of the DECCW AHIMS over 80 km² of the Brunswick Heads mapsheet indicated thirteen sites between the Brunswick River, Tyagarah and two kilometres west of the Pacific

Highway. These are indicated in Table 1 and Figure 15 below. Two sites not listed on the AHIMS are attributed to the Tweed Byron LALC, a scarred tree and a midden from information from the Sites Officer of the Land Council. No sites were recorded from within the Subject Lands.

Table 1: Aboriginal Sites (AHIMS 08-05-09)

SITE ID	SITE NAME	SITE TYPE
04-5-0101	Byron Urban Areas 2; Brunswick Heads	Midden
04-5-102	Byron Urban Areas 1; Mullumbimby	Artefact Scatter
04-5-0223	TBR 1, Tyagarah	Artefact scatter
04-4-0047	Brunswick 1	Midden
04-4-0081& 04-5-0136	RTA Ridge 1	Artefact scatter
04-5-0110	Midden	Midden
04-5-111	Mound	Mound (Oven)
04-5-0166	Brunswick Heads Bypass	Midden
04-5-0149	TL 1	Midden
04-5-0041	Mullumbimby	Stone arrangement
04-5-0168	Brunswick River: Brunswick Heads Bypass	Artefact scatter
05-5-0246	Brunswick Valley STP Site	PAD
TBLALC	Brunswick Heads Bypass	Scarred Tree
TBLALC	Old Pacific Highway South	Midden

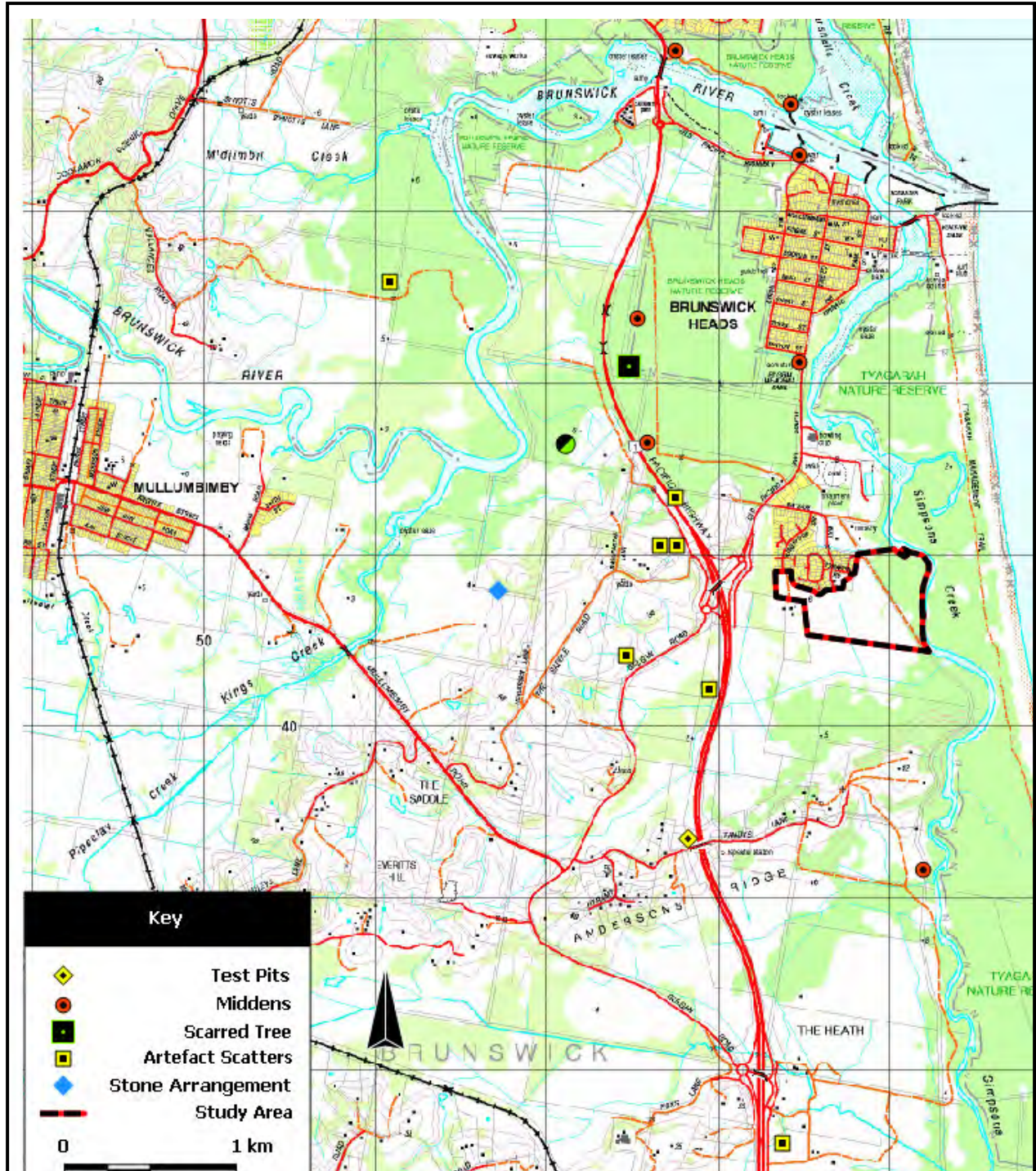


Figure 15: AHIMS Site Locations

5.3 Heritage Registers: Indigenous Cultural Heritage

The following heritage registers were accessed on 22nd May 2009 for Indigenous places within the Byron LGA:

- **The National Heritage List** (Australian Heritage Council): Contains no Indigenous places listings.
- **Commonwealth Heritage List** (Australian Heritage Council): Contains no Indigenous places listings.
- **Register of the National Estate** (Australian Heritage Council): Contains 4 Indigenous places listings for the Byron LGA. These are located at Bangalow, Billinudgel, Broken Head and Byron Bay. Their status is Indicative which means they have not been assessed for Registration.
- **The State Heritage Register** (NSW Heritage Office): Contains no Indigenous places listings.
- **Byron Local Environment Plan Amended October 2007**: Contains no Indigenous places listings. A stand alone Aboriginal heritage study for the Byron LGA is in process.

5.4 A Predictive Model: Aboriginal Archaeological Sites

The following predictive model for Aboriginal archaeological sites in the Subject Lands is based upon the findings of previous reports in the Brunswick Heads/Tyagarah/Ewingsdale area. Although numerically few, Aboriginal sites found indicate that middens, artefact scatters / open campsites, scarred trees and isolated artefacts are the most likely type of sites that would be expected to occur in this coastal landscape. To a lesser extent numerically, ceremonial sites, burials and mythological sites have been identified and registered in the broader Brunswick River to Byron Bay area.

5.4.1 Middens

Midden sites in the coastal zone are found on elevated ground close to the source of the shellfish. Shell sources can be open beaches, rock platforms, tidal mud flats, rocks and mangrove roots. Middens in this area mainly comprise of five edible species: pipi, cartrut, cockle, whelk and oyster. The sites may reflect only one source of gathering or a combination of sources. Middens may contain faunal remains, stone artefacts and cooking hearths. Human burials have been associated with a high proportion of NSW North Coast middens.

In addition to the midden sites on the AHIMS site list Everick was informed by the Sites Officer of the Tweed Byron LALC of a midden location at the historic cemetery on the Old Pacific Highway South 1.3 km north of the Subject Lands. The site was not inspected during this assessment.

5.4.2 *Artefact scatters/open campsites*

Artefact scatters from campsites consist of scatters of stone artefacts and possibly bone and remnants of 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 Brunswick Heads/Byron Bay area open campsites are invariably found in elevated positions adjacent to creeks or wetlands. They consist of both low and high density scatters of artefacts. An open campsite containing a large component of shell refuse may be described as a midden.

5.4.3 *Scarred Trees*

Scarred trees of Aboriginal origin are rare on the North Coast. Three that have been recorded with the DECCW in the far northern coastal region are a scarred Blackbutt with two toe hold scars in the Ocean Shores wetlands (AHIMS#04-2-0050) north of the Brunswick River, a scarred tree on the banks of Belongal Creek at Byron Bay, a third site (AHIMS#05-2-0123) is registered in the South Pottsville area on a brush box tree. An unregistered scarred tree site is reported in the western sector of the Billinudgel Nature Reserve. '...The site is two standing trees with large elongate scars and two fallen trees also show evidence of past scarring...' (Fox 2003:52). While conducting the field inspection with the Sites Officer of the Tweed Byron LALC, Cyril Scott, I was informed of a scarred tree on the western side of the Brunswick Heads Bypass 1.8 km north west of the Subject Lands. The site does not appear in the AHIMS site list. The site was not inspected during this assessment.

5.4.4 *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, 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. Predicting isolated finds is impossible; their detection is usually through mechanical ground disturbance.

5.5 Historic Aerial Photography Analysis

Examination of aerial photographs, from 1947–1966, reveals there has been a history of minor disturbance from tracks and minor vegetation clearing, particularly in the proposed development footprint. The 1979 aerial photo reveals a formed road on a council easement running through the eastern portion of the subject lands, with numerous tracks forming a grid, some connecting with Simpson's Creek. The

central north-south drain has been excavated, and a series of tracks have been formed in the western section. By 1987, only two tracks, one in the centre and the Council easement, and the central drain are visible. The major episodes of disturbance occurred between 1966 and 1979 in the eastern portion, and post 1987 for the central and western portions. The 1993 aerial photos show that the central and western parts of the site had been cleared.

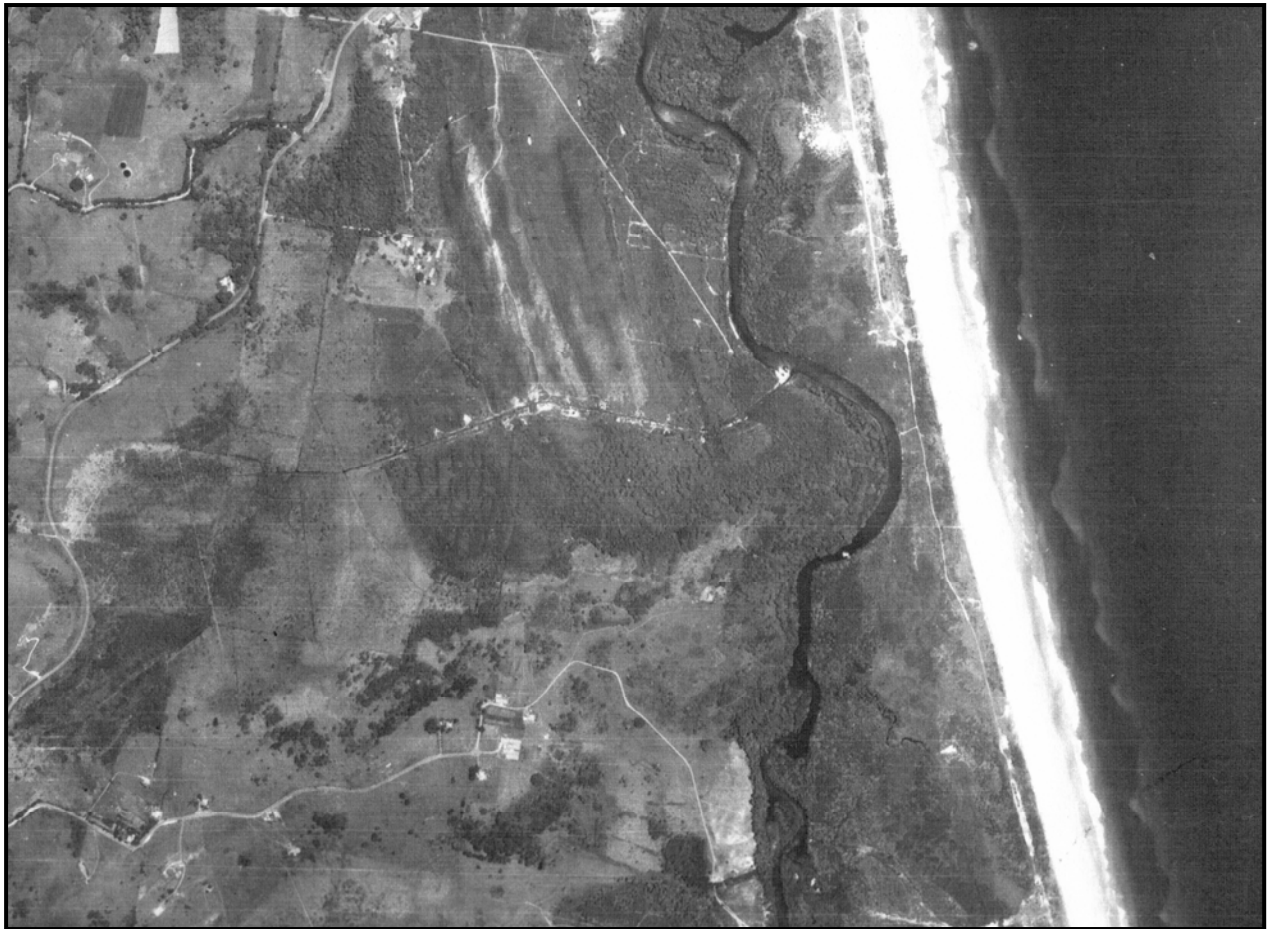


Figure 16: 1979 Aerial photo of the Subject Lands



Figure 17: 1993 Aerial photo of the Subject Lands

6. FIELD SURVEY: ABORIGINAL AND HISTORIC CULTURAL HERITAGE

6.1 Survey Methods

The field inspection was conducted on foot by R. Robins and A. Piper from Everick Heritage and Yvonne Stewart from Arakwal Aboriginal Corporation on the 16th April, 2009. An indication of areas searched is given in Figure 18. Surface visibility and degree of disturbance guided the survey strategy (Figure 19). Given the relatively low ground surface visibility, an opportunistic survey strategy was adopted, targeting all exposed soils. Photographs were taken as a record of general features and conditions, 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. Survey was not conducted in the low lying waterlogged areas or dune swales full of water. The dense vegetation of the eastern

section limited survey in these areas. Overviews of surface conditions and site detection conditions are given in Sections 6.2.2 and 6.2.3.

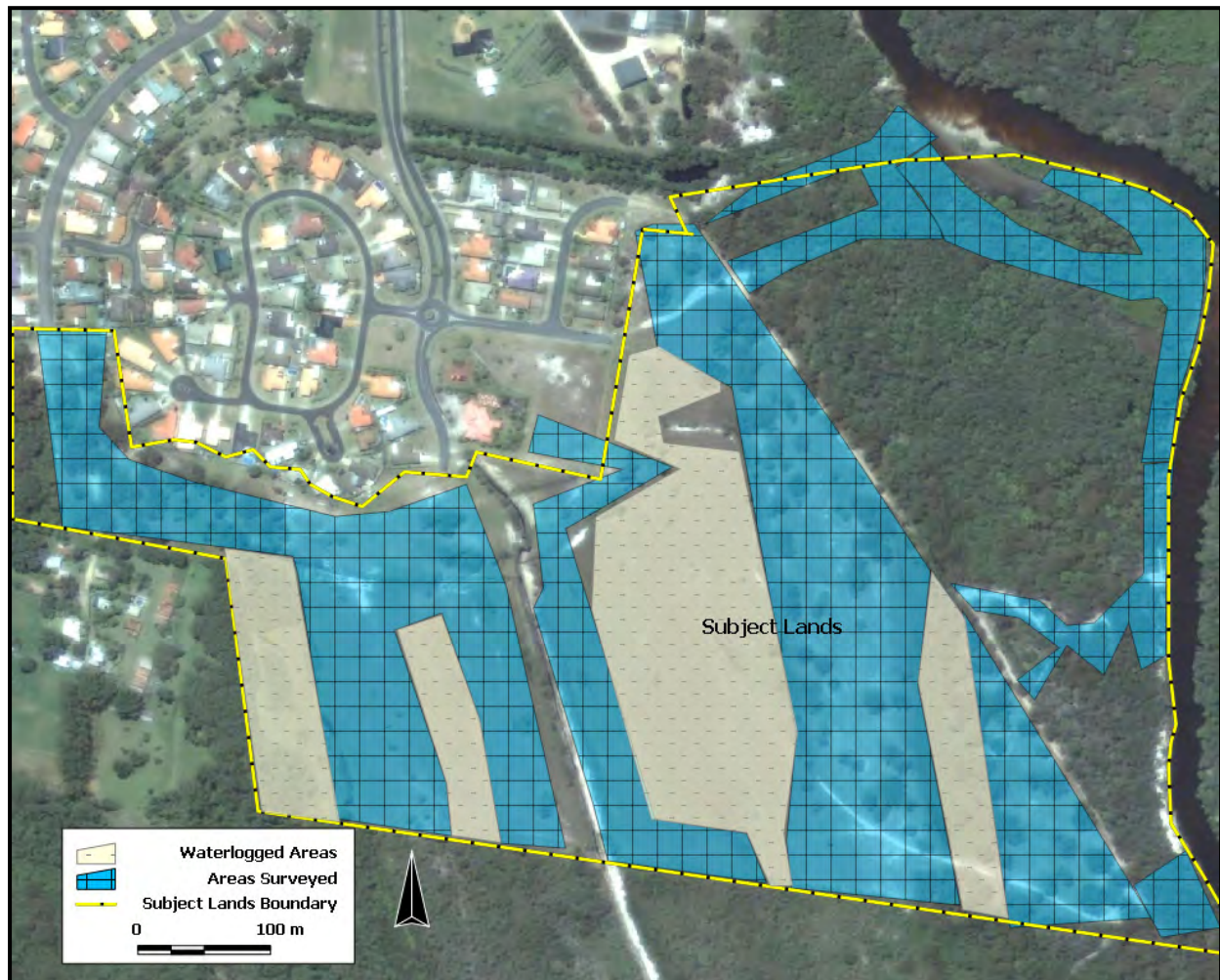


Figure 18: Areas surveyed

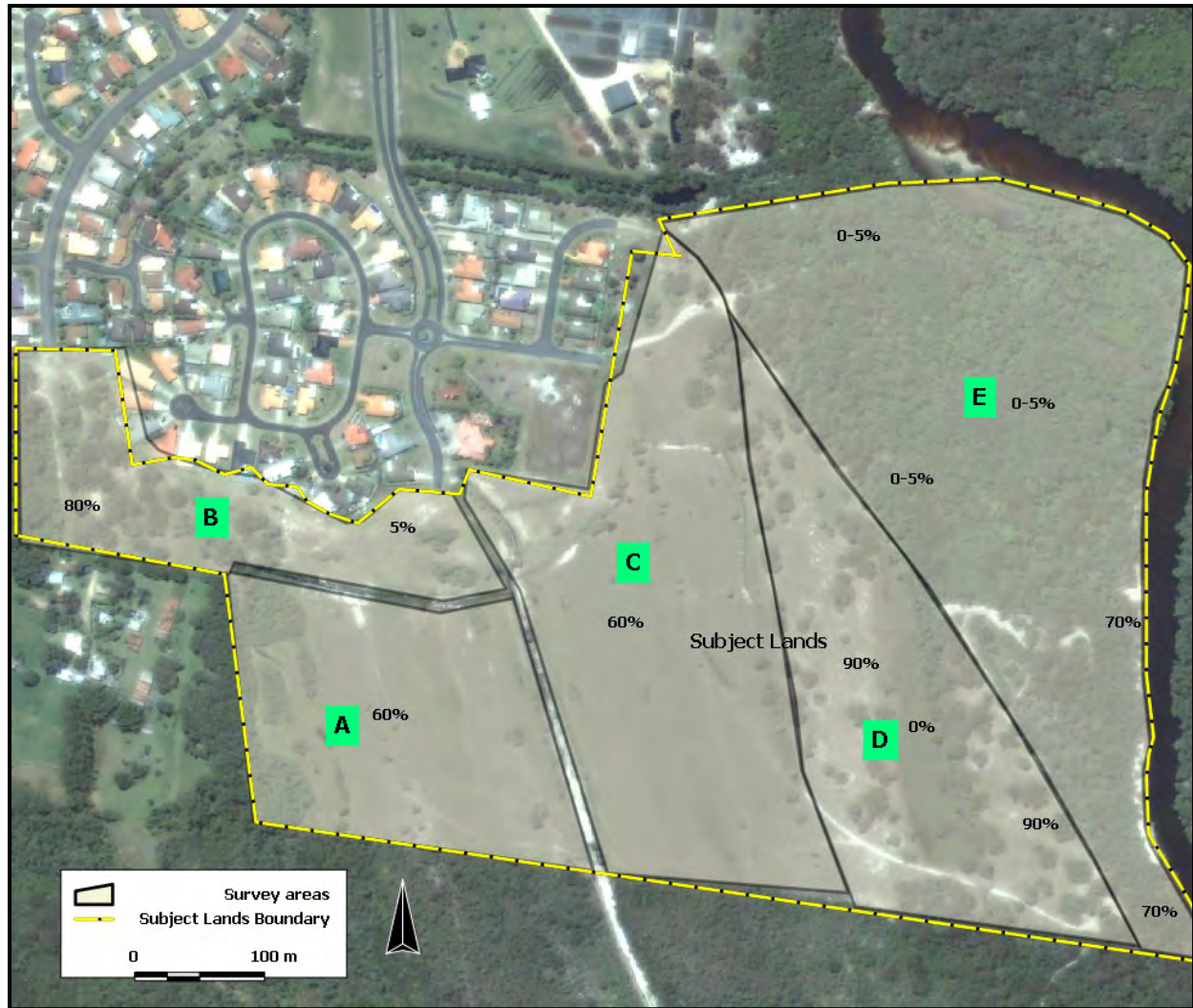


Figure 19: Ground visibility during survey of the Subject Lands

6.2 Constraints to Site Detection

The constraints to site detection are commonly influenced by previous and present European land uses. The area of surface exposure and the degree of surface visibility within exposed surfaces are usually the product of 'recent' land uses e.g. ploughing, road construction, natural erosion and accelerated (man made) erosion (McDonald, Isabell, Speight 1990:92).

The main European land use practices within the Subject Lands are the clearing of the original forest from the floodplain, drainage ditching and regular slashing on all of the areas to the south and east of the existing 'Bayside' residential area. The sand barrier between the floodplain and Simpson's Creek consists of two parallel sand rises separated for most of its length by a narrow swale. The sand rise which forms the

eastern extent of the proposed residential footprint is uniform in shape from south to north, with only scattered trees and sparse ground cover due to slashing. The uniformity of east to west profile of the dune may be partly due to the movement of sands during clearing and site preparation. The sand rise bordering Simpson's Creek (Environmental Protection Zone) is heavily vegetated with truncated spurs and crests forming small embayments containing melaleuca wetlands and estuarine mangrove swamps.

While all areas of the proposed residential footprint were easily accessible and able to be assessed for its Aboriginal archaeological significance, accessibility of the Environmental Protection Zone was restricted to sand tracks and the western sand cliffs and tidal flats of Simpson's Creek and a cleared area of approximately 0.5 ha in the south east corner of the Subject Lands.

The following broadly describes the conditions for site detection within the proposed residential footprint. For ease of description the Subject Lands are termed Areas A, B and C – floodplain; Area D – sand rise within the residential footprint; and Area E – the remaining sand rise within the Environmental Protection Zone on Simpson's Creek. (Figure 19)

Residential Footprint

Area A. Floodplain: Heavily cleared and slashed throughout with exception of a swamp corridor on the western boundary. Area of surface exposure: <5% of total area. Range of surface visibility: 60%. Types: drainage channel spoil and varying ground cover.

Area B. Floodplain: Highly disturbed area that adjoins present residential estate. Large mounds of sand fill, shale, gravel and general scatter of rubbish throughout. Scattered eucalypts and sand exposures in the north western corner. Area of surface exposure: c 10%. Surface visibility: 40%. Type: shaded areas.

Area C. Floodplain: As for Area A with the addition of two east to west vehicle tracks.

Area D. Sand rise: Cleared of original forest vegetation with exception of scattered eucalypts, sparse ground cover. Area of surface exposure: c 50%. Surface visibility: c 70-100%.

Non residential- Environmental Protection Zone

Area E. Sand rise: Densely vegetated surface visibility restricted to narrow sand tracks and clearing in the south east. Area of surface exposure <5%. Surface visibility: 70-100%.

6.3 Survey Coverage

Tables 2 and 3 and Figure 19 indicate the extent to which survey data provides sufficient evidence for an evaluation of the distribution of archaeological evidence across the study area. An evaluation of survey coverage provides an approximate measure of the potential for the landform unit and or its sub element to reveal archaeological evidence. This method is the preferred method outlined in NSW National Parks and Wildlife Service Aboriginal Cultural Heritage Guidelines for Archaeological Survey Reporting (Appendix 4:44–48). The figures in Table 2 do not provide an exact percentage of ground areas but a reasonable estimate.

Table 2: Proposed Development Footprint

AREA	LANDFORM ELEMENT	AREA (ha)	EXPOSURE %	AREA OF EXPOSURE (ha)	VISIBILITY %	AREA FOR SITE DETECTION (ha)	% OF LF FOR SITE DETECTION	SITES FOUND
A	FLOODPLAIN	5.3	5	0.2	60	0.15	3	0
B	FLOODPLAIN	3.7	10	0.37	40	0.1	4	0
C	FLOODPLAIN	7.8	5	0.39	60	0.24	3	0
D	SAND RISE	6.25	50	3.12	80	2.5	40	0

Total area for site detection 3.0 ha (12.5%)

Table 3: Non Residential. Environmental Protection Zone

AREA	LANDFORM ELEMENT	AREA (ha)	EXPOSURE %	AREA OF EXPOSURE (ha)	VISIBILITY %	AREA FOR SITE DETECTION (ha)	% OF LF FOR SITE DETECTION	SITES FOUND
E	SANDRISE	8.6	5	0.4	80	0.3	4	0

Total area for site detection 0.3 ha (4%)

The total area available for site detection within the proposed development was low. Although surface visibility was low on the floodplain, it was also a highly disturbed, frequently waterlogged, environment. The land form considered by the consultants and Aboriginal Sites Officers to have the greatest potential to contain surface evidence for Aboriginal archaeological sites was the cleared sand rise in the eastern sector of the proposed development. Here the amount of exposed surface area was estimated at approximately 50% and surface visibility high at approximately 80%. This is a large sample on which to justify the conclusion as to an absence of Aboriginal archaeological materials. The flood plain (Areas

A,B,C) were considered highly unlikely campsite locations with alternative higher drier areas immediately available. The potential for other types of archaeological sites containing physical evidence, within the floodplain areas of the development footprint, is very low as it is totally cleared with the exception of regrowth.

The possibility that a 'background scatter' of shell fragments and stone artefacts, remain within the floodplain and the sand rise on Simpson's Creek cannot be totally eliminated. The review of previous archaeological assessments in the Brunswick/ Tyagarah/ Ewingsdale area, suggest that traditional Aboriginal activity focused on low but elevated areas near streams and on elevated slopes and ridges flanked by floodplain. Both the Tweed Byron LALC Sites Officer Cyril Scott and Arakwal Aboriginal Corporation Sites Officer Yvonne Stewart made mention of Aboriginal sites on Andersons Ridge approximately 400 to 500 metres to the south of the Subject Lands. Ms Stewart commented that the Subject Lands is an area that Aboriginal passed through between Andersons Ridge and the Brunswick River but not camped in.

7. RESULTS OF THE CULTURAL HERITAGE ASSESSMENT

7.1 Indigenous Cultural Heritage

Desktop Review: AHIMS

The desktop review of potential archaeological Aboriginal cultural heritage (Section 5.2) indicated that there were no recorded sites or Aboriginal places within the Subject Lands. The AHIMS search indicates that to date archaeological sites in the coastal plain between the Brunswick River and Ewingsdale have been found in elevated situations adjacent to the flood plain. This may well be in part, a reflection of the results of archaeological/cultural heritage assessments in the narrow construction corridor of the new Pacific Highway which passes approximately 400 metres to the west. An exception to the association between elevated lower slopes and Aboriginal archaeological sites is TBR 1 at Tyagarah where numbers of stone artefacts have been collected from what is now a low level floodplain. The probable determinant factor in the choice of location of the site was a deep permanent waterhole of freshwater flowing east to Simpson's Creek. The floodplain areas of the proposed 'Bayside' development contain no natural features that would suggest favourable campsite locations.

Desktop Review: Aboriginal Community Database

In addition to the AHIMS review the Aboriginal Community Database also known as the Bundjulong Mapping Project was accessed for additional cultural heritage input into the potential Aboriginal cultural heritage significance of the Subject Lands. The database contains records of oral evidence of Aboriginal community members in addition to information derived from literature sources. The database is maintained independently by the Tweed Byron LALC, in conjunction with the DECCW AHIMS. Site listings may overlap with both BMP numbering and AHIMS numbering. The review was carried out by the Sites Officer of the Tweed Byron LALC, Cyril Scott.

Consultation

The consultation process with the Aboriginal community was carried out in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (2005) for 3A Projects. The two respondents to the newspaper advertisement were the Arakwal Aboriginal Corporation (AAC), a Traditional Owner organisation based at Byron Bay, and the Tweed Byron LALC. Following the respective field inspections on 16-04-2009 (Yvonne Stewart AAC) and the 14-05-2009 (Cyril Scott Tweed Byron LALC) both provided statements as to the low or non cultural significance of the Subject Lands. The reason for the gap in inspection dates was funeral commitments of Cyril Scott on the originally arranged date. On both occasions conditions for detection of archaeological sites were almost identical the only variation being less ground water over Areas A, B and C on the 14th May. The areas covered during the inspections of the proposed development footprint were identical on both occasions.

Both the Tweed Byron LALC Sites Officer Cyril Scott and Arakwal Aboriginal Corporation Sites Officer Yvonne Stewart made mention of Aboriginal sites on Andersons Ridge approximately 400 to 500 metres to the south of the Subject Lands. Ms Stewart commented that the Subject Lands are an area that Aboriginal people passed through between Andersons Ridge and the Brunswick River but were not camped in.

Archaeological assessment - survey coverage

While the total area available for site detection within the proposed development was low and surface visibility particularly low on the floodplain it is important to note that the land form considered by the consultants and Aboriginal Sites Officers to have the greatest potential to contain surface evidence of Aboriginal archaeological sites was Area D the cleared sand rise in the eastern sector of the proposed development. Here the amount of exposed surface area was estimated at approximately 50% and surface

visibility high at approximately 80%, a large sample on which to justify a conclusion as to the presence or absence of Aboriginal archaeological materials.

The flood plain (Areas A, B and C) were considered highly unlikely campsite locations with alternative higher drier areas immediately available. The potential for other types of archaeological sites containing physical evidence, within the floodplain areas of the development footprint, is very low as it is totally cleared with the exception of shrub regrowth.

Archaeological assessment - potential for undiscovered sites

The potential for undiscovered sites in the form of middens and artefact scatters that would indicate campsites within floodplain Areas A, B and C is minimal to nil for the reason mentioned above. The potential for undiscovered surface sites in Area D, the sand rise, is also considered low as the survey conditions were unusually favourable. The high proportion of exposed sands (c 50%) and high degree of visibility (c 80%) allowed for a comprehensive coverage with a nil result for any archaeological materials. In addition spoil heaps from geo technical bore holes were also inspected for sub surface archaeological materials, none were found. There would appear to be no justification for further archaeological investigation.

7.2 Historic Cultural Heritage

There are no issues in regard to items or places of historic heritage significance within the Subject Lands to be addressed.

8. RECOMMENDATIONS

8.1 Recommendations: Indigenous Cultural Heritage

During the survey, much of the eastern portion of the Subject Lands had either very poor surface visibility or were inaccessible to survey. Everick understands that this area is protected under an Environmental Protection Zone and the Proponent does not intend to disturb this part of the Subject Lands. However, as a cautionary measure, the following recommendation has been made in the event that minor works in this area are considered suitable in the future.

It is recommended that, in the area identified in figure A below, where activities are to be undertaken that have the potential to disturb or damage Aboriginal cultural heritage, a member of the Arakwal Aboriginal Corporation be engaged to conduct a survey of that area after initial clearing works have been undertaken ('Post Clearing Survey'). Should any items of cultural heritage significance be identified, the processes outlined in Recommendations 2, 3 and 4 should be followed.

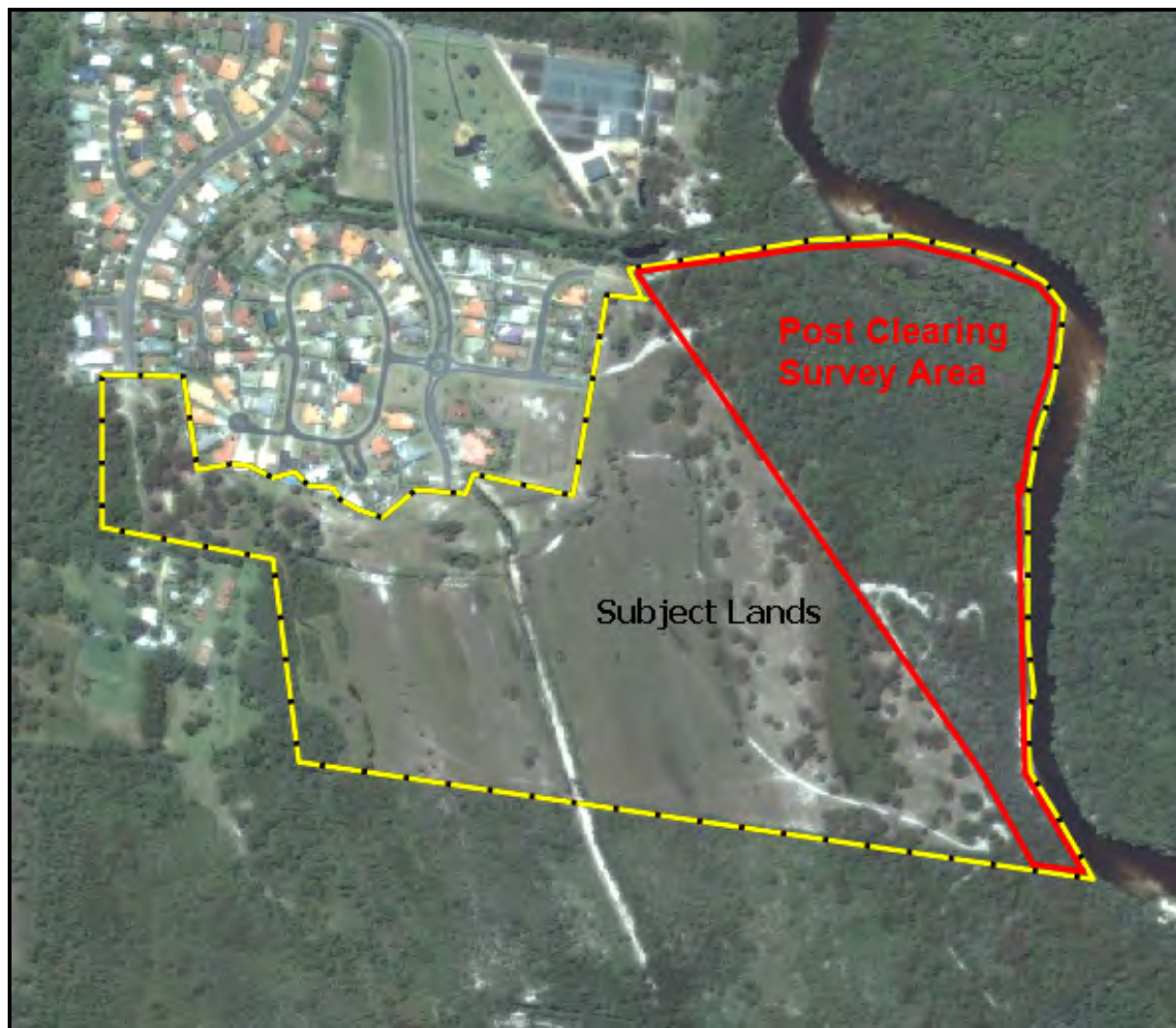


Figure A: Post Clearing Survey Area

Recommendation 2: Aboriginal Human Remains

It is recommended that if human remains are located at any stage during construction works within the Subject Lands, 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 Tweed Byron LALC, and the DECCW 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 DECCW 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 3: Aboriginal Cultural Material

It is recommended that if it is suspected that Aboriginal material has been uncovered as a result of development activities, including Post Clearing Surveys, within the Subject Lands:

- (e) work in the surrounding area is to stop immediately;
- (f) 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;
- (g) an appropriately qualified archaeological consultant is to be engaged to identify the material; and
- (h) if the material is found to be of Aboriginal origin, the Aboriginal community is to be consulted in a manner as outlined in the DECCW guidelines: "*Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010)*" (2005).

Recommendation 4: Notifying the DECCW

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

Recommendation 5: 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 and the Aboriginal Community.

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APPENDIX A: CORRESPONDENCE FROM THE ARAKWAL ABORIGINAL CORPORATION

Tim Robins

From: Yvonne Stewart [nancyk66@hotmail.com]
Sent: Wednesday, 16 September 2009 8:31 AM
To: Tim Robins
Subject: RE: Bayside Way Response

Hellow Tim I am so sorry if I had not back to you, agree with the report please dont hesitate to call me . Yvonne

From: everickt@bigpond.com
To: nancyk66@hotmail.com; sites@tblalc.com
CC: leweena@tblalc.com
Subject: Bayside Way Response
Date: Wed, 19 Aug 2009 09:52:25 +1000

Hi Yvonne and Cyril,

We are at the stage where we need to wrap up the Bayside Way, Brunswick Heads assessment. To do so we need a quick note from both of you saying you're satisfied with the report.

If you remember, it was a pretty straight forward job. We found no sites. The only area of concern was the area near the creek, which is to be protected anyway. If they are to disturb it (ie a walking track or something similar) they are to contact you to monitor the works.

We need you response as soon as possible please.

Cheers,
Tim Robins BA, LLB, Grad Dip Legal Prac.
Project Manager
EVERICK Heritage Consultants Pty Ltd
ABN 78102206682
PO Box 148 / 47 Arthur Terrace
Red Hill Qld 4059

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Web: www.everick.com.au

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15/11/2010

APPENDIX B: COMMUNITY NOTICE

Aboriginal Cultural Heritage Study Registration of Interest in being Consulted

Everick Heritage Consultants Pty Ltd (ABN 78 102 206 682) is seeking to consult with interested Aboriginal persons over a 33ha parcel of land described as Lot 73 on DP 851902, and situated at Bayside Way, Brunswick Heads..

Everick Heritage Consultants will be conducting an Aboriginal Cultural Heritage Assessment of the site and are seeking the input of the Aboriginal community. The assessment will be conducted in preparation for a residential sub-division.

What do you need to do?

The Aboriginal community is invited to register their interest in writing with:

Everick Heritage Consultants
GPO Box 146
RED HILL QLD 4059
or t.robins@everick.com.au

When must registration be received?

Registration must be received by 1 April 2009.

APPENDIX C: SITE SURVEY FORMS



EVERICK
Heritage Consultants Pty Ltd

ABORIGINAL PARTICIPATION FORM / TIMESHEET

Name(s) of Aboriginal Representative Yvonne Stewart

Name of Aboriginal Organisation Bundjalung of Byron Bay Aboriginal Corporation - UArakool

Archaeologist: Dr Richard Robins
EVERICK HERITAGE CONSULTANTS PTY LTD
PO Box 146
Red Hill QLD 4059

Project Name: BAYSIDE WAY, Brunswick Heads

Client: Bayside Developments
CODLEA PTY LTD

Type of participation

- Guided inspection of study area and sites
- Accompanied/participated in archaeological survey
- Separate inspection or survey
- Accompanied/participated in excavation program

Period of participation

Date(s)	Start	Finish
<u>16/4/09</u>	<u>12:00pm</u>	<u>04:00pm</u>

Issues raised Subject to draft Report some important vegetation, animal corridor along 100metres along Simpson Creek - Culturally significant plants within area.

Signed (archaeologist) _____ Date _____

Signed (Aboriginal representative) Yvonne Stewart Date 16/4/09

*please note this form is not an invoice. For payment, please send an invoice from you organisation to the archaeologist's address above. Please make the invoice out to CODLEA PTY LTD.



Mark on map where items of Indigenous cultural significance found. Provide a brief description of these items below.

Went over all site quiet disturbed,
No ~~Signif~~ Sites found in area, but is
a significance pathway between Tyagalua
and Brunswick Heads, further investigation
is needed - will investigate - site maps:

Signed (Archaeologist).....Date.....

Signed (Aboriginal representative) *Gyenne Stewart* Date *16/4/09*

APPENDIX D: ARCHAEOLOGICAL CODE OF PRACTISE CHECKLIST

Checklist for Compliance with DECCW NSW Aboriginal Archaeological Code of Practise 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 and features present within and 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 and 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 and regional character of Aboriginal land use and its material traces			
• Requirements 1 & 2 are synthesised in the Archaeological Report	✓		
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			
REQUIREMENTS MET		Yes	No	N/A
	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			
•	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	✓		