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***Lot 21 DP 714858 Hearnese Lake Road, Woolgoolga,
NSW mid-north coast***

Aboriginal cultural heritage assessment

December 2007

Prepared on behalf of

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1 INTRODUCTION

BBK Development Corporation Pty Ltd (BBK) proposes to develop Lot 21 DP 714858 Hearnese Lake Road, Woolgoolga, for residential subdivision purposes. This report, which is consistent with the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DECC 2005), was commissioned by BBK and forms the Aboriginal heritage component of an Environmental Assessment for the Lot 21 subdivision proposal.

1.1 Location of Lot 21 (the study area)

Lot 21 comprises 5.054 hectares of land located east of the Pacific Highway and one kilometre south-east of the southern limits of Woolgoolga on the NSW mid-north coast. It is bounded by Hearnese Lake Road to the south, rural residential and pasture land to the north and west, and coastal sand dunes fronting the beach to the east (Figures 1 and 2).

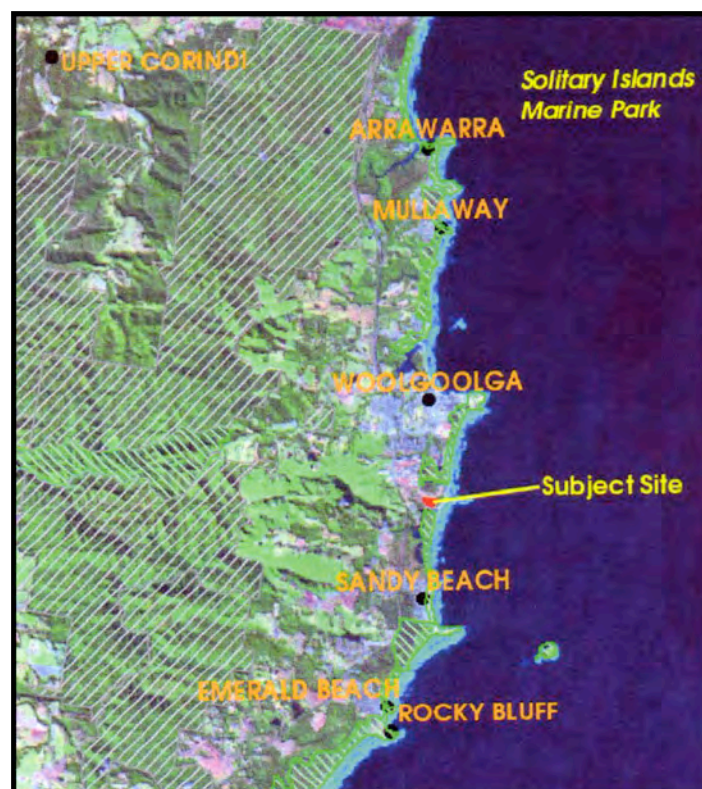


Figure 1. General location of the study area on the NSW mid-north coast



Figure 2. The study area (red) in relation to the location of registered and reported Aboriginal sites (extract from Moonee Beach 9537-4S 1:25,000 topographic map, Edition 3, NSW Department of Lands 2004)

1.2 The development proposal

As shown on Figure 3, the proposal involves subdivision of Lot 21 into 43 allotments, including 41 residential allotments with connecting roadways. Sale of the residential allotments would be staged over time, but the subdivision would be constructed in a single stage.

One vacant allotment of approximately 1,000 square metres on the south-western corner (Lot 10) would be used for stormwater management. An additional large allotment on the eastern boundary (Lot 28) that encompasses part of a coastal lagoon previously identified as being of Aboriginal cultural heritage significance would be preserved as an area of Environmental, Habitat and Catchment Protection. The proposal includes the long-term rehabilitation of Lot 28 with local native plant species to enhance its vegetation and other natural values.

As outlined by Mersonn Pty Ltd (2007:5), “the entire development has been designed to minimise environmental impact with the use of vegetated swales, bio-filters, rain-gardens and bio-retention basins to prevent pollutants from entering Hearnnes Lake and to manage the flow of water leaving the site.”

1.3 Legislative background

Approval for the proposed subdivision is being sought under Part 3A of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act), which provides an approval process specific to major projects.

Under the auspices of Part 3A, authorisations for an approved project, including permits and consents under Section 87 and Section 90 (Part 6) of the *National Parks and Wildlife Act 1974*, are not required for development-related works that may impact on Aboriginal cultural heritage. However, the NSW Department of Planning will take account of heritage issues and consult with the Department of Environment and Climate Change (DECC) to ensure that any such issues are duly considered prior to granting project approval.

In the absence of the requirement for Section 87 permits and Section 90 consents, the proponent will be required to manage Aboriginal heritage issues in accordance with the specific conditions of approval imposed by the Minister for Planning. These may include the management recommendations presented in Section 9 of this report.

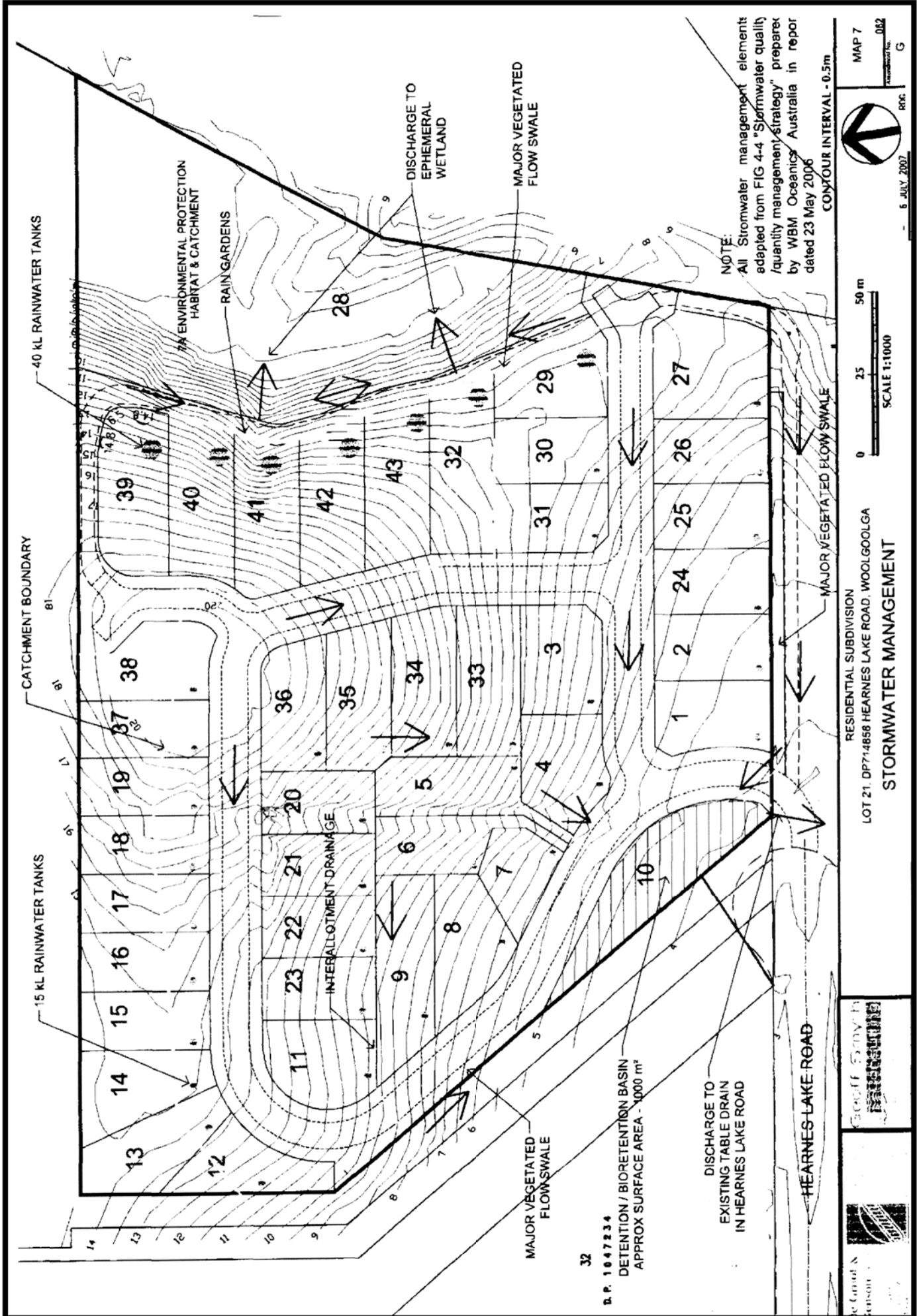


Figure 3. The proposed development plan

1.4 Assessment objectives and components

1.4.1 Assessment background and support for management recommendations

As detailed in Section 5.2.2, a field survey that included Lot 21 was conducted with Coffs Harbour and District Local Aboriginal Land Council (CHLALC) and Yarrawarra Aboriginal Corporation representatives in 2004 to assist preparation of Coffs Harbour City Council's *Hearnnes Lake/Sandy Beach Development Control Plan*. At that time, the Garby Elders were additionally involved in a field reconnaissance inspection north of Hearnnes Lake and were consulted regarding the locations of sites of cultural/social significance.

The outcomes and recommendations of the 2004 assessment were and are still supported by the CHLALC and the Yarrawarra Aboriginal Corporation/Garby Elders and remain unchanged.

1.4.2 Objectives of this assessment

The specific objectives of this cultural heritage assessment were to-

- Consult with Aboriginal Stakeholders identified in accordance with the DECC (2004) *Interim Community Consultation Requirements for Applicants* to document any concerns they may have regarding the development proposal.
 - Conduct a desktop assessment to identify areas of known and potential Aboriginal cultural and/or archaeological significance in and near Lot 21.
 - Undertake an inspection of Lot 21 with any registered Aboriginal Stakeholders who required further field assessment.
 - Identify any previously unrecorded sites/places of cultural significance that may be affected by the proposed development.
 - Assess the nature and extent of the potential impacts of the proposal on Aboriginal cultural heritage values and resources.
 - Provide management recommendations, developed in consultation with Aboriginal Stakeholders, to avoid and/or or mitigate development impacts.
-

2 COMPLIANCE WITH DECC INTERIM ABORIGINAL COMMUNITY CONSULTATION REQUIREMENTS FOR APPLICANTS

The *Interim Aboriginal Community Consultation Requirements for Applicants* prescribe Department of Environment and Climate Change (DECC) requirements in relation to Part 3A (EP&A Act) approvals and the preparation of applications for permits and consents under Part 6 of the *National Parks and Wildlife Act 1974*. In summary, these requirements outline a number of steps that need to be taken to ensure that a transparent and informed Aboriginal consultation process is implemented prior to issue of the relevant approval/s.

2.1 Notification and registration of interests

In accordance with the DECC requirements, notifications of the Lot 21 development proposal and the consultant's intention to prepare this Aboriginal cultural heritage assessment report were mailed to the organisations listed below, inviting the registration of groups and/or individuals wishing to be involved in the assessment process.

- Coffs Harbour and District Local Aboriginal Land Council (CHLALC)
- Gumbula Julipi Elders Corporation
- Yarrawarra Aboriginal Corporation
- The Garby Elders
- Registrar of Aboriginal Owners, NSW Department of Aboriginal Affairs
- NSW Native Title Services
- The General Manager, Coffs Harbour City Council
- Department of Environment and Climate Change (DECC)

On the 15th of October 2007, newspaper notices were published in the *Coffs Harbour Advocate* and the *Woolgoolga Advertiser*, inviting interested Aboriginal parties to contact BBK to formally register their interest in the assessment. The closing date for registrations was the 26th of October 2007. Responses were received from the CHLALC and the Jalumbo Cultural Heritage Research Unit (on behalf of the Yarrawarra Aboriginal Corporation/Garby Elders). A response was also received from Coffs Harbour City Council, directing the consultant's attention to the *Hearnnes Lake/Sandy Beach Development Control Plan*, Part 3, Cultural Heritage.

On the 26th of October, the consultant received correspondence from the DECC advising that the following seven Aboriginal organisations may also have an interest in the assessment-

- The Mudjay Elders, Coffs Harbour
 - Gumbayngirr Warrior Elders of the Nambucca River
-

- Kulai Pre-school Aboriginal Corporation, Coffs Harbour
- Stuarts Island Local Aboriginal Land Council/
Stuarts Island Tribal Elders Descendants, Nambucca Heads
- Gumbaynggirr Nation, Nambucca Heads
- Gumbaynggirr Elders, Nambucca Heads
- Miimi Mother Aboriginal Corporation, Bowraville

Letters of invitation were immediately sent to these organisations with responses required by the 14th of November 2007. A response was received from Mudjay Elders spokesperson Steven Hart.

As a result of the above process, the CHLALC, Yarrawarra Aboriginal Corporation/Garby Elders and the Mudjay Elders were formally endorsed as registered Stakeholders in relation to this assessment.

2.2 Assessment methodology

As required, the draft assessment methodology was mailed to the registered Stakeholders, seeking comments with a view to informing and refining this methodology.

While the draft methodology (which did not involve a further field survey) was accepted unamended by the CHLALC and the Yarrawarra Aboriginal Corporation/Garby Elders, the Mudjay Elders (who had not participated in the 2004 survey) requested that a field reconnaissance be undertaken with their representatives to familiarise them with Lot 21 and enable an informed assessment of cultural heritage values. This reconnaissance was subsequently undertaken with Mudjay Elders Steven Hart and Terry Carberry on the 7th of November 2007.

2.3 Drafting, review and report finalisation

Draft copies of this report were supplied to the registered Stakeholders for review and comment. Correspondence received following this review is reproduced in Appendix B.

Minor amendments requested and suggested by the Jalumbo Cultural Heritage Research Unit on behalf of the Yarrawarra Aboriginal Corporation/Garby Elders have been duly made and are incorporated into this final report.



Figure 4. Study area landforms

3 ENVIRONMENT AND LANDUSE EFFECTS

3.1 General setting

The Hearnns Lake area sits on a narrow coastal plain sandwiched between coastal ranges and the Pacific Ocean coastline. The range foothills extend to within a kilometre west of the study area. Secondary ridges trend east from these foothills, forming the watersheds of the various creeks and terminating as rocky headlands at Bare Bluff (Sandy Beach) and Woolgoolga. Offshore islands and rock outcrops also occur, including an outcrop known as Flat Top Point located around 100 metres from shore and 400 metres north-east of the study area.

The coastal ridges form part of the Megan Soil Landscape, an erosional landscape of low rolling hills based on Carboniferous meta-sediments of the Coffs Harbour Association that have decomposed to produce strongly acid podzolic soils (Milford 1999). Where cleared, these erodible hard-setting soils offer surfaces that are highly conducive to artefact detection. The coastal ridges are interfingered by alluvial sediment basins and flats, bordered to the east by a narrow zone of Pleistocene inner barrier sand plains and Holocene foredunes. The depositional alluvial and sand sediments are quite extensive south of Hearnns Lake, where they provide a low-relief landscape that stretches for almost 1.5 kilometres south to Sandy Beach.

The small Double Crossing Creek watercourse rises in the coastal ranges and feeds into Hearnns Lake on its downstream end. Hearnns Lake is an estuarine lagoon that intermittently opens to the ocean. Fringed in places by saltmarshes, Hearnns Lake extends south from approximately 50 metres south of the study area's south-western corner for some 1.2 kilometres, separating the dune sands from alluvial lands to the west. A substantially smaller freshwater back-barrier lagoon is situated to the north of Hearnns Lake. This lagoon extends into the north-eastern section of Lot 21.

3.2 The study area

With the exception of a small sandy peninsula that encroaches into the lagoon/wetland area on the very eastern margin (within proposed Lot 28), the study area is composed of bedrock-soil and associated alluvial lands. The main topographic feature is an undulating coastal ridge that terminates in the south-east, adjacent to the inland extent of the foredune system. The ridgeline includes the eastern periphery of a saddle on the north-western corner, and reaches a maximum elevation of 16 metres AHD on a knoll near the central northern boundary. This knoll has been



Plate 1. View west from levelled ridge knoll towards saddle in north-west corner



Plate 2. View north-west up ridge slopes to levelled ridge knoll with existing house



Plate 3. View south-east down ridge slope to level section of crest recommended for further archaeological investigation



Plate 4. View north-east from level section of crest towards the lagoon/wetland



Plate 5. View from levelled ridge knoll across moderate gradient slopes in the south-west part of the study area



Plate 6. View south from levelled ridge knoll towards the alluvial lowland

downcut and levelled to accommodate an existing house. The ridgeline then descends some nine metres to level out again over a distance of 70 metres at its terminal end, where it overlooks the small back-barrier lagoon to the north.

As illustrated in Figure 4, Lot 21 is dominated by moderate-gradient ridge slopes. These fall east towards the steep banks of the lagoon, and south to alluvial lowlands fringing the northern bank of Hearnnes Lake, north of Hearnnes Lake Road.

Although probably once covered in sclerophyll forest bordered by the littoral rainforest communities still present on and near the eastern dunes, most of the study area has been cleared of its natural vegetation and now supports open grassland with occasional regrowth trees. In addition to clearing and past stock grazing, Lot 21 has been disturbed by the construction of a gravelled road between the south-western corner and the mid-northern boundary. This road leads to a house on the upper ridge slopes, and a second house and its associated outbuildings on the levelled ridgeline knoll (cf Figure 4).

The western extremity of direct sandmining impact is recorded as occurring on the dune system approximately 200 metres east of the Lot 21 lagoon (Appendix A). It is nevertheless possible that the original extent and vegetation context of this lagoon/wetland has been altered by mining activities.

3.3 Aboriginal resources

The Coffs Harbour-Woolgoolga area falls within the overlap between the Torresian region of tropical northern Australia and the Bassian region of temperate south-eastern Australia. This overlap is recognised as being particularly rich in flora and fauna species (State Forests 1995:11-14), and food, medicinal and material culture resources used by Aboriginal people would thus have been generally abundant. This is likely to have been especially so in the Hearnnes Lake locality, which offers marine, open beach, estuarine, saltmarsh, freshwater wetland, littoral rainforest and sclerophyll forest ecosystems within a discrete geographical area.

A wide variety of plant species still utilised by the local Gumbaingirr, including blackbutt, swamp box, bloodwood, paperbark, brush cherry, geebung, beach wattle, pig face, wild grape, sarsaparilla vine, native asparagus, roly poly, nyum nyum, saw-edge, five corners, ground potato, native raspberry, blue flax lily, bracken fern, crinkle bush and mat-rush have been identified near Hearnnes Lake (Collins 2004:8), and fish, shellfish, eels, crabs, prawns and cobra worms inhabit the lake itself. Kangaroos, wallabies, possums, echidna, goannas, snakes, ducks and other birds are highly regarded fauna foods likely to have been commonly available (cf Perkins 1997).

During both pre- and early contact times, Aboriginal people controlled the natural fracture properties of fine-grained stones to produce a variety of cutting and scraping tools, many of which were used to manufacture and maintain wooden weapons and implements. The meta-sediments that underlie the Woolgoolga area are composed chiefly of siliceous greywacke and argillite, and also contain small quantities of chert and jasper (Korsch 1980:4-5). These four materials are well-suited to the production of flaked stone tools, and outcrop on the coastal headlands and in pebble beds along the beaches. However, natural surface stone does not occur within Lot 21.

4 CULTURAL ASSESSMENT

4.1 Cultural background

At the time of first European settlement the Hearnnes Lake area was occupied by Gumbaingirr-speaking people whose traditional territory extended over a wide area from the Clarence River to at least as far south as the Nambucca (Enright 1934; Smythe 1948; Hoddinott 1978; Eades 1971). The Gumbaingirr comprised several distinct but interrelated groupings of people, each associated with a separate geographical area. Historical accounts place the Jita Jita group between Moonee and Woolgoolga, with lands stretching inland to the Orara River (England undated; North 1964). Gumbaingirr groups shared economic resources, trading and ceremonial occasions, intermarried, and spoke a mutually intelligible language, even though differences of dialect or speech and some cultural practices varied from one group or locality to another (Macdonald and Collins 1999:37-38). As stated by McDougall (1900:116), "each tribe kept its own belt of country, and separated into small camps, and only collected together on special occasions".

During the course of everyday life, resource exploitation was reportedly undertaken by family groups, and often several families would co-operate to form a highly flexible 'band' that would gather and then disperse as conditions demanded (Godwin 1990:97). In early contact times most of the Aboriginal population seems to have inhabited the coastal plain and major river corridors. The largest camps are said to have been situated at Bagawa on the Orara River (England undated; Holder 1984:20), but substantial coastal camps remained at Woolgoolga (Yeates 1982:23) and Moonee (England 1976:46) to the study area's north and south respectively.

Aboriginal landuse patterns were substantially modified in the decades following European settlement, as traditional territories were alienated and freedom to move through the country was progressively restricted. Despite these obstacles, many local Gumbaingirr were able to maintain

traditional knowledge of, and associations with their country, and still collect and use a variety of bush tucker, bush medicines and other forest products (Ahoy and Murphy 1996:35-39).

Individuals and small family groups continued to occupy bush camps well into the 20th century, with many of the remembered camps dating to the 1940s, 50s and 60s. Both these camps and a range of other types of historic Aboriginal sites have been researched and indicatively mapped by Goulding (2001). An analysis of historic camp locations revealed the majority to have been situated on crown land within 1-2 kilometres of the coast, near a supply of fresh water. A significant proportion of these camps were established either at a place of work, or in walking distance of work, but others were used seasonally for recreation purposes, or in response to the availability of certain resources (Goulding 2001:64).

Two former 20th century camping places identified by Goulding (2001) occur in the Hearnnes Lake locality, one within the lakeside reserve just south of Hearnnes Lake Road, and the other further south near Sandy Beach (cf Collins 2004).

4.2 Cultural heritage values of the study locality

The cultural heritage values of the Hearnnes Lake locality, including Lot 21, were investigated as part of the *Hearnnes Lake/Sandy Beach Development Control Plan* Aboriginal heritage assessment in 2004 (Collins 2004). This investigation included consultation with Garby Elders Tony Perkins, Cecil Laurie, Ricki Cain and the late Michael McDougall, as well as CHLALC representatives. To facilitate an informed assessment of cultural and social values, a general field reconnaissance was also conducted with Michael McDougall, Cecil Laurie and Ricki Cain.

The 2004 consultation revealed two places of traditional and on-going spiritual significance. The first of these (since registered as DECC site #22-1-232) is a natural mythological site centred on Flat Top Point, which runs inland to encompass the freshwater lagoon that extends into the north-eastern corner of Lot 21. Myths connected with this site are secret/sacred and thus not available for public dissemination. As outlined in Section 1.2, the lagoon and its associated wetland and banks would be rehabilitated and preserved as an area of Environmental, Habitat and Catchment Protection (proposed Lot 28). To identify whether the proposed residential development would adversely affect the cultural and spiritual values of site #22-1-232, consultation was undertaken with the site informant (Tony Perkins) during the present assessment. Tony Perkins advised that these values would not be compromised providing the lagoon and its surrounds are spared any direct or indirect development disturbance, and supported plans for its protection and rehabilitation.

The second site of spiritual significance (site #22-1-233) comprises two small alluvial islands near the confluence of Double Crossing Creek and Hearn's Lake, 450 metres south of Lot 21 (cf Figure 2). These islands, which are central to the ceremonial increase of animal 'totems' belonging to specific Aboriginal families, would not be affected by the proposed development.

Parts of Hearn's Lake have more recent historic, resource-use and emotional attachments. For a period of some 15 years during the 1950s and 1960s, the late Michael McDougall lived with relatives in a tent on the northern bank of the lake, approximately 50 metres south of the study area. This campsite was initially recorded by Goulding (2001:Appendix 4), and its exact location pinpointed by Michael McDougall during the 2004 reconnaissance. The camp residents primarily subsisted on marine and estuarine foods, and walked along the beach to sell fish in Woolgoolga (Collins 2004:8).

To further assess cultural heritage values and determine whether any previously unidentified sites/places of significance would be affected by the subdivision proposal, consultation was undertaken with the registered Aboriginal Stakeholders, including a field reconnaissance with Mudjay Elders Steven Hart and Terry Carberry on the 7th of November 2007. Apart from the lagoon within proposed Lot 28, no significant sites/places or attachments were reported in the study area itself.

Steven Hart and Terry Carberry advised that their primary concern with respect to the proposed development lies in its potential to adversely affect Hearn's Lake and its resources. These Stakeholders regard Hearn's Lake to be part of their 'Dreaming' (see correspondence, Appendix B). The foredune beyond the study area's south-eastern corner was also assessed to have a high level of potential cultural sensitivity. However, the subject section of dune is covered by an existing bungalow and its associated yard and would be neither directly nor indirectly affected by development of Lot 21.

5 ARCHAEOLOGICAL ASSESSMENT

5.1 Registered Aboriginal sites

5.1.1 DECC Aboriginal Heritage Information Management System

As discussed in Section 4.2, a registered natural mythological site (#22-1-232) encroaches into the north-eastern section of Lot 21, and is the only DECC registered site in or close to the property.

As plotted on Figure 2, however, a number of other registered sites occur in the wider locality, including a second natural mythological site in Hearn's Lake itself, and artefact scatters and isolated artefacts south of Hearn's Lake/Double Crossing Creek (cf Dallas and Tuck 2004:52-58).

5.1.2 Other heritage registers

Searches of the Commonwealth and National Heritage Lists maintained by the Department of Environment and Water Resources, the NSW State Heritage Register and Schedule 2 (Heritage Items) of the North Coast Regional Environmental Plan 1988 and Schedule 5 (Heritage Items) of the Coffs Harbour Local Environmental Plan 2000 revealed no listed Aboriginal sites or places in or near Lot 21.

Of most relevance is a listing on the Register of the National Estate for the Woolgoolga-Solitary Islands area, including the coastal strip between the hills and coast from Moonee Beach to Corindi Beach (straddling Hearn's Lake). This area is listed as an Indicative Place (not on the register but identified as important) due primarily to its environmental values, but also owing to its potential Aboriginal resource use values. However, Aboriginal values are yet to be fully determined or assessed.

5.2 Field assessments of the study area

5.2.1 Lilley 1983

In 1983, Lilley surveyed a land parcel of approximately 200 hectares in response to a past development proposal. This included Lot 21 and stretched south from Willis Creek (400 metres north of the study area) to Sandy Beach and west across the Pacific Highway to Graham Drive. Lilley's survey targeted "potentially sensitive areas identified during a brief vehicular reconnaissance", specifically the margins of Hearn's Lake, the mouths of Double Crossing and Willis Creeks, and dunes north of Hearn's Lake. These areas were "intensively examined on foot. The remainder of the area was sampled by irregular vehicular transects with spot-checks of eroding or otherwise exposed places on foot" (Lilley 1983:5).

Lilley's (1983) survey resulted in the discovery of three small highly disturbed scatters of triton shells and one relocated stone artefact, all north of Hearn's Lake. These sites (unregistered) are plotted on Figure 2. Two of the shell scatters, including one little more than 25 metres beyond the south-eastern corner of Lot 21, occurred in foredune contexts. The third shell scatter was found on the bank of Willis Creek. The isolated artefact occurred on the edge of a dam dug into bedrock soil. Due to their small size and high level of disturbance, Lilley assessed the four sites recorded during his survey to be of low scientific significance. Consultation carried out by NPWS (now

DECC) Aboriginal Sites Officers Donnelly and Kelly on Lilley's behalf concluded that "local Aborigines know of no important relics or natural places" (Lilley 1983:6) in the Hearnnes Lake area.

5.2.2 Collins 2004

Lot 21 was included in a more recent field survey of the 58.65 hectare northern section of the *Heans Lake/Sandy Beach Development Control Plan* area (Collins 2004). The survey was conducted with the assistance of CHLALC and Yarrawarra Aboriginal Corporation/Garby Elders representatives in November 2004.

The 2004 survey followed a selective sampling strategy designed to maximise coverage of landform elements of high potential archaeological sensitivity, to sample those with low potential, and to inspect areas identified as being of particular cultural heritage value. In addition to the detailed surface survey, a general reconnaissance was made in order to locate and inspect all of the remaining mature trees for evidence of Aboriginal scarring. The survey preferentially targeted exposed surfaces suitable for artefact detection, including unformed tracks, erosion scours, the rootballs of fallen trees, road cuttings, excavation pits, dam margins and other assorted mechanical disturbances.

Approximately 12.6 hectares of land was covered during the survey, 1.87 hectares of which falls within Lot 21. Survey of Lot 21 included the ridge crest, the lagoon margins and bank, and a sample of the ridge slopes and alluvial lowland. Due mainly to grass cover, the ridgeline and slopes provided an average five percent surface exposure and the lagoon margins and other lowlands even less. Overall, it is estimated that 1.3 percent of Lot 21 was subject to effective survey coverage (cf Collins 2004:Table 3).

One low-density scatter of 13 visible stone artefacts (since registered as DECC site #22-1-234) was detected during the 2004 survey, approximately 500 metres north-west of Lot 21. These artefacts were distributed at intervals along the low-gradient crest of the same ridge that runs through and terminates in Lot 21. Additional undetected artefacts are expected to occur in the site locality. The artefact scatter was provisionally assessed to have a low-moderate level of Aboriginal cultural/social and scientific/archaeological significance. Further archaeological investigation was recommended ahead of any development disturbance.

The survey results and local topography suggested that the site #22-1-234 artefact scatter probably reflects movement between the coastline and subcoastal hinterland. It was thus concluded that additional undetected artefact sites may occur along the same ridgeline further east, including on the reasonably intact and level terminal end of the ridge in Lot 21. Along with

other parts of the ridge, it was recommended that the subject section of the Lot 21 ridge crest be further investigated in conjunction with any future development proposal (Collins 2004:31).

5.3 The present assessment

As detailed in Section 5.2.2 above, a field survey and assessment of an area that included Lot 21 was undertaken by the consultant with the assistance and input of CHLALC and Yarrawarra Aboriginal Corporation/Garby Elders representatives in 2004. These Stakeholders advised that further field survey of Lot 21 was not warranted or required, and that they endorsed the 2004 recommendation for subsurface investigation of the level terminal end of the Lot 21 ridge crest.

Given that they were not involved in the 2004 field survey or assessment, a general field inspection of Lot 21 was conducted with Mudjay Elders Stakeholders Steven Hart and Terry Carberry on the 7th of November 2007. As a result of this inspection, Steven Hart and Terry Carberry concluded that Lot 21 would be unlikely to contain significant archaeological sites owing to the close proximity of sensitive dune landforms.

As suspected, the inspection undertaken with the Mudjay Elders confirmed that exposure and visibility conditions have not improved since 2004, and that any further detailed survey of Lot 21 would be similarly unproductive and arrive at the same conclusions and management recommendations as previously reached.

6 DISCUSSION OF RESULTS

6.1 The Aboriginal cultural landscape

Information reviewed in Sections 3, 4 and 5 of this report provides an overview of an Aboriginal cultural landscape that extends from traditional through to contemporary times. This once resource-rich landscape includes traditional mythological and story places and traditional and more recent camping and resource-use places valued by the Aboriginal community.

Given ethno-historical accounts (eg England undated; Holder 1984) and the distribution and size of known archaeological sites, the traditional Gumbaingirr people seem to have practiced a 'collector' type of landuse system, involving a logistically-organised pattern of movement that focused on the occupation of relatively long-term base camps to which they returned year after year. It is envisaged that specialised groups would have ranged from these base camps in search of resources, thereby generating many activity-specific sites, most of which reflect itinerant occupation/stopping events (cf Binford 1980). Despite the resource-rich environment and

identification of two sites of mythological significance, archaeological sites recorded in the Hearnnes Lake locality to date have all been small (cf Section 5.2) and are probably associated with short-term stops made during transit along the ridgeline, and during the course of resource gathering around the margins of Hearnnes Lake, Double Crossing Creek and their adjoining wetlands. Although the closest large archaeological site and potential seasonal base camp is located at Bare Bluff almost three kilometres south of Lot 21, it is possible that closer coastal camps have been destroyed by sandmining, undertaken along the dune strip between Woolgoolga and Sandy Beach (cf Appendix A).

It is anticipated that the study area's forests would have once provided plant and fauna resources to its traditional occupants, but these forests have been cleared such that resources of Aboriginal value no longer occur within the proposed development footprint. However, fishing and the collection of crustaceans and shellfish are still undertaken at Hearnnes Lake, and this estuary is regarded as an integral part of the contemporary cultural landscape. Whilst no longer relied upon for subsistence, these resources allow Aboriginal people on limited incomes to supplement their diet with traditional foods (cf English undated).

6.2 Conclusions

6.2.1 Aboriginal cultural/social issues

An identified natural mythological site (#22-1-232) extends into the north-eastern corner of Lot 21. This area comprises a back-barrier lagoon, which along with its surrounding wetlands and banks, would be rehabilitated and preserved as an area of Environmental, Habitat and Catchment Protection (proposed Lot 28) within the residential subdivision context. As outlined in Section 4.2, Aboriginal Stakeholder advice indicates that the significant values attached to this site would not be compromised providing proposed Lot 28 is spared any direct or indirect development disturbance or contamination.

With the possible exception of the lagoon/wetland to be preserved within proposed Lot 28, the study area has been cleared of its original vegetation and no longer offers flora or fauna of Aboriginal resource use value. However, Hearnnes Lake to the south has been associated with historical camping and the on-going use of wild resources, and is held to be a significant landscape feature in its own right. Preservation of the cultural heritage values of Hearnnes Lake will be contingent upon the minimisation or avoidance of pollution effects associated with the Lot 21 development.

6.2.2 Archaeological issues

Traditional Aboriginal camps were often made along ridge crests, either because they provided outcropping sources of raw stone material, or because they were used as convenient pathways from one place to another. Ridges in the vicinity of Hearnnes Lake do not offer surface stone

suitable for stone tool production. They do, however, offer expedient lines of movement through the otherwise poorly drained (and probably once heavily vegetated) country between the coastline and subcoastal hinterland. The site #22-1-234 artefact scatter recorded on a ridge crest 500 metres north-west of Lot 21 is considered likely to be associated with transit activities. The existence of this site raises the possibility that additional undetected artefact scatters could occur along other reasonably level and intact sections of the same ridgeline. This ridgeline extends through Lot 21 and terminates near the southern bank of the lagoon/wetland, which forms part of a registered natural mythological site (#22-1-232).

Owing to the gradient of most of the ridgeline and European modifications that have occurred, only the level terminal end (which has been cleared and supports grass cover and some small regrowth trees) is considered to have any substantial archaeological potential. This potential was recognised in 2004, when it was recommended that the subject section of crest be further investigated to determine its archaeological status. Given the erosional soil conditions, it was suggested that this investigation could be effectively achieved by 'scraping off' the grass cover with a suitable machine to reveal the ground surface and facilitate a more thorough inspection (Collins 2004:31). This strategy was supported and is still supported by the Aboriginal Stakeholders, who have further suggested that sieving of the topsoil sediments be undertaken as necessary to determine whether artefacts are present within the freshly exposed topsoil.

No cultural materials were detected on the ridge slopes or alluvial lowlands inspected north of Hearn's Lake/Double Crossing Creek in 2004 (Collins 2004). Although two isolated artefacts and a scatter of 14 artefacts, split pebbles and manuports were recorded on lowlands between Hearn's Lake/Double Crossing Creek and Sandy Beach to the south, all of these occur on or close to the estuary banks (Dallas and Tuck 2004:52-58). The distribution of known sites in the wider region indicates a low level of archaeological sensitivity for hillslopes and alluvial lowlands off the immediate banks of creeks and estuaries (cf Collins 2001:75-76). This pattern is consistent with results of field surveys in the Hearn's Lake/Sandy Beach area, and it is concluded that the archaeological record (if any) of the Lot 21 ridge slopes and alluvial lowland will be restricted to a low-density background scatter of isolated artefacts lost or discarded during resource-gathering activities.

7 SIGNIFICANCE ASSESSMENT

7.1 The concept of 'significance'

Unlike aspects of the natural environment, cultural heritage sites and places are social constructs that have no intrinsic significance- "cultural heritage places are not alive in themselves, people give them 'life' and meaning by the way they treat them and by the way they think and feel about

them. ... their value lies entirely within human culture” (Byrne *et al* 2001:22-23). The degree and type of value of a place will be different for various groups and individuals. All places are not equally significant or important, and consequently are not equally worthy of conservation and management (Pearson and Sullivan 1999:17). Assessments of significance thus form the basis for management decisions and guide the development of impact mitigation strategies where these are warranted.

Aboriginal sites and places may have educational, tourism and other public values, but their primary values are generally those relating to their cultural/social significance to Aboriginal people, and scientific significance from an archaeological perspective (NPWS 1997:25). While sites considered to be scientifically significant are usually also significant to the Aboriginal community, others may be of outstanding Aboriginal cultural/social significance but have little or no scientific value.

7.1.1 Aboriginal cultural/social significance

Aboriginal cultural heritage is by no means confined to physical (archaeological) evidence. The cultural landscape contains an invisible overlay of attachments and meanings, and Aboriginal people can and do hold equally strong and equally legitimate attachments to natural, unmodified, features of the landscape, and to entire landscapes themselves. The preservation of sites and places of cultural/social significance can be fundamental to maintaining an Aboriginal community's integrity, sense of place and unique cultural identity.

The level of significance that an individual site or place may hold for the present-day Aboriginal community is often dependent upon a variety of factors, including the nature, type and integrity of the site/place, the spiritual, emotional, historical and/or contemporary attachments attributed to it, its setting and importance within the traditional and/or contemporary cultural landscape, and the perceived value of the site/place in connecting past, present and future generations.

7.1.2 Scientific/archaeological significance

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

From a management and research perspective it is desirable that a representative sample of Aboriginal sites be maintained for the future. This means that not only are rare and unusual site types scientifically significant, but that a well-preserved site that provides a characteristic example

of other sites common to its specific type, content and setting may also be of scientific significance. Any determination of representativeness must, by necessity, be based on the known sites in a region. Clearly, this will depend on the extent to which a region has been surveyed and as more work is completed and additional sites recorded, site representation (and significance) can change.

7.2 Significance of Lot 21

7.2.1 *Natural mythological site #22-1-232*

Site #22-1-232 is of traditional spiritual/sacred value and has been assessed to have a high level of Aboriginal cultural/social significance.

Field survey of the lagoon surrounds, including its adjoining wetland and banks, was undertaken with a nil result in 2004 (Collins 2004:Figure 3). In the apparent absence of modification or material evidence, site #22-1-232 is assessed to have a low to negligible level of archaeological/scientific significance.

7.2.2 *The Lot 21 ridge crest*

A section of the Lot 21 ridge crest (see Figure 5) is considered to have the potential to contain undetected evidence of past Aboriginal occupation that may be significant in demonstrating traditional lifeways, providing a material link with Gumbaingirr ancestors. In the absence of sufficient surface exposures, and as agreed by Aboriginal Stakeholders, the existence and significance of any site that may occur on the subject section of ridge could only be reliably assessed on the basis of the results of a subsurface archaeological investigation.

7.3 Significance of adjacent areas

Hearnnes Lake has provided wild resources from traditional through to contemporary times and on this basis is regarded to have considerable Aboriginal cultural/social values in its own right. As stated by Mudjay Elders Steven Hart and Terry Carberry (Appendix B), "Hearnnes Lake is a part of our (Dreaming)".

8 IMPACT ASSESSMENT AND MITIGATION

The study area includes the south-western extremity of a significant natural mythological site that encompasses a back-barrier lagoon and an off-shore rock outcrop. Impacts to this site have been mitigated, to the satisfaction of the Aboriginal community, by the proposal to reserve and rehabilitate proposed Lot 28 as an area of Environmental, Habitat and Catchment Protection. However, residential development of the adjoining land could have a detrimental effect on the

site's spiritual attachments if this development results in increased human visitation of the lagoon and its surrounds. As such, appropriate fencing and signposting of the Lot 28 Environmental, Habitat and Catchment Protection area may be warranted in the development-related context.

The proposed residential development would not affect any registered archaeological sites. As previously discussed, however, the level terminal end of the Lot 21 ridge crest is considered to have further archaeological potential. This section of the ridge is covered by three proposed residential allotments (27, 29 and 30) and is traversed by a proposed roadway (Figure 5). It is anticipated that any site that may be present would be destroyed either during the initial development works or by later house and driveway construction, services installation and/or landscaping. Further archaeological investigation of the potentially sensitive section of ridge crest would thus be warranted to enable impacts of the proposed development to be more conclusively assessed. The results of this investigation would facilitate the formulation of appropriate impact mitigation strategies in relation to the development, including any necessary site salvage and amendments to the development layout, procedure and/or construction methodology.

Hearnnes Lake is of Aboriginal historic and on-going resource-use value and is seen as a significant place in its own right. While the unmitigated impact of development-related construction works could be expected to have a detrimental effect on the water quality and thus resources of Hearnnes Lake, BBK is committed to implementing best-practice to minimise and manage sediment and stormwater run-off during both the construction and post-development stages. Bio-retention swales and basins would be used to complete the natural treatment cycle before water enters Hearnnes Lake, such that there would be no adverse impact on fisheries, loss of habitat or pollution of the estuary.

9 MANAGEMENT RECOMMENDATIONS

The management recommendations presented in this section were developed in liaison with the Aboriginal Stakeholders and are designed to avoid and/or mitigate impacts of the proposed development on Aboriginal cultural heritage values and resources.

Recommendation 1:

To preserve the cultural and spiritual values and attachments of the site #22-1-232 natural mythological site, proposed Lot 28 should be spared any development-related disturbance, and protected and rehabilitated as proposed. To achieve an appropriate level of protection, consideration should be given to the fencing and signposting of this allotment to minimise access and associated degradation by adjoining residents.

Recommendation 2:

Owing to its potential archaeological sensitivity, the section of ridge crest shown on Figure 5 should be subject to further archaeological investigation prior to the commencement of development-related disturbance works.

It is recommended that the investigation involve the mechanical removal of grass cover to enable a more thorough inspection of the surface sediments, and selective sieving of the topsoil to determine whether artefacts are present. This investigation should be undertaken by a suitably-qualified archaeologist assisted by Aboriginal Stakeholder representatives. A determination of any requirement for further impact mitigation should then be made on the basis of an assessment of the significance of any identified site/cultural assemblage.

Recommendation 3:

Due to its perceived low level of cultural heritage value and archaeological potential, no further investigation or assessment is required within the proposed residential development area off the potentially sensitive section of ridge crest shown on Figure 5 (cf Recommendation 2).

Recommendation 4:

To preserve the Aboriginal cultural/social values of Hearnnes Lake, best-practice methods of containing sediment and other pollutant run-off should be implemented during the construction stage and maintained and over the long term.

Recommendation 5:

In the event that any Aboriginal cultural materials are discovered or exposed during any stage of the proposed development works, all works must immediately cease in the vicinity of the find. The DECC Northern Aboriginal Heritage Unit (Coffs Harbour) and the Aboriginal Stakeholder groups should then be contacted for management advice and clearance given by these organisations before work resumes in the subject locality.

In the unlikely event that possible or identified Aboriginal skeletal remains are discovered or exposed, the NSW Police Department should also be contacted in addition to the above organisations.

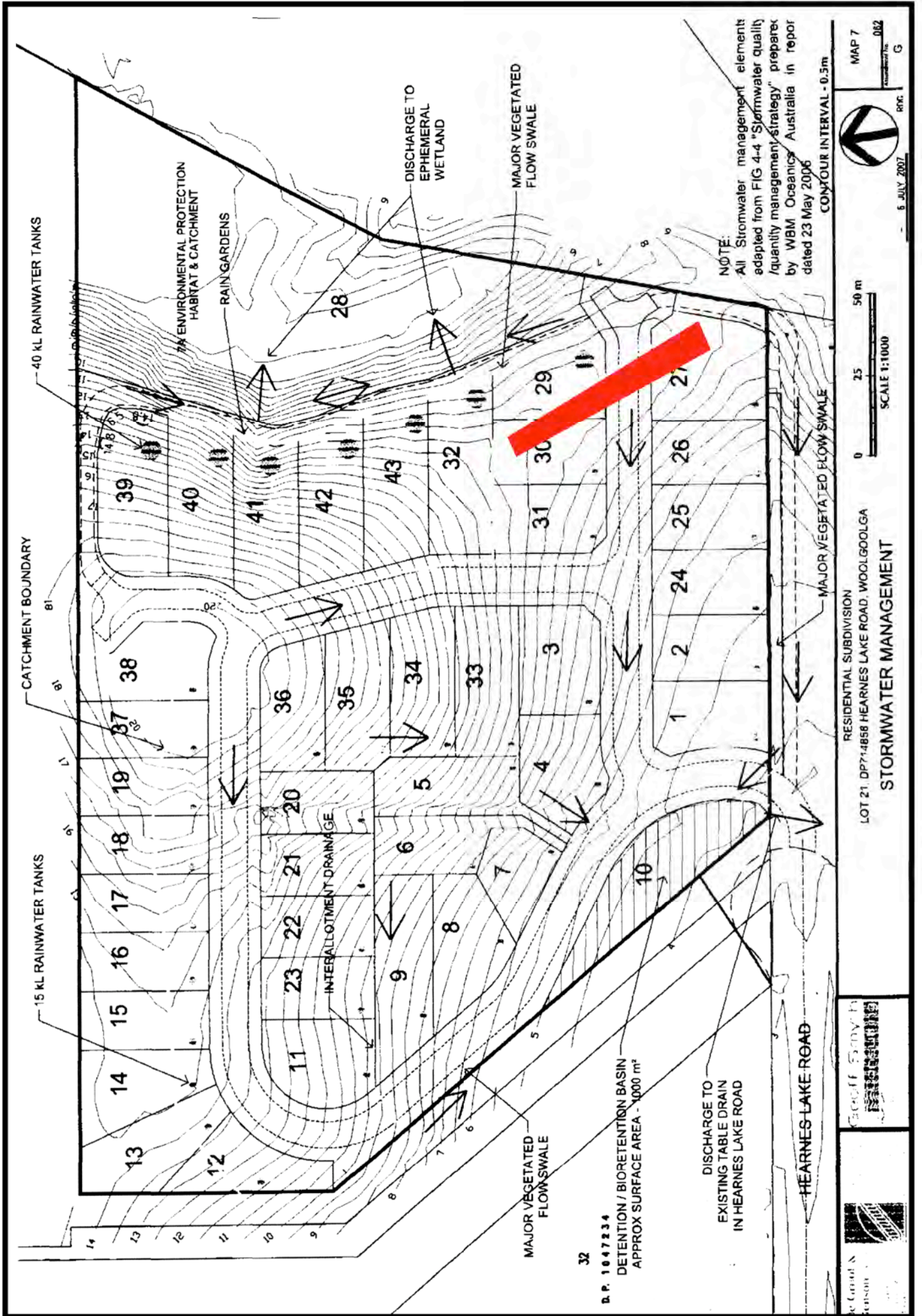


Figure 5. Area recommended for further archaeological investigation (red)

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GLOSSARY

ALLUVIUM

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

ARCHAEOLOGICAL SITE

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

ARGILLITE

A rock derived from mudstone or shale that has been altered and indurated by pressure and cementation. Argillites are mid-way in metamorphism between shale and slate (Lapidus 1987:36).

ARTEFACT

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

CARBONIFEROUS

The time interval between 360 and 290 million years ago (Lapidus 1987:90).

CHERT

A dense, extremely hard, microcrystalline or cryptocrystalline siliceous sedimentary rock, consisting mainly of inter-locking quartz crystals, sub-microscopic and sometimes containing opal (amorphous silica). Chert occurs mainly as nodular or concretionary aggregations in limestone and dolomite, and less frequently as layered deposits (banded chert). It may be an organic deposit (radiolarian chert), an inorganic precipitate (the primary deposit of colloidal silica), or as a siliceous replacement of pre-existing rocks. Flint is a variety of chert occurring as nodules in chalk and having a conchoidal fracture (Lapidus 1987:102).

CREST

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

DUNE

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

ESTUARY

A stream channel close to its junction with the sea, where the action of channelled stream flow is modified by tides and waves (Speight 1990:30).

GREYWACKE

Sedimentary rock. A very hard, dark grey or greenish-grey, coarse-grained sandstone characterised by angular particles and rock fragments embedded in a clayey matrix (Lapidus 1987:265).

HILLSLOPE

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

HOLOCENE

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

JASPER

A compact, microcrystalline variety of quartz. Its colours are variable, including white, grey, red, brown and black (Lapidus 1987:308).

META-SEDIMENT

A metamorphosed sedimentary rock in which the original texture is still recognisable (Lapidus 1987:345).

PLEISTOCENE

The lower division of the Quaternary Period dating from two million to 10,000 years ago (Lapidus 1987:96,411).

PODZOLIC SOIL

Soils with a strongly bleached eluvial horizon (Charman 1978:108).

RIDGE

A compound landform element comprising a narrow spine crest and its immediately adjoining slope with the spine length being greater than the width (Packard 1992:100).

SADDLE

Landform element comprising a lower, relatively level point along the spine of a ridge or spur (Packard 1992:100).

STONE ARTEFACT

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

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

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

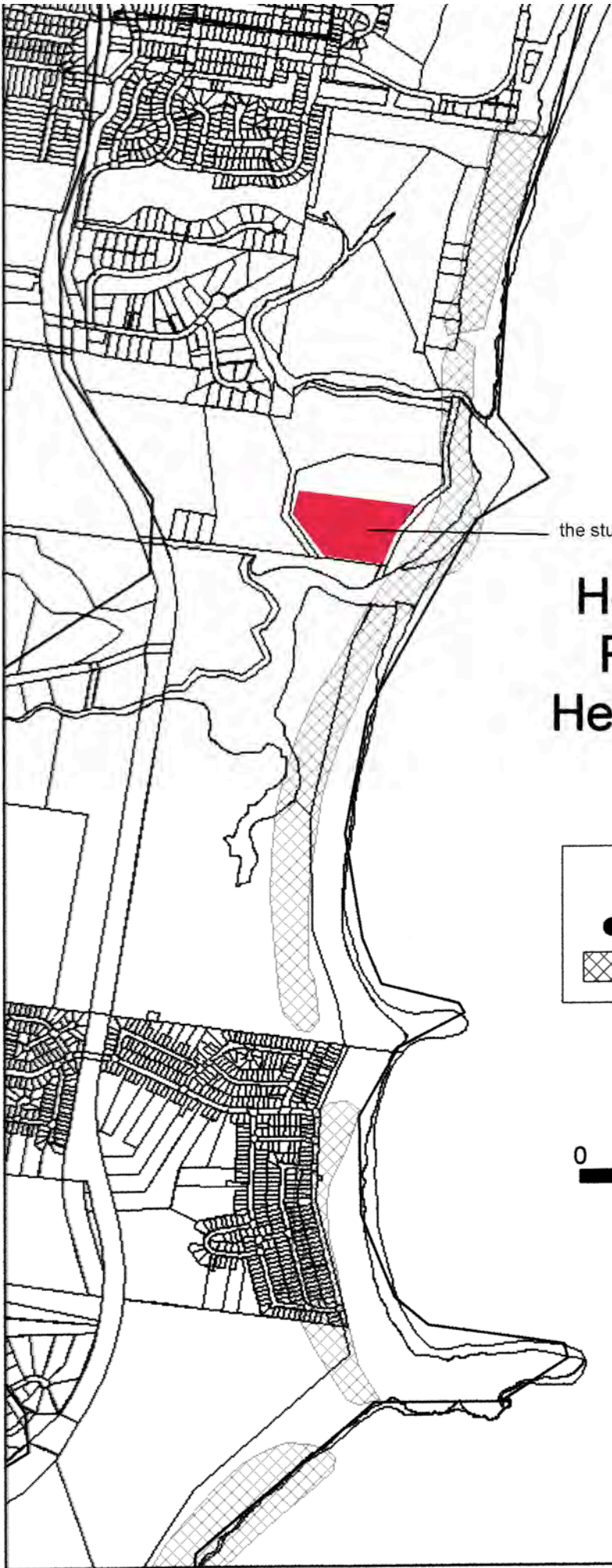
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APPENDIX A

Sandmined areas at Hearnnes Lake

(Source: Department of Mineral Resources)



the study area



Hearns Lake Region Previous Areas of Heavy Minerals Mining

Legend

- Main location
- ▨ Former area of heavy minerals mining

0 0.25 0.5 1 Kilometers

1:20,000

APPENDIX B

Aboriginal Stakeholder correspondence



Coffs Harbour & District Local Aboriginal Land Council

Cnr Pacific Highway & Arthur Street, Coffs Harbour 2450
PO Box 6150, Coffs Harbour Plaza NSW 2450

Phone: (02) 6652 8740

Fax: (02) 6652 5923

18th December 2007

Attention: Jackie Collins

11 Camden Head Road
Dunbogan NSW 2443

**Re: Draft Cultural Heritage Desktop Study
Lot 21 Hearnese Lake Road**

Dear Jackie,

Thank you for providing the Coffs Harbour and District Local Aboriginal Land Council with a copy of your draft report for review and comment.

On completion of reviewing the draft report I can conclude that the report accurately reflects the results and recommendations of the field survey performed in 2004 by representatives of Coffs Harbour and District Local Aboriginal Land Council, Yarrawarra Aboriginal Corporation and Garby Elders group.

The Coffs Harbour and District Local Aboriginal Land Council supports the endorsement of the content of your report and report recommendations.

If you have any questions in relation to this matter please do not hesitate to contact the undersigned in the number listed above.

Yours truly,

Chris Spencer
Acting CEO



18th December 2007

Jacqueline Collins
11 Camden Head Road
Dunbogan NSW 2443

Dear Jacki,

**RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT, LOT 21 DP 714858
HEARNES LAKE ROAD – DRAFT REPORT**

Thank you for sending us a copy of the draft report to review.

We have read the report, and agree with most of it. One comment: on page 12 the Garby Elders who participated in the earlier study are listed in a strange way, and we would like this changed so that it is not implied that Cecil 'Bing' Laurie is deceased, eg: Tony Perkins, Cecil Laurie, Ricki Cain and the late Michael McDougall.

We agree with the recommendations, but have one question. Do you think that there will be a need to sieve any of the exposed sediments after clearing of the grassy surface of the ridge top? Visual inspection may not be enough to confirm the presence of cultural materials in freshly exposed dirt.

Thanks again for the opportunity to make comments on your draft report. Jalumbo & Yarrowarra are closed until after New Year, so sorry for any delays this may cause. Please do not hesitate to contact us if you require more information.

Yours sincerely,

Tim Cowan
Manager, Jalumbo Cultural Heritage Research Unit.

Date: 16/12/07

To:
Jacqueline Collins
Consulting Archaeologist on
Hearnes Lake Road Woolgoolga
N.S.W. mid north coast

From:
Mr Terry Carberry,

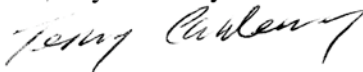
Mr Steven Hart

Knowledge Holders of Country

Discussions with you on sensitive area's on the boundaries of the propose development east of block 27 to block 39, concerns of impact on these area's especially the old shack east of block 27 (midden site) also concerns on Hearnes Lake itself as this site is apart of our (Dreaming). As the area that's going to be developed was inspected by Jacqueline Collins, Terry Carberry and myself Steven Hart, there was no (sites) or (sites of spiritual significance) within the property that is going to be developed, our concerns are mainly on the impact that's it's going to have on our sites that's outside of the property especially the Lake.

Yours truly,

Terry Carberry



Steven Hart

