

STATEMENT OF ENVIRONMENTAL EFFECTS

STAGED RESIDENTIAL SUBDIVISION LOT 1 DP 1119830 MARSHALL WAY, BELLWOOD

MAY 2015



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INTRODUCTION

1 INTRODUCTION

The subject property has an area of 14.045 ha and originally formed part of a more extensive parcel of land to the north. The northern section of 55 ha had frontage to Alexandra Drive and was excised so that the residential subdivision issues in respect to this larger portion could be resolved without being complicated by any issues that might apply to the southern portion. The issues in respect to the northern section took many years to resolve however consent was finally granted by the Joint Regional Planning Panel (JRPP) subject to conditions.

The residential subdivision of this southern section now Lot 1 in DP 1119830 will complete the residential subdivision of the Bellwood area that began in 1990 or earlier. The subject site has frontage to Marshall Way and Spring Street and is independent of the northern Lot 2 in all respects although some of the issues resolved as part of the subdivision of Lot 2 to the north will provide clear guidelines for relevant aspects of the subdivision of the subject site.

Subject site is located to the west of existing residential lots on Marshall Way and Summer Place. It is bounded on the north by the Farrington Playing Fields, on the south by a reserve area along Bellwood Road and on the west by the Nambucca State Forest.

Figure 1 – Aerial Lot 1 DP 1119830



Figure 2 District Locality Lot 1 DP 1119830

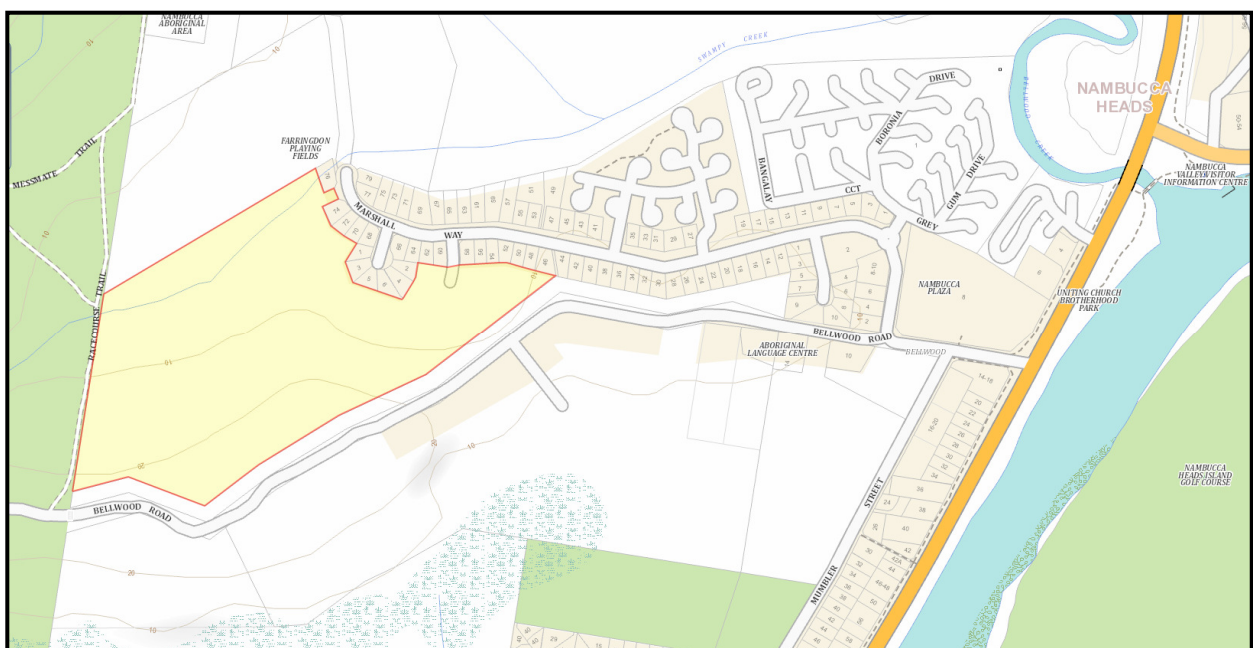


PROPOSED DEVELOPMENT

It is proposed to subdivide the land to create 132 residential lots and a deferred area lot in seven stages. The deferred area lot is an area with frontage to Spring Street that has been deferred from residential subdivision pending further investigation into the yellow bellied glider that is accessing sap trees in this location. The sap trees are to be preserved and only the road connection as an extension to Spring Street constructed through this area. Plans of the proposed subdivision are included in Annexure A.

Two access points are proposed to Marshall Way one at the northern end near the Farrington Playing Fields and the second off Spring Street. The internal road system aims to predominantly follow a grid pattern layout with two small cul-de-sacs that are difficult to avoid. A perimeter road is provided on the western boundary adjoining the State Forest to also act as a fire protection buffer. No access to lots is proposed off Bellwood Road to the south and there is a strip of land separating the road from the subject site that is zoned E2 Environmental Conservation.

Figure 3 – Street Locality Lot 1 DP 1119830



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STATUTORY CONSIDERATIONS

The matters for Council to consider are listed under Section 79C of the Environmental Planning and Assessment Act. The relevant matters are addressed as follows:

3.1 Environmental Planning Instruments

State Environmental Planning Policy 71 – Coastal Protection

It is understood the property is within the coastal zone under the Coastal Protection Act and as such the State Policy applies. The site is not within an area defined as a 'sensitive coastal location' under the State Policy. The matters for consideration under Clause 8 of the Policy have been replaced by matters for consideration under Clause 5.5 of the Nambucca Local Environmental Plan 2010 (LEP). The matters listed under Clause 5.5 are addressed in Annexure B.

Clause 18 of the Policy requires the preparation of a master plan or a waiver to the need for a master plan being granted as the proposed subdivision is within a residential zone that is not identified as a 'sensitive coastal location' and involves the creation of more than 25 lots. A waiver to the need to prepare a master plan has been granted by the Department of Planning and Infrastructure and a copy of the waiver is included in Annexure C.

Nambucca Local Environmental Plan 2010 (LEP)

The subject site is wholly within Zone R1 General Residential and residential subdivision is permissible with consent. In this case the consent authority will be the Joint Regional Planning Panel as the subdivision involves the creation of more than 100 residential lots in the coastal zone.

Relevant clauses under the LEP Are addressed as follows:

Clause 4.1 Minimum subdivision lot size

Each of the proposed lots has an area in excess of the minimum of 450 m² shown on the Lot Size Map in relation to this land.

Clause 5.5 Development within the coastal zone.

The property is within the coastal zone. This clause has adopted matters for consideration under State Environmental Planning Policy 71 – Coastal Protection. The matters for consideration under this clause are addressed in Annexure B.

Clause 7.1 Acid Sulfate Soils

The site has been identified as potentially containing Class 5 acid soils where works below 5 m Australian Height Datum (AHD) and works that are likely to lower the water table below 1 m AHD on adjacent Class 1, 2, 3 or 4 land requires consent. The site is elevated above the surrounding land and it is considered that there is no works as part of this subdivision that would be likely to disturb, expose or drain acid sulfate soils and cause environmental damage.

Clause 7.4 Public Utility Infrastructure

De Groot and Benson have assessed the capacity of public utility infrastructure to ensure that the subdivision can be adequately serviced. All infrastructure is readily available and can be extended to the proposed lots.

3.2 Draft Environmental Planning Instruments

There are no known draft instruments that are relevant to this proposal.

3.3 Development Control Plans

The Nambucca Development Control Plan 2010 (DCP) has replaced all previous DCP's and includes a series of Parts to be considered with any development proposal. The relevant Parts are discussed as follows:

PART A – INTRODUCTION, CONTEXT AND SITE ANALYSIS

A 5.1 Acid Sulfate Soils

The site is identified as potentially containing Class 5 acid soils where works below 5 m AHD require consent. From a preliminary assessment there are no works that are likely to disturb acid sulfate soils and as such an acid sulfate soils management plan is not required.

A 5.2 Bushfire Prone Land

A bushfire risk assessment has been undertaken and the report is included in Annexure D. The subdivision design has included adequate Asset Protection Zones in accordance with the bushfire risk recommendations.

A 5.4 Site Contamination

An initial evaluation checklist for land contamination has been completed and included in Annexure E. The site has been retained in a vegetated state and periodically logged over time. There is no known history of any other agricultural use or potential source of contamination.

A 5.6 Aboriginal Cultural Heritage

An archaeological survey has previously been undertaken by John Appleton Archaeological Survey & Reports Pty Ltd for both the northern and southern areas being Lots 1 and 2 in DP 1119830. Extensive investigations have been undertaken over this area with site investigations undertaken in 1974, 1995, 1997, 2002 and 2009. The investigations found that the only sites of interest to the Aboriginal people were located in the northern section (Lot 2) that has now been granted subdivision consent by the JRPP. A copy of the survey report is included in Annexure F. The Local Aboriginal Land Council have previously been consulted as part of the survey and details included in the report. A due diligence procedure has been undertaken for the northern section (Lot 2) prior to consent being granted.

As a result of the extensive investigations undertaken over the years and site inspections by Larry Kelly there are no known sites of Aboriginal concern that affect this site or that would prevent subdivision consent being granted.

A 5.8 Flora & Fauna

A flora and fauna assessment has been undertaken and the report is included in Annexure G. The report found that there appears to be some activity from a yellow bellied glider colony in trees in the south eastern corner of the site. Further investigation is necessary to determine the extent of use of this vegetation and whether the preservation of these trees is critical. At this time it has been decided to defer further subdivision of this area and to preserve the trees until more extensive investigations are completed. The area will be kept as one lot with an access road extension to Spring Street constructed through the area as shown on the plans in Annexure A.

A 6.0 Site Analysis

A series of site analysis plans are included in the Engineering Issues Statement included in Annexure H. The subdivision design has considered the opportunities and constraints and the layout has been adjusted accordingly.

PART B – SUBDIVISION

B2 .1 Design Principles

The site constraints, values and topography have been considered and an appropriate mix of lot sizes and orientation has been achieved. Pedestrian access, bicycle use and public transport facilities have been incorporated.

B2 .2 Lot Orientation

Lots are designed to allow buildings that present a building front to the street. Lots are orientated to facilitate the siting of dwellings to take advantage of solar access and breezes as far as possible. Roads generally run east-west or north-south to facilitate solar access.

B2 .3 Road Networks and Design

In accordance with these principles the following is achieved:

- A road hierarchy is provided including access roads and local roads.
- Roads generally run east-west and north-south as far as is possible.
- Long cul-de-sacs are avoided.
- Drainage detention devices and material stormwater traps are to be incorporated in roads.

B2 .4 Pedestrian and Cycleway Networks

- Pedestrian and cycleway links are provided to connect to public reserves and the transport routes.
- Shared pedestrian/cycleway facilities are provided where appropriate.

B2 .5 Bus Services

- A ring road extending from Spring Street around to Marshall Way will allow for bus circulation throughout the subdivision.
- Bus shelters can be incorporated at appropriate locations.

B2 .6 Public Open Space for Residential Areas

In this case a credit exists for Section 94 contributions to public reserves such that the public reserves for the future population have already been provided. With the proximity of the Farrington Playing Fields to the north and the State Forest to the west additional local parks are not considered to be warranted.

B 2.7 Water and Sewerage

All lots will be connected to a reticulated water and sewerage service that is readily available in proximity to this site.

B2 .8 Stormwater Drainage

A stormwater concept has been prepared and is included in Annexure H. The system adopts 'best management practices' and includes the principles approved in the subdivision of the northern Lot 2 section. Post peak stormwater run-off is aimed at maintaining predevelopment flow levels. Potential is available for a water reuse system within each lot.

B2 .9 Electricity

Underground electricity supply is proposed throughout the subdivision.

B2 .10 Telecommunications

Telecommunication services will be extended to each lot.

B 3.0 Zone Requirements

In accordance with the requirements for residential zones the following is included:

- Lots exceed the minimum lot size of 450 m² on the Lot Size Map.
- All lots have a minimum frontage of 12 m
- Each lot is capable of providing a 10 m x15 m minimum building envelope together with 80 m² of a private open space with a minimum dimension of 6 m and on-site parking located behind the building line.
- Many lots have sufficient area for dual occupancy.

3.4 Likely Environmental Impacts

The proposal will create a variety of lot sizes for new housing opportunities in a low density residential environment in proximity to Nambucca Heads and the Nambucca Plaza shopping precinct. The potential impacts that have been considered are as follows:

-Bushfire Risk

The vegetation likely to be a potential source of bushfire risk has been mapped and a risk assessment undertaken. The conclusion reached is that any likelihood of risk can be minimised with appropriate Asset Protection Zones that have been included in the subdivision design.

-Cultural Heritage

There are no known sites of Aboriginal cultural heritage on this property. The area has been assessed on several occasions since 1974 and a due diligence process undertaken for that part of the area to the north where known sites have been identified. As a result of previous surveys the sites of interest to the Aboriginal people have been preserved.

-Flora and Fauna

A small area of existing trees in the south-east corner has been noted as being used by the Yellow bellied Glider and further assessment of the significance of these trees is required. It is proposed to retain these trees in a section to be deferred from further residential subdivision pending completion of more extensive investigation. There are no other ecological values on this site and all existing vegetation is proposed to be removed.

-Stormwater Controls

The impact of stormwater run-off after development has been assessed and design recommendations included with the aim of achieving a nil or beneficial impact. A copy of the assessment is included in the Engineering Issues Statement in Annexure H.

All impacts are to be contained within the site and there are no additional known likely environmental impacts that have not been considered. In addition there are no impacts that would be likely to prevent subdivision from proceeding.

3.5 The Suitability of the Site for the Development

The site is a vacant area of scattered trees with an understorey that is regularly maintained by slashing. The site slopes up from the adjoining land to the north and east and is located between existing residential development and the Nambucca State Forest. The site represents an infill area in an otherwise developed residential area.

There are no known constraints that would prevent the proposed development and the site is zoned to permit residential subdivision and development. The density of development meets the aims and objectives of the zone.

The location is fully serviced and is able to be developed without any adverse impacts. It is considered the site is ideally suited to the extent of development is proposed.

3.6 The Public Interest

The proposed development offers a variety of lots in the choice for low density residential accommodation for the future growth of the Bellwood and Nambucca Heads area. It is ideally located in proximity to Nambucca Heads and the Nambucca Plaza shopping precinct.

The proposed subdivision will make a positive contribution to the economic stability and viability of the Bellwood area and is in the public interest in providing further housing opportunities for future residents

ANNEXURE B

Development within the Coastal Zone Clause 5.5 Assessment

DEVELOPMENT WITHIN THE COASTAL ZONE

Clause 5.5

(2) Development consent must not be granted to development on land that is wholly or partly within the coastal zone unless the consent authority has considered:-

a) Existing public access to and along the coastal foreshore for pedestrians (including persons with a disability) with a view to:

- i. Maintaining existing public access and, where possible, improving that access, and
- ii. Identifying opportunities for new public access, and

Comment

The property is some 750m from the Nambucca River and is not located on any coastal foreshore. Public access to and along coastal foreshores will not be affected by this proposal and new public access cannot be provided.

b) The suitability of the proposed development, its relationship with the surrounding area and its impact on the natural scenic quality, taking into account:

- i. The type of the proposed development and any associated land uses or activities (including compatibility of any land-based and water-based coastal activities), and
- ii. The location, and
- iii. The bulk, scale, size and overall built form design of any building or work involved, and

Comment

The proposed subdivision complies with Councils strategy for the urban expansion of Bellwood as detailed in the Nambucca Local Environmental Plan and Development Control Plan 2010.

c) The impact of the proposed development on the amenity of the coastal foreshore including:-

- i. Any significant overshadowing of the coastal foreshore, and
- ii. Any loss of views from a public place to the coastal foreshore, and

Comment

The site is 750m from the Nambucca River and separated from the coast by residential development and the coastal foreshore and cannot be impacted by loss of views or overshadowing.

d) How the visual amenity and scenic qualities of the coast, including coastal headlands, can be protected, and

Comment

The coastal foreshore is well separated from this site and cannot impact on the visual amenity or scenic qualities of the coast.

e) How biodiversity and ecosystems, including:

- i. Native coastal vegetation and existing wildlife corridors, and
- ii. Rock platforms, and
- iii. Water quality of coastal waterbodies, and

iv. Native fauna and native flora, and their habitats

can be conserved, and

Comment

There will be no native coastal vegetation or significant flora and fauna values affected by this subdivision. There are no rock platforms in this locality. Water quality will be controlled by stormwater detention within the adjoining residential subdivision.

f) The effect of coastal processes and coastal hazards and potential impacts, including sea level rise;

- i. On the proposed development, and
- ii. Arising from the proposed development, an

Comment

The site is 750m from the nearest water course on an elevated area and not affected by sea level rises.

g) The cumulative impacts of the proposed development and other development on the coastal catchment.

Comment

All potential impacts will be contained within the site with management measures proposed to control stormwater and service provision.

(3) Development consent must not be granted to development on land that is wholly or partly within the coastal zone unless the consent authority is satisfied that:

- a) The proposed development will not impede or diminish, where practicable, the physical, land-based right of access of the public to or along the coastal foreshore, and
- b) If effluent from the development is disposed of by a non-reticulated system, it will not have a negative effect on the water quality of the sea, or any beach, estuary, coastal lake, coastal creek or other similar body of water, or a rock platform, and
- c) The proposed development will not discharge untreated stormwater into the sea, or any beach, estuary, coastal lake, coastal creek or other similar body of water, or a rock platform.

Comment

Access to coastal foreshore has been addressed previously. The site is 750m from the Nambucca River.

All lots will be connected to a reticulated Council sewerage system.

All stormwater will be managed for control and treatment prior to discharge to Councils stormwater infrastructure.

ANNEXURE C

SEPP 71 Master plan Waiver



Mr Geoff Smyth
Geoff Smyth and Associates
PO Box 1925
Coffs Harbour NSW 2450

Our ref: 15/05834

Dear Mr Smyth

SEPP 71 REQUEST TO WAIVE A MASTER PLAN – Marshall Way, Bellwood, Lot 1 DP 1119830


I refer to your request received on 1 April 2015 to waive the need for a master plan (development control plan) for a proposed 156 lot residential subdivision at the above address.

As delegate of the Minister for Planning, I have determined pursuant to clause 18(2) of State Environmental Planning Policy 71 – Coastal Protection (SEPP 71), that the requirement for a master plan in clause 18(1) may be waived.

The master plan requirement has been waived for the reason that the objectives and controls contained in the Nambucca LEP 2010, the Nambucca DCP 2010, section 79C of the *Environmental Planning and Assessment Act*, and the matters for consideration in clause 8 of SEPP 71, are considered adequate to ensure this development is carried out with due regard to the aims of SEPP 71.

Should you have any further enquiries about this matter I have arranged for Paul Garnett to assist you. Paul can be contacted on (02) 6641 6607.

Yours sincerely

 28 April 2015
Stephen Murray
General Manager, Northern Region
Planning Services

ANNEXURE E

Contaminated Land Assessment

CONTAMINATED LAND ASSESSMENT

Aerial records show that the site was formerly heavily treed. There is no evidence of any history of small crop cultivation, or any agricultural use of the land.

Given the above, it is unlikely that possible contamination of the site due to past agricultural use will be a constraint to development.

A preliminary investigation of the site using the guidelines presented in SEPP 55 “Managing Land Contamination Planning Guidelines”, has been undertaken and summarised below:

SEPP 55 Issues to consider	Response
<ul style="list-style-type: none"> ▪ Is the information about the site’s history adequate: <ul style="list-style-type: none"> – are the descriptions of activities on the site detailed enough to identify a use listed in Table 1? – are there any big gaps in the history that might hide a use listed in Table 1? – are the sources reliable? – is the information verifiable? – Does the information conform with the relevant EPA guidelines? 	<p>The site has aerial photographic history dating back to the 1950’s.</p> <p>The current owners who have owned the site since 1990 advise that in their time of ownership no such activity has been undertaken on the site.</p> <p>There is no evidence of any agricultural activity on the site in these photos.</p>
<ul style="list-style-type: none"> • If contamination or a contaminating activity, whether previous or existing, is confirmed should the proponent conduct a detailed investigation to further define the extent and degree of contamination? 	<p>No contaminating activity has been found to occur on the site</p>
<ul style="list-style-type: none"> • If the site history suggests that the site is unlikely to be contaminated but there are gaps in the history and Table 1 uses were permissible under the zoning during those periods, is limited site sampling needed to confirm the site is not contaminated? Consult a site auditor if necessary. 	<p>Given that the site was fully treed till the late 1990’s, early 2000’s, there is no evidence of gaps in the history. From this evidence it would appear that no Table 1 activities have occurred on the site</p>
<ul style="list-style-type: none"> • Does this site pose a significant threat to human health or the environment? 	<p>It is considered that the site does not pose a threat to human health</p>
<ul style="list-style-type: none"> • Is a site audit of the preliminary investigation necessary? • If there is sufficient information to satisfy the planning authority that the site is suitable for the proposed use, the planning process should proceed in the normal way. 	<p>It is considered that no further investigations are required.</p>

In accordance with Council's adopted Planning Guidelines for Contaminated Land the following information is provided:-

INFORMATION REQUIRED	COMMENTS
1. Specify all land uses to which the site has been put, including the current use.	Forestry
2. Specify the uses to which properties adjoining the site have been put.	Forestry and residential development
3. Specify uses that correlate with the potentially contaminating activities set out in Table 1 in Chapter 2 (Identification) of the guidelines.	Agriculture
4. Specify the extent of testing or assessment of the site for contamination.	No testing necessary as the agricultural activities have not involved the use of products likely to cause contamination.
5. Specify known contamination on the site.	Nil
6. Detail any remediation work (carried out voluntarily or ordered by government agency), undertaken in respect to contamination which is or may have been present on the site.	Nil

ANNEXURE F

Archaeological Investigation

**The archaeological investigation for sites of Indigenous
cultural significance, & cultural resource management**

**Lot 2, DP 1119830,
Marshall Way & Alexandra Drive
BELLWOOD, Northeast Coast, NSW**



John Appleton

ARCHAEOLOGICAL SURVEYS & REPORTS PTY LTD

Project No. 446/09

DECEMBER 2009

**For
Geoff Smyth Consulting
on behalf of**

NAMBUCCA GARDENS ESTATE

Proponents:

Nambucca Gardens Estate

Client's representative:

Geoff Smyth Consulting
PO Box 1925
Coffs Harbour 2450
02 6652 4490

Copies of this report to:

The Archaeologist
DECC Northern Directorate
GIO House
24 Moonee Street
Coffs Harbour 2450
02 6659 8262

The Chairperson
Nambucca Heads Local Aboriginal Land Council
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EXECUTIVE SUMMARY

The investigation was performed for Nambucca Gardens Estate, which is proposing to develop a staged residential subdivision at Bellwood, Nambucca Heads, Mid-north Coast NSW.

In 2002 Faringdon Pty Limited engaged Smyth Maher & Associates Pty Ltd (Smyth Maher) to prepare the documentation to support a Development Application for the proposed subdivision (the 'Project Site'), and Smyth Maher engaged Archaeological Surveys & Reports Pty Ltd to undertake the archaeological investigation for sites of Indigenous cultural significance within the Project Site.

The scope of the work was for Archaeological Surveys & Reports Pty Ltd (ASR) to conduct an archaeological investigation of the study area with the assistance of a representative of the Nambucca Heads Local Aboriginal Land Council and to identify any Aboriginal sites and relics that might be present. The results of the investigation were to be presented in a report, which was to include an assessment of the significance of any cultural relics or places identified, an appraisal of the options and opportunities arising from the discoveries, and clear recommendations for the management of those cultural resources.

A field investigation of the proposed development area was undertaken by ASR in October 2002 and reported in,

Appleton, J. 2002b. "The archaeological investigation of the site of a proposed subdivision at Lot 101, DP 882258, Bellwood, near Nambucca Heads, North Coast NSW". Unpublished report for Faringdon Pty Ltd.

A scarred tree exhibiting steel-axe cut marks was recorded in the north-western corner of the survey area, and was interpreted as having been deliberately made in

removing a strip of bark for the construction of a gunyah or temporary shelter. No other archaeological or cultural remains were recorded.

Since that investigation the scarred tree has been burnt down, thereby warranting a re-assessment of the archaeological and cultural constraints to development posed by the site, which remains listed on the Aboriginal Heritage Information Management System (AHIMS Site Register).

Since 2002, Smyth Maher & Associates Pty Ltd has changed its name to Geoff Smyth Consulting, and the property subject of this investigation that was owned by Faringdon Pty Ltd is now owned by Nambucca Gardens Estate.

From an archaeological viewpoint the fact is that the tree has been destroyed. However, while the material evidence of the site has been destroyed, the location as a place of Aboriginal activity will always remain the same location, and therefore remain a “place” of cultural significance.

The scope of the work was for ASR to re-assess the situation in view of the destruction of the tree, and recommend how the developer might proceed in a way that recognised the cultural significance of the “place” where the scarred tree had been, and which at the same time, would not be a constraint to the proposed subdivision.

ASR recommended that the preferred option was to clear-up the location and retain it as a public reserve or park within the subdivision. ASR recommended:

- That the location should be cleared of all dead vegetation, and the holes left within the stump remains filled with earth and levelled off to remove them as trip-hazards.
- The location should be protected by a 10m (minimum) radius buffer zone, centred on the burnt stump.

- The circular buffer zone should be set aside as, or within, a park, public reserve or recreation area within the subdivision.
- This would necessitate a redesigning of the preliminary conceptual layout of the subdivision to accommodate the reserve.

Finally, by way of respect to the cultural association of the place the reserve should be named by the Aboriginal community, as for example, “Gunyah Tree Reserve” or something of the Aboriginal community’s choosing.

As a consequence of the recommendations the developer has redesigned the layout of the subdivision to provide a reserve at the scarred tree location.

Subsequent to the archaeological investigation of 2002, the proponents decided to apply for approval for the proposed “Residential Subdivision – Lot 2, DP 1119830, Alexandra Drive, Bellwood as a **Part 3A Major Project**.

In early 2009 ASR was engaged to revise the 2002 archaeological report, both to address the issue of the destruction of the scarred tree, and to comply with the requirements for approval under ‘Part 6 Approvals’ of the National Parks and Wildlife Act 1974 (as amended), and to address the issues raised by the Department of Planning in its review of the application for Part 3A approval, in order that it fully complies with the Director-General’s requirements..

In November 2009 the proponent received the Director–General’s Environmental Assessment Requirements which arose from the application for Part 3A approval. One of the issues that were to be addressed was an email sent on 27th October 2009, to NSW Department of Planning from Louise Robinson, CEO, Nambucca Heads LALC, raising several issues of cultural concern.

The issues can be categorised into three issues in-so-far-as they directly relate to the Project Site (the developers cannot be expected to address issues that are not

directly related to the Project Site, such as burials along the creek banks, or sacred sites outside the Project Site):

1. The belief that the *Diamond Tree* will cause sickness (to Aboriginal residents in the proposed subdivision).
2. The claim that there are unlisted and unrecorded sites in the Project Site.
3. The desire for signage and the screening of men's sacred sites.

In December 2009 Appleton (ASR) attended a meeting which had been called by Nambucca Heads LALC to discuss the issues that had been raised. Two male Elders attended the meeting briefly before stating that they could not make a decision without the other Elders being present. A second meeting was called that afternoon to give them time to talk to the other Elders to get them to attend the second meeting. Subsequently no-one arrived for the second meeting.

As a consequence there was no discussion on the issues that had been raised, however in order that at least one of the issues could be addressed Appleton has made the following recommendation.

ASR recommends that all Section 149 (2) Certificates issued for properties within the proposed subdivision as a requirement of the Title Conveyancing process should carry the following information (or words to the effect if Council so chooses):

"The Bellwood/Nambucca Aboriginal Community believes that any prospective Aboriginal purchaser of residential property in the proposed subdivision should be advised that it is a common belief amongst Aboriginal people of the area that anyone residing within "bull-roarer" distance of the Highly Culturally Significant carved tree known as the "*Diamond Tree*" may experience sickness".

While approval as a "Part 3A Major Project" negates any constraints that might have existed under previous legislation such as the National Parks and Wildlife Act 1974 (as amended), nevertheless all developers, contractors and their employees

should be cognisant of the provisions of the National Parks and Wildlife Act 1974 (as amended), which was in part designed to manage the Indigenous archaeological record.

Under the provisions of the National Parks and Wildlife Act 1974, all earthmoving contractors and operators should be instructed that in the event of any bone or stone artefacts, or discrete distributions of shell, being unearthed during earthmoving, work should cease immediately in the area of the find, and the Nambucca Heads Local Aboriginal Land Council, and officers of DECCW, Coffs Harbour, informed of the discovery.

Work should not recommence in the area of the find, until those officials have inspected the material and permission has been given to proceed. Those failing to report a discovery and those responsible for the damage or destruction occasioned by unauthorised removal or alteration to a site or to archaeological material may be prosecuted under the National Parks and Wildlife Act 1974, as amended.

In the event that a relic or item is discovered during earthworks details of the discovery should be communicated to: The Archaeologist, NPWS Northern Zone, and to The Chairperson, Nambucca Heads Local Aboriginal Land Council (addresses at the front of this report).

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1. INTRODUCTION

1.1 Background to the investigation

The investigation was performed for Nambucca Gardens Estate (NGE), which is proposing to develop a staged residential subdivision at Bellwood, Nambucca Heads, Mid-north Coast NSW.

In 2002 Faringdon Pty Limited engaged Smyth Maher & Associates Pty Ltd (Smyth Maher) to prepare the documentation to support a Development Application for the proposed subdivision (the 'Project Site'), and Smyth Maher engaged Archaeological Surveys & Reports Pty Ltd (ASR) to undertake the archaeological investigation for sites of Indigenous cultural significance within the Project Site.

The scope of the work was for Archaeological Surveys & Reports Pty Ltd (ASR) to conduct an archaeological investigation of the study area with the assistance of a representative of the Nambucca Heads Local Aboriginal Land Council and to identify any Aboriginal sites and relics that might be present. The results of the investigation were to be presented in a report, which was to include an assessment of the significance of any cultural relics or places identified, an appraisal of the options and opportunities arising from the discoveries, and clear recommendations for the management of those cultural resources.

A field investigation of the proposed development area was undertaken by ASR in October 2002 and reported in,

Appleton, J. 2002b. "The archaeological investigation of the site of a proposed subdivision at Lot 101, DP 882258, Bellwood, near Nambucca Heads, North Coast NSW". Unpublished report for Faringdon Pty Ltd.

(Copies of the report were lodged with Nambucca Heads Local Aboriginal Land Council and NPWS in early 2003)

During that investigation a scarred tree was recorded, and details of the site lodged on a Site Recording Form with NPWS (since restructured as Department of Environment, Climate Change & Water [DECCW]). Since that investigation the scarred tree has been burnt down, thereby warranting a re-assessment of the archaeological and cultural constraints to development posed by the site, which remains listed on the Aboriginal Heritage Information Management System (AHIMS Site Register).

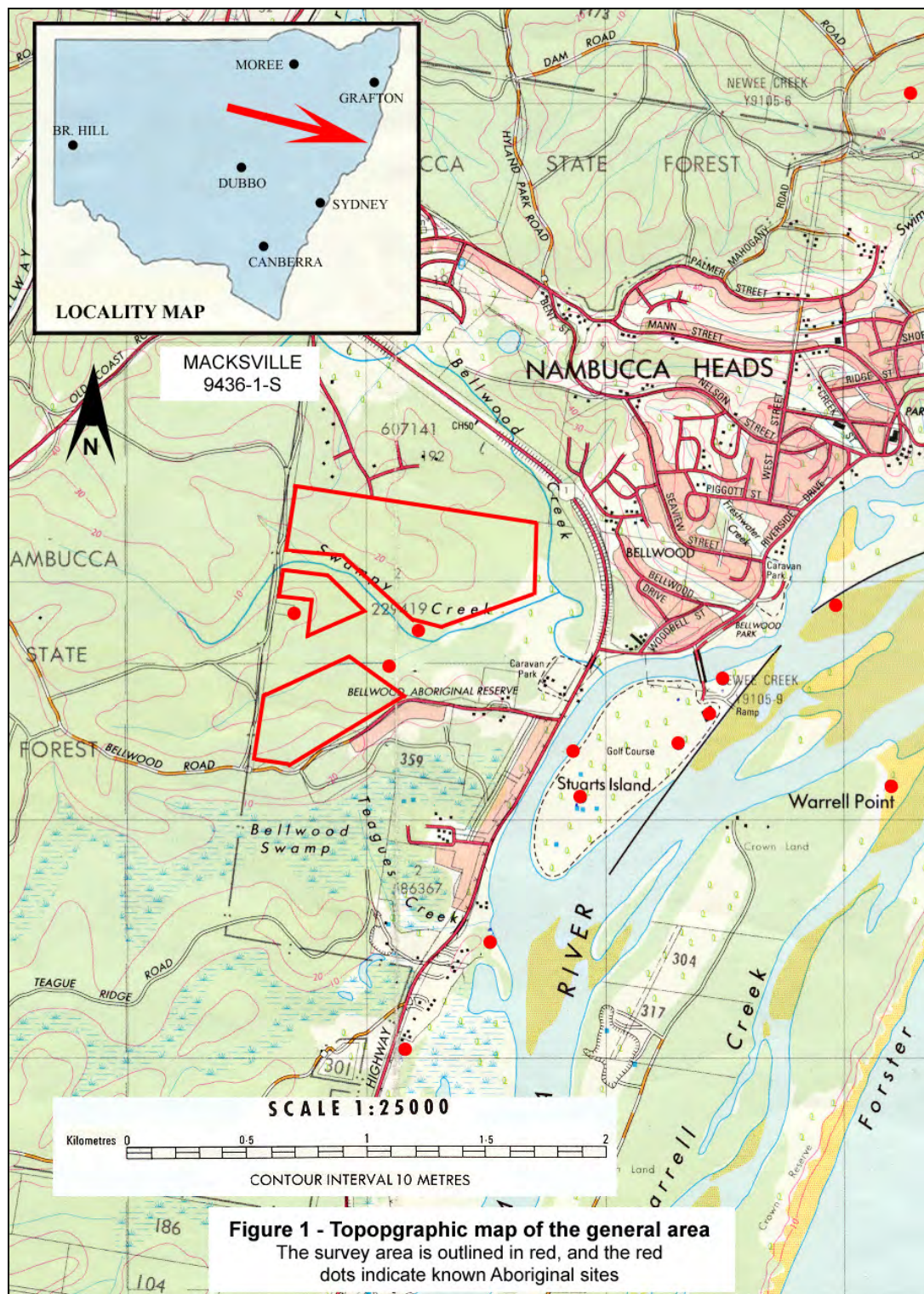
Subsequent to the archaeological investigation of 2002, the proponents (now Nambucca Gardens Estate) decided to apply for approval for the proposed “Residential Subdivision – Lot 2, DP 1119830, Alexandra Drive, Bellwood” as a **Part 3A Major Project**.

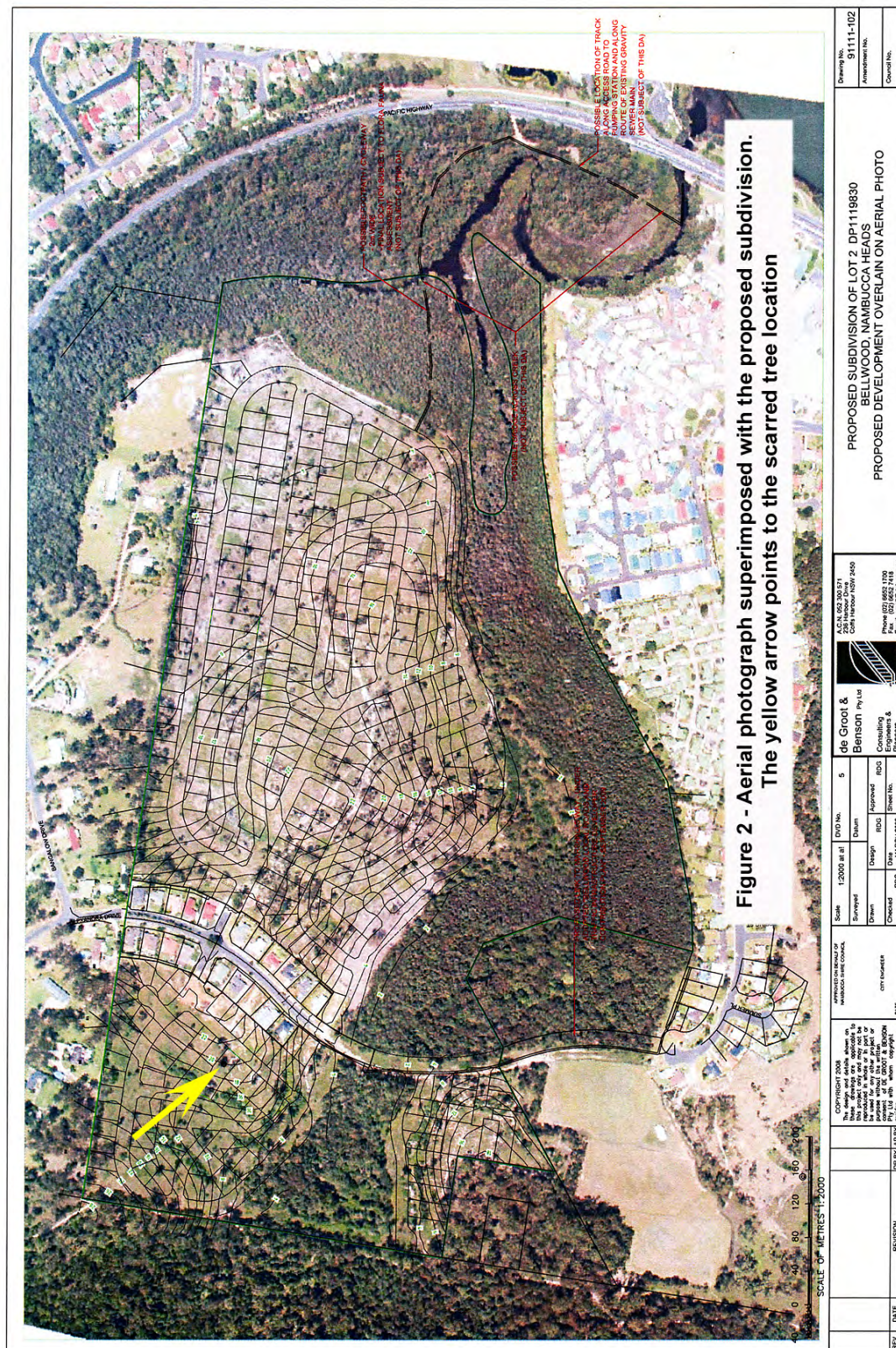
In early 2009 ASR was engaged to revise the 2002 archaeological report, both to address the issue of the destruction of the scarred tree, and to comply with the requirements for approval under ‘Part 6 Approvals’ of the National Parks and Wildlife Act 1974 (as amended), and to address the issues raised by the Department of Planning in its review of the application for Part 3A approval, in order that it fully complies with the Director-General’s requirements..

Figure 1 is a topographical map of the general region showing the survey area, **Figure 2** is an aerial photograph of the Project Site overprinted with a plan of the proposed subdivision and marked with the two major sites referred to in this report, and **Figure 3** is a plan of the proposed subdivision showing the proposed staging of development.

1.2 The Project Site

The Project Site is located immediately to the west of the residential area of Bellwood, on the south-western outskirts of Nambucca Heads. It comprises the remainder of the residentially zoned land to the north of Bellwood Road through to Alexandra Drive and the rural residential zone in the north. The land is bounded by Nambucca State Forest to the west and the existing residential development to the east extending through to the Pacific Highway (Smyth Maher & Associates Pty Ltd: Brief dated 24th October 2002).







The irregularly shaped Project Site comprises Lot 2, DP 1119830, Parish of Nambucca, County of Raleigh.

1.3 Potential impact of the proposed development.

The proposed subdivision will require the clearing and landscaping of the existing woodland, and the construction of in-ground services for water, power, stormwater and sewerage, and roads to service the proposed dwellings.

The potential impact of the proposed works will be to destroy any archaeological contexts that might be present in the Project Site.

As a consequence of this survey it is extremely unlikely that the same area will ever be surveyed again, thus from an archaeological perspective, this was the only opportunity to observe and record any sites that might be present, and to propose a strategy for the management of any known or potential archaeological and/or cultural material in the future development of the area.

2. ABORIGINAL CONSULTATION

2.1 Consultation for the 2002 investigation

Prior to the investigation ASR contacted the Nambucca Heads Local Aboriginal Land Council (LALC), to arrange for a Sites Officer to assist in the fieldwork. As a consequence Mr Larry Kelly, ATSIC Representative, Community Elder and Sites Officer, Nambucca Heads LALC, assisted John Appleton (ASR) in the investigation, which was performed on 23rd October 2002.

Mr Kelly was unaware of any specific Aboriginal associations with the survey area other than the nearby '*Diamond Tree*' (a carved tree enclosed by a protective reserve – see later), and that the drainage lines through the study area had been traditional pathways to the '*Diamond Tree*' and were therefore considered to be of cultural significance. Mr Kelly also recalled that there had been a second carved tree somewhere along the main drainage depression immediately to the west beyond the survey area but that it was no longer there (refer to the glossary for the difference between a carved tree and a scarred tree).

Both prior to and during the survey Mr Kelly and Appleton discussed the potential for particular site types to be present, and the particular environments in which they might occur. The survey strategy was reviewed regularly, and the results were discussed as each section was completed. At the conclusion of the survey Mr Kelly and Appleton discussed the results in general, and Mr Kelly agreed to provide a letter conveying the land council's recommendations, a copy of which is included as **Appendix i**.

2.2 Consultation in 2009

In June 2009, on being advised by the proponents that approval was being sought for the proposed subdivision as a Part 3A Major Project, Appleton advised the client of the procedure that would now be required to comply with the "Guidelines For Aboriginal Cultural Heritage Impact Assessment and Community Consultation" (DECC 2005).

Accordingly, and in compliance with the guidelines, advertisements were placed in the '*Mid Coast Observer*' and the "*Nambucca Guardian News*", inviting all Aboriginal stakeholders with an interest in the project to register their interest. A copy of the advertisement as it appeared in the newspapers is included as **Appendix ii**. The only response to the advertisements was from Nambucca Heads Local Aboriginal Land Council (included as **Appendix iii**). ASR waited a further five days after the 14 days on which the advertisement was published had expired, in case there had been some reasons for the delay in responding, but no other responses were received.

In the meantime ASR wrote to the Office of the Registrar asking for any information on the Aboriginal groups with a cultural interest in the area. The reply was that there were no Registered Aboriginal Owners of the property, and that further inquiries should be made to Nambucca Heads LALC (see **Appendix iv**).

ASR also wrote to Planning and Aboriginal Heritage - North East, DECC, requesting that it provide a list of registered stakeholders in the area. The reply listed the following registered stakeholders (see **Appendix v**).

Nambucca Heads LALC
Goori Broadcasters of Radio Nambucca Inc.
Gumbaynggirr Native Title Group
Muurrbay Aboriginal Language and Cultural Co-operative Ltd
Mimi Mothers Aboriginal Corporation
Gumbaynggirr Elders
Gumbaynggirr Nation
Gumbaynggirr Warrior Elders of the Nambucca River
Ngurralla Aboriginal Corporation

ASR also wrote to Nambucca Shire Council (Council) requesting that it provide a list of Aboriginal groups with an interest in the area. Council provided the following list (see **Appendix vi**).

Nambucca Heads LALC
Muurrbay Aboriginal Language and Cultural Centre
Bowraville Aboriginal Lands Council
Stuart Island Tribal Elders Corporation

ASR also wrote to NSW Native Title Services, requesting that it provide a list of registered stakeholders in the area (**Appendix vii**). No response was received.

Subsequently a letter was sent to each of the organisations listed above outlining the investigation that had taken place and the proposed subdivision of the property, and the lot set aside to establish a protective reserve around the site of the scarred tree. A copy of the letter is included as **Appendix viii**.

2.3 Consultation to address cultural issues

In November 2009 the proponent received the Director-General's Environmental Assessment Requirements which arose from the application for Part 3A approval.

One of the issues that were to be addressed was an email sent on 27th October 2009, to NSW Department of Planning from Louise Robinson, CEO, Nambucca Heads LALC, raising several issues of cultural concern. A copy of the email is included as **Appendix ix**. The issues can be categorised into three issues in-so-far-as they directly relate to the Project Site (the developers cannot be expected to address issues that are not directly related to the Project Site, such as burials along the creek banks, or sacred sites outside the Project Site):

1. The belief that the *Diamond Tree* will cause sickness (to Aboriginal residents in the proposed subdivision).
2. The claim that there are unlisted and unrecorded sites in the Project Site.
3. The desire for signage and the screening of men's sacred sites.

Subsequently, on receiving a copy of the email on 10th November 2009, Appleton contacted Louise to arrange a meeting with the community Elders to discuss the issues she had raised. One of her recommendations was that the consultation meeting should be held at a venue easily accessible to the Aboriginal community – most of who lived in Bellwood, and that the meeting should be advertised in such a way that all community members would be aware that the meeting was to be held, where, and at what time.

Louise agreed to ensure that the meeting was advertised and the date and time of the meeting was set down for 10.30am on 14th December 2009 at the Muurrbay Language Centre, Bellwood.

Appleton met Louise at the agreed time at the Muurrbay Language Centre and sometime later two male Community Elders arrived. When no others arrived Appleton addressed those present.

Issue 1: The *Diamond Tree* and its potential impact to residents of the proposed subdivision.

Appleton had decided beforehand to begin the meeting on a positive note by explaining that Section 149 (2) of the Environmental Planning and Assessment Act 1979 (as amended) would address the issue of informing potential Aboriginal purchasers of residential blocks in the proposed subdivision.

Appleton explained that the issue of informing prospective purchasers of land in the proposed subdivision of the belief of the Aboriginal Community that Aboriginal people living within “*bull-roarer*” distance of the “*Diamond Tree*” would fall sick and that prospective Aboriginal purchasers should be made aware of the belief; and that the area was of high cultural significance to Aboriginal people, could be provided in the information contained in the Section 149 (2) Certificate: One of the sources of information that a prospective purchaser would be made aware of when their solicitor obtained a Section 146 (2) Certificate from Council when they made the title searches of the property as part of the Title Conveyancing process. Appleton proposed that the Elders should agree on the wording of the information that should be on the Section 149 (2) Certificate.

The two Elders then said that the matter could only be discussed when the other Elders were present. They asked Appleton if he could stay longer in Nambucca to give them time to talk to the other Elders to get them to attend a meeting later that day. Appleton agreed that it was important that the meeting should go ahead, and that he could extend his stay in Nambucca until the afternoon. The Elders then requested that everyone should meet again that afternoon at 2pm by which time they would have spoken to the

other Elders to get them to attend. Appleton agreed and said he would meet them again at 2pm at the Muurrbay Language Centre. Unfortunately Louise had another meeting scheduled for that time, but said, that as the issues were “men’s issues” and she should not be present that she would not be at the meeting.

At 1.55pm Appleton returned to the Muurrbay Language Centre, but no-one else came. At 2.30pm Appleton left the centre and returned to Armidale.

Issue 2: The claim that there were unlisted and unrecorded sites in the Project Site.

As to the issue that unlisted and unrecorded sites existed in the Project Site – it is surprising that having been aware of the proposed subdivision as long ago as 2002 that the community has not tried to register the unlisted sites (on the AHIMS) site register before, or raised the issue in the seven years in the meantime. As Louise states in her list of issues the location/s of the burials is not known with any certainty, but some years ago Appleton was told that skeletal material had been unearthed some years previously during earthworks near the creek further downstream from the proposed development – see Appo 1995 in Section 4, page 15. This issue could not be discussed as there were no Elders to discuss it with.

Issue 3: The signage and screening of men’s sacred sites.

As to the “sacred sites” (men’s sites) and the signage of these sites it is possible that the male Elders have decided that it is better that people are not made aware of them to avoid their deliberate desecration, however, as they did not attend the meeting to discuss the issue, the location and nature of those sites is not known, nor is the reason why the Elders did not want to discuss the sites. Nor were these unlisted sites ever recorded by the late Ray Kelly, a Knowledge Holder who spent many years as a Cultural Officer with NPWS, recording sites all over the northeast coast, hinterland and Northern Tablelands; sites including “sacred sites” and ceremonial sites, and places of ‘men’s business’. Having worked with Mr Kelly for a number of years Appleton found him to be a person who believed it was important to record all site types to ensure that development could be designed to mitigate damage to, or avoid sites altogether.

2.4 Conclusion

It was clear from the “no show” of the Aboriginal Elders at a meeting arranged specifically to address the issues raised by Louise Robinson, that they did not wish to discuss the issues to try to resolve them. That is not to say that they do not care, but to suggest they have issues that they do not wish to discuss with non-Aboriginal people: A situation not unique to Nambucca.

Unfortunately the destruction of the scarred tree recorded during the 2002 investigation of the Project Site would have done little to convince Aboriginal people that their sites can be saved, which might explain their reluctance to discuss them.

The “*Diamond Tree*” is a focal point of cultural belief to the Bellwood/Nambucca Aboriginal Community and it is very concerned that part of the proposed subdivision (Stage E in Figure 3) will be within a short distance of the tree. While Appleton cannot speak for the Aboriginal Community he can attempt to address one of the issues that concern them – that prospective Aboriginal purchasers should be made aware of Aboriginal belief that living within “bull-roarer” distance of the tree is believed by the Bellwood/Nambucca Aboriginal Community to be potentially harmful to the health of Aboriginal people. For this reason Appleton has addressed the issue in his recommendations in Section 10 of this report.

3. THE ENVIRONMENTAL CONTEXT

Any discussion of the likely presence of Aboriginal cultural remains or of the basis why such remains might be discovered must be within the context of the environment and the resources that would have been available to any Aboriginal occupants of the area.

3.1 The general geology and topography

The survey area occurs on the eastern rim of the Nambucca Block. The Nambucca Block contains predominantly Early Permian and ?Late Carboniferous clastic sediments together with minor felsic and mafic volcanic horizons, and rare calcareous rock (DMR 1992: 20-1).

The survey area straddles a series of easterly-trending spurs and drainage depressions, dominated by Swampy Creek, which drains the ridge to the immediate west and egresses into the Nambucca River south of Bellwood.

The ridges and slopes are composed of fine-grained sedimentary deposits, with ridge lines of weathered gravely quartz. The valley floors of the drainage depressions tend to be of fine-grained sandy soils descending onto heavy swamp soils formed during periods of a 'wetter' climate than at present.

Elevations in the study area vary from in excess of 20 m AHD along the crest of the ridge on the northern boundary, and along the ridge on which Bellwood Road forms the southern boundary, dipping to just above sea level along the lower reaches of Swampy Creek.

3.2 Vegetation

The entire study area occurs in dry sclerophyll woodland dominated by blackbutts, tallowwoods and smooth-barked gums, however, at least 95% of the woodland is regrowth, and from the evidence of the tree stumps logging has been in at least three distinct phases, the most recent having been during the last thirty years.

The first phase of logging is evidenced by large stumps bearing scaffolding or spring-board notches from the early tree-fellers, and probably dates from the late 19th century to early 20th century. The second distinct phase is evidenced by the sawn stumps of trees of lesser diameter than those of the first phase, and by stumps exhibiting far less weathering and decomposition than those of the first phase. This phase is of unknown age but probably dates to the first half of the twentieth century. The third phase is evidenced by dumps of reject split timber discarded from on-site band-saw milling, and by the sawn logs of trees felled for firewood. This phase probably dates to the last thirty years or so and is ongoing.

A fourth phase of impact is evidenced by linear dumps of bulldozed scrub and old logging waste which appear to have been deliberately cleared as if in preparation to develop the land – and probably dates to sometime in the last ten to twenty years ago.

The description above was relevant to the vegetation as it was in October 2002. Since then there has been a further stage of logging which has resulted in an open eucalypt woodland of regrowth of probably not more than 80 years or so old.

3.3 Water resources

There are two clearly and one lesser defined drainage depressions, the northern one being the lesser defined, the central depression being that of Swampy Creek, and the third is a tributary that flows into Swamp Creek from the southwest. Neither of these

drainage lines contained water at the time of the survey, and they probably only flow briefly after heavy downpours.

3.4 Stone resources

As referred to previously the only stone in the survey area was gravely quartz on the northern ridge, but it was entirely unsuitable for knapping into tools or implements. Larry Kelly found a small fragment of crystal quartz (< 8 mm), but such a small fragment would only have been utilised unmodified, as it was too small to knap into anything diagnostically identifiable.

In the absence of a suitable knapping material in the study area any artefacts that might be present would have been sourced from elsewhere.

3.5 Previous impacts.

As described above the entire area has been subjected to frequent logging over many years and it is unlikely that there is much of the ground surface that has not been significantly disturbed. Clearly from the evidence of the scarred tree (see later) a few isolated old-growth trees survive, but they are few and far between, and those that survive are mostly misshapen and were unsuitable for milling.

Old overgrown logging tracks criss-cross all three study areas and there are much-used vehicle tracks along the ridge and down the slopes in the north-eastern section.

4. THE ARCHAEOLOGICAL RECORD

In December 2002 a search was made of the AHIMS site register for all sites in the Nambucca/Bellwood area, and the listing showed that 29 sites had been recorded. Of

those 6 were Bora grounds, 1 was a carved tree and Bora ground, 1 was a carved tree (the "Diamond Tree"), 1 was a carved tree, 6 were Natural Mythological Sites, 3 were burials, 5 were isolated artefacts, 5 were camp sites (or open artefact scatters), and 1 was a water hole or well. No sites were recorded in the Project Site.

No previous surveys have been performed in the survey area, and as a consequence no sites have been recorded on the Aboriginal Heritage Information Management System (maintained by NSW NPWS). However, a number of sites have been recorded in the general area (specifically the 'Diamond Tree'), but most of them are directly associated with the river banks and estuary of Nambucca River and Warrell Creek (see also discussion in Section 2.4, page 10).

The detailed listing of the sites has been omitted from this report on instruction from the Sites Registrar, DECCW, for site security reasons.

Some of the sites shown in the listing are in unrealistic locations. The main reason being that any sites recorded prior to the 1980s would have been referenced to a 1: 250,000 scale map, on which an error of 1 mm on the map would have produced a 250 metre error on the ground. Also map referencing was for the most part performed by sight and by compass, whereas the use of a GPS (Global Positioning System) during recent years has reduced the error to ± 4 metres. Other errors such as transposition errors may have occurred during the recording of the site, and during the entering of the information on the Sites Register (Aboriginal Heritage Information Management System).

Two other sites of relevance to the survey area were recorded in the area set aside as a Public Reserve. The two sites were a burial site recorded by Appo in Aug 95 (#21-6-0164), and a well (#21-6-0012).

5. MODELS FOR SITE LOCATION

5.1 Site types and their location

In order to design an investigative strategy it is firstly necessary to develop a predictive model for site location. This is not to determine where the investigation should be conducted, but to establish a theoretical model for the distribution of archaeological material against which the effectiveness and subsequent analysis of the survey results can be tested, compared and reasoned. The basis upon which the predictive model is derived must however be one of consideration of which archaeological material might realistically be expected to not only be present, but also detectable.

The first objective of any archaeological investigation must be to observe and record sufficient of the archaeological record that is present to be able to propose that it is representative of the record as a whole. The investigative strategy is therefore directed and designed to detect that which is representative of the record in the particular study area, and naturally, as different study areas will comprise variations in environment, vegetation, topography, etc., so the investigative strategy must be designed to best suit the circumstances. The objective must be to detect material evidence, and so it is necessary to consider the extent to which artefactual material may be present, and the degree to which it is visible or might be discovered.

There are several factors, which are likely to affect, firstly, where Aboriginal people are most likely to have been, secondly, where they have left evidence of their activities, and thirdly, the degree to which that evidence is observable in the present record.

People visited places mainly to obtain resources, and in general places that were richest in resources were more likely to have been visited by people than those places with fewer resources. Important resources were permanent water, ephemeral water, food resources, stone raw material sources, shelter (from sun, wind, and rain), and perhaps suitable surfaces for rock art, and proximity to mythological natural features. Those resources may have been a factor in the suitability of a location for particular ceremonial activities but cultural boundaries also influenced the choice of ceremonial grounds. Alternatively,

sites frequently occurred along preferred access routes and particularly where that route coincided with a watercourse.

However, the attractions of such an environment frequently resulted in the archaeological record becoming discontinuous or significantly disturbed, as stock and vehicles impacted upon it in the post-European contact phase.

Frequency of visits and use of particular locations was also determined by the 'accessibility' or freedom from environmental constraints in the area. For example, whether there were alternative, preferred or easier ways to travel around or over natural barriers, be they geological, geographical, cultural, or imposed by fauna or flora, or whether they were only seasonally accessible, such as mounds on flood terraces, or the availability of water during periods of drought, or whether or not floods, fire or snow hindered access.

Few past Aboriginal activities are represented by surviving material evidence. This in part is because many activities did not leave material evidence (eg. tools were reused), but it is also because very little cultural material survived. An exception to this was shellfish, which was very durable.

The survival of material that is durable was also affected by recent European land use. Cultivation has destroyed many archaeological sites. However, cultivation can also help expose sites that might otherwise be covered. This brings us to the other important point about site distribution, which is that to a great extent site distribution recorded by archaeologists reflects the distribution of places where the ground surface is sufficiently eroded to expose artefactual material.

By far the majority of recorded sites have been stone artefact scatters or isolated stone artefacts, and in the vast majority of sites they were found in one or more of the following contexts:

- i) On or adjacent to deposits containing quartz, quartzite, jasper, silcrete, chert, chalcedony, metamorphosed greywacke, and other indurated or siliceous sedimentary rocks, or redeposited fine-grained volcanics, or
- ii) On river banks or adjacent to river banks where the watercourse contains river pebbles of quartz, quartzite, jasper, silcrete, chert, fine-grained volcanics, basalts, etc., and particularly at the junctions of watercourses, or
- iii) On ridges and spurs overlooking watercourses or on high vantage points affording uninterrupted views of swamps, water holes, saddles, passes, and any other likely access path into the observer's area, or
- iv) In the vicinity of outcrops of suitable raw material such as basalt, silcrete, chert, or other highly silicified sedimentary rock.

Other site types do occur and perhaps because of their lower and less predictable profile, are present in far greater numbers than we are aware of. People die but there are few recorded burials. One reason may be that in many instances the soils are too acid for the preservation of bone, but a far more likely reason is simply that burial frequently entailed subsurface internment, and a surface survey will only discover a burial where there has been erosion of significant disturbance to the surface deposits. As a consequence many burials have only been discovered when exposed by erosion of a sand body or river terrace.

Other site types such as carved trees, scarred trees, stone arrangements, Bora rings, etc., may once have been present, but are unlikely to have survived in easily accessible country from the attention of non-indigenous people. Thus, much of what might have existed is now lost or destroyed, and the archaeological record has become biased by the post-contact utilisation of resources, and by the selective exploitation and preservation of particular environments.

Other factors which affect the degree to which sites are recorded during an investigation include the time of year at which the fieldwork is performed (the seasonality of some vegetation growth) and the conditions under which the survey is performed – (wet, dry, cold, windy, poor light, etc.).

A brief description of site types such as isolated artefacts, open scatters, camp sites, knapping floors, quarries, middens, mounds, hearths, carved trees, scarred trees, stone arrangements, Bora rings, burials, engravings, paintings, grinding grooves, occupation deposits (and PADs), and ceremonial and mythological sites is included as **Appendix x**.

5.2 A predictive model for the study area

Based on all of the above the following model for site distribution was proposed for the study area, in which there are no shelters or overhangs, no reliable water sources, and which generally has no sources of stone suitable for knapping tools and implements, but which partly encloses a reserve in which there is a carved tree and to which access was by way of culturally significant routes.

- Isolated artefacts may be present and visible in erosion features
- Low-density artefact scatters may be present and visible in erosion features, but it is unlikely that any debitage will be visible
- There is a potential for trees more than 150 years old to exhibit scarred surfaces
- There is a potential for any trees more than 150 years old to exhibit carved surfaces
- There are known cultural associations with the area
- There will be no stone quarries
- In the absence of any shelters there will be no art sites
- There will be no engravings, or grinding grooves
- There will be no shell middens
- There will be no intact occupation deposits
- There will be no visible evidence of burials
- There will be no surviving Bora rings
- There will be no surviving stone arrangements
- It is unlikely in such a disturbed landscape for there to be any PADs (see glossary)

6. THE SURVEY

6.1 The survey strategy

Prior to the investigation it had been decided that as the survey area was not large it would be possible to undertake a comprehensive survey of the entire survey area. In effect, the ground cover was so dense in many places that it was only possible to perform a sample survey. As a consequence the survey strategy entailed walking vehicle, animal, and walking tracks and defunct logging tracks where there was ground surface visibility, and targeting any tree that appeared to be old growth.

6.2 Details of the survey (2002)

The survey was performed by John Appleton (ASR), assisted by Larry Kelly, Community Elder, and Sites Officer, Nambucca Heads LALC. The survey was made on foot, in dry conditions under a clear sky, in light ideal for observing any artefactual material present and observable.

Appleton returned to the site on 18th March 2008 to examine and photograph the remains of the scarred tree. See 'discussion' below.

6.3 Site recording

All relevant observations as to the topography, vegetation cover, and conditions, were recorded in a field-log, and photographs taken to record the character of the survey area, and witness survey conditions.

6.4 Effectiveness of the survey technique

There was a dense grass cover in most areas but there was sufficient ground surface exposure on tracks, in environments in which artefactual material was most likely to be present if at all, for an effective sampling of the survey area. In addition to the more obvious ground surface exposures many areas contained minor erosion features such as driplines, which provided samples of those environments least likely to contain artefactual material. Also, there was access to all old growth trees and so the survey in respect of identifying scarred or carved trees was highly effective.

The survey technique was the most appropriate one to use in the circumstances, and the results are believed to be generally representative of the archaeological record in the survey area, in which it was predicted there would be very little artefactual material. Although the entire area was sample surveyed, the groundcover was a constraint to the effectiveness of the survey.

6.5 Effective coverage

The table on the following page is divided into units delimited by observed topographical features, environments, and/or land use, briefly described in terms of 'horizontal' or map area, soil, and archaeological visibility, and the percentage of the area actually surveyed. For ease of reference the area has also been divided into four units.

Figure 5 also shows the effective survey coverage based on the assumption that most artefactual material if exposed and visible can be observed for up to 5 metres to either side of the path of the observer. Clearly this would vary significantly between a path walked through dense vegetation, and a path across a claypan, and is given as a guide only.

The photographs on the following pages show several aspects of the survey area.

Area	Description	Survey area (approx 70 ha)	Rock/soil	Vegetation	Average surface visibility	Exposures	Approx area surveyed on foot	Average arch. visibility of exposures	Archaeology
1	North-western section	70,000 sqm	Nambucca Beds metasedimentary with gravelly quartz on ridge crests	Predominantly tallowwood and blackbutt dry sclerophyll, mostly regrowth	< 3 %	Minor tracks and bare patches under driplines, & overgrown logging tracks	30%	< 10 %	Nil
2	North-eastern section	430,000 sqm	Nambucca Beds metasedimentary with gravelly quartz on ridge crests	Predominantly tallowwood and blackbutt dry sclerophyll, mostly regrowth	< 5 %	Logging tracks and minor animal tracks, & bare patches under driplines	20%	95%	Nil
3	Northern drainage depression	30,000 sqm	Colluvial metasedimentary overlying Quaternary muds and gravels	Partly cleared but with Casuarina regrowth	20%	Track and minor slopewash	70%	80%	Nil
4	Central section	30,000 sqm	Nambucca Beds metasedimentary with gravelly quartz on ridge crests	Predominantly tallowwood and blackbutt dry sclerophyll, mostly regrowth	< 10 %	Minor slopewash	5%	< 10 %	"Diamond Tree" within enclosed reserve
5	Central drainage depression (Public Reserve)	Not included in subdivision	Infill	Cleared recreation area	< 10 %	Track and minor slopewash	5%	95%	Nil
6	Southern section	140,000 sqm	Nambucca Beds metasedimentary with gravelly quartz on ridge crests	Predominantly tallowwood and blackbutt dry sclerophyll, mostly regrowth	< 3 %	Minor animal tracks	25%	< 10%	Nil

Figure 4 - Table showing Effective Survey Coverage

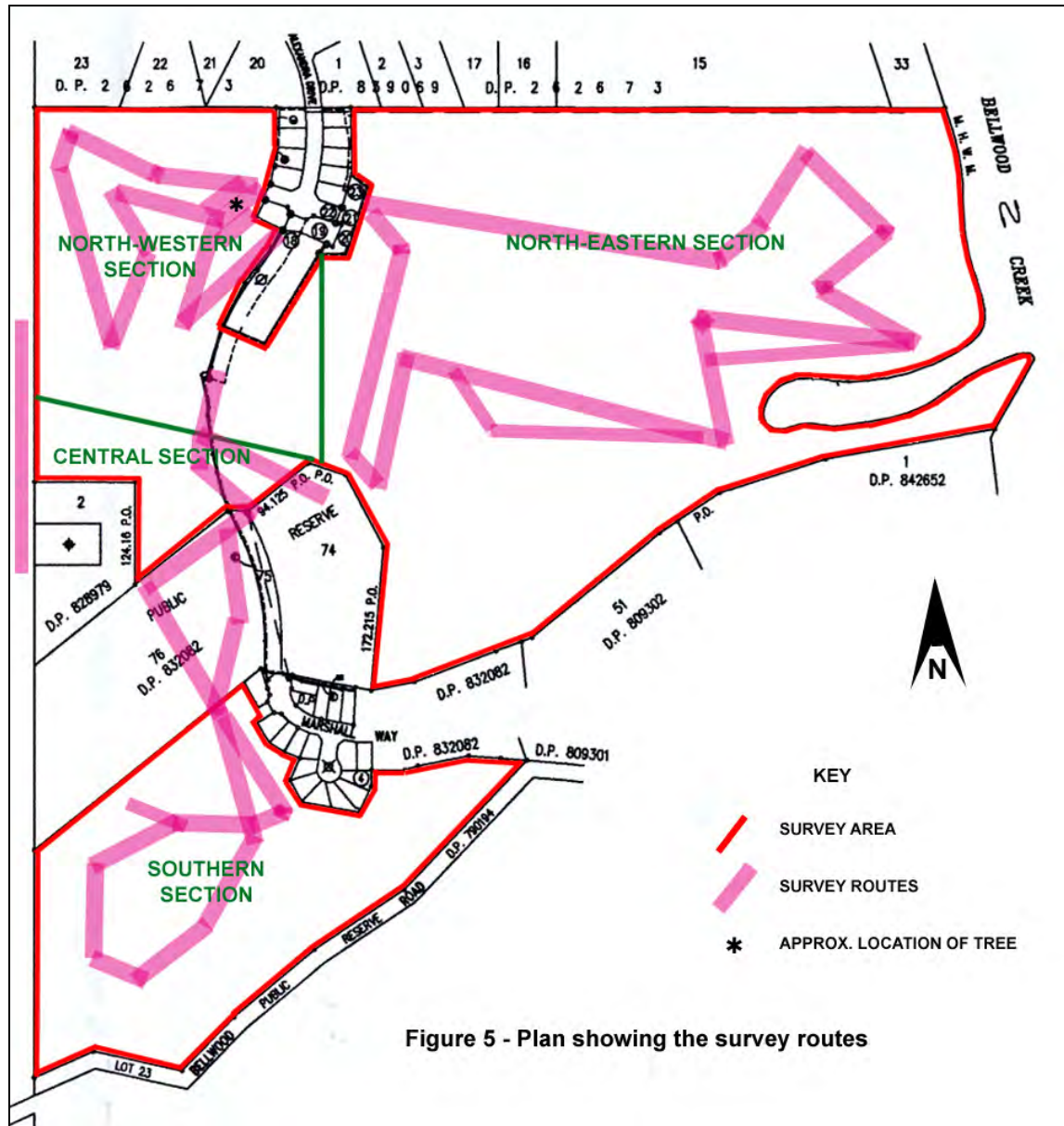




Figure 6 – Looking westwards into the north-western section from the existing subdivision.



Figure 7 – Looking north-eastwards across the drainage depression in the north-western corner.



Figure 8 – Cleared area in the north-western corner resulting from logging and previous clearing.



Figure 9 – Looking north-westwards and up-slope in the north-western corner.



Figure 10 – The scarred tree viewed from the south. The arrow points to the scar.



Figure 11 – The scarred tree.



Figure 12 – The axe-marks marking the upper edge of the original scarring.



Figure 13 – The axe marks marking the lower edge of the original scarring.



Figure 14 – Looking eastwards along the ridge track in the north-eastern section.



Figure 15 – Quartz gravel typical of the ridge track in the north-eastern section.



Figure 16 – Looking south-eastwards across a milling area typical of the north-eastern section.



Figure 17 – Looking southwards across the northern drainage depression.



Figure 18 – The drainage depression between the north-western section and the central section.



Figure 19 - Looking southwards into the central section



Figure 20 – Looking northwards into the central section from the playing fields in the central depression



Figure 21 – Looking westwards across a tributary depression in the southern section.



Figure 22 – Looking south-westwards across the southern section.



Figure 23 – Looking south-eastwards across the southern section.

7. THE RESULTS

No artefacts of Indigenous origin were identified in the survey area, but a scarred tree was identified as having been scarred by the deliberate removal of bark.

The tree occurred in the north-western section within fifty metres of the edge of the portion of the subdivision currently being cleared for development. The tree was one of only a very few old growth trees to have survived logging. **Figures 10 to 13** show aspects of the scarred tree, details of which were as follows:

Site Name:	"Bellwood ST 2"
AMG ref: (GPS)	0497849 6609240 ± 6 m.
Map:	Macksville 9436-1-S, 1: 25,000 Topographic Map; Second Edition.
Species:	Tallowwood (or blackbutt?). Old growth.
Length of scar:	200 cm (between axe-marks)
Width of scar:	120 cm
Depth of scar:	10-12 cm
Girth of tree mid-scar:	330 cm
Height of base of scar:	53 cm
Evidence of scarring:	Series of steel-axe cuts in a zigzag pattern across the top and base of the scar.
Aspect:	Southerly
Probable use for bark:	Construction of a gunyah or temporary shelter

8. DISCUSSION

8.1 Observations made in 2002

As referred to previously the survey area occurred across ridges and slopes separated by three drainage depressions. There were few useful resources in the area. Surface water

would only have been accessible during and immediately after heavy rain and there was little if any stone material within the survey area suitable for knapping into tools. There were however tallowwoods and blackbutts that would have been a source of bark, and a few smooth-barked eucalypts with hollow limbs and trunks that would have been the habitat for possums, snakes, goannas, bats, birds (and their eggs), snakes, and bees – the latter producing honeycombs or ‘sugarbag’.

The scarred tree was one of only a few old growth trees in the area. The scarring was observed to be very similar to that evident on several trees in the vicinity of the group of brick dwellings at Corindi opposite the Yarrawarra Aboriginal Cultural Centre (personal observation), and known to have been produced when bark was removed by steel axe for gunyahs or bark shelters. Similar scars have also recently been recorded beside the Lachlan River, 30 km west of Condobolin (Appleton 2002b). In both instances the scarring was on a small cluster of eight or more trees, which was interpreted to indicate that several strips of bark were required for the construction of one or two gunyahs.

If a similar interpretation is applied to the Bellwood scarred tree it seems likely that the tree was the only survivor of several that were once in the vicinity – and that either the others were removed by loggers, or destroyed during previous clearing operations.

Although the scarring produced for the bark removal was with a steel axe the scar is likely to be at least 80 years old and could be as old as 180 years old, which was when the loggers first arrived in the area (Townsend 1993: 18-9). However, it is unlikely that the scar was produced by loggers removing the bark to construct simple shelters for themselves because a blunt axe produced the axe marks, and tree-felling required a well-honed blade. It therefore seems likely that the scarring was produced sometime after the early loggers had been through the district, and after the axe had been obtained by the scar-maker, and before the full impact of the influx of the first European settlers was felt. That would place the scar sometime in the 1850 to 1900 period, however it may be that some traditional practices such as constructing gunyahs continued well into the 1920s, and in some instances such as occurred at Corindi, up until the 1950s (Dr. W.E. Beck pers. Comm.).

The significance of the scar is that it marks the vicinity of a campsite; however there is no way of knowing where the actual gunyah/s was constructed.

As referred to previously the few resources in the area were probably those of bark and food – and shelter. Nearby, a carved tree (the “Diamond Tree”) has been recorded as an Aboriginal Sacred Site and while there is no direct evidence for an association of the scarred tree with the “Diamond Tree” they were possibly contemporaneous. In addition, Mr Larry Kelly informed me that the drainage depressions to either side of the “Diamond Tree” were known as traditional routes to the tree, and while the scarred tree occurs on a ridge crest it is unlikely that a gunyah would be constructed by visitors to the “Diamond Tree” in a drainage depression amongst the mosquitos and snakes, but more likely that it would be constructed on a well-drained ridge where the majority of the tallowwoods and blackbutts grew, and where the cool breeze would discourage mosquitos.

Given the absence of a suitable stone source within the survey area it was not surprising that no stone artefacts were observed. Any artefacts that might have been discarded during hunting and collecting were likely to be in very low densities, as the stone would have been sourced elsewhere and not readily replaceable. If any artefacts were present they would have been likely to consist of small trimming or maintenance flakes of less than 5 mm long, or of discarded ground-edge axes. While the groundcover would make it almost impossible to observe the former in all but erosion features, the latter might be present, but would only be found by chance.

In summary, although the survey area occurred in a region in which there is a potential for sites to occur, there was only a very low potential for the survey area to contain archaeological material. If however archaeological material was present, it was likely to consist of very small isolated artefacts or isolated stone axes, none of which would be observed other than by chance.

8.2 Observations made in 2008.

In March 2008 ASR was contacted by the client's representative, Geoff Smyth Consulting, and asked to re-assess the original archaeological report and advise the client as to the recommended course of action to address the destruction of the scarred tree recorded in October 2002. As a consequence Appleton arranged to meet one of the clients, Mr Joe Saliba, on site on 18th March 2008.

From an archaeological view point the fact is that the tree has been destroyed does not change the status of the site. While the material evidence of the site has been destroyed, the location as a place of Aboriginal activity will always remain the same location, and therefore remain of cultural significance.

The following plates show the extent of destruction to the tree.



Figure 24 – The tree as recorded in October 2002. The arrow points to the scar.



Figure 25 – The same aspect recorded in March 2008.



Figure 26 – The burnt stump.

8.3 Management options

The destruction of the scarred tree was unfortunate. However, its loss is final and so it is not necessary to consider how the tree might be preserved, either in situ or removed for cultural education purposes.

The issue now becomes one of what should happen to the location. Realistically there are four options. They are,

1. Do nothing to the location, and develop the subdivision around it.
2. Clear-up the location and retain it as a reserve or park within the subdivision.
3. Apply to have the site location removed from the AHIMS Site Register and develop the site.
4. Abandon the development project.

Of the four options, Option 4 is one of avoiding the issue and putting-off today what will inevitably become an issue of the future as population pressure increases the demand for residential land. It is therefore a poor management option.

Option 1 is not a practical solution and not one that would result in a manageable situation. It is unreasonable to expect that a residential subdivision could be developed around a small patch of uncleared and unsightly scrub. Firstly it would present a potential danger to any children in the neighbourhood who would find many ways to use it as a play area. It would also pose a potential fire hazard, just waiting for a discarded match or cigarette butt. And thirdly, as it would not belong to any private individual The Council would not want the responsibility or the cost of maintaining the area. Similarly, no Aboriginal groups would want the responsibility or expense of maintaining the site to a level of safety conducive to residential use.

Option 3, might in some circumstances, be an option of choice, however, the “Diamond Tree” not far away adds another dimension to the cultural significance of the location. It is therefore probable that there would be at least one “interested Aboriginal stakeholder” who would oppose the removal of the site from the Site Register.

That leaves Option 2. ASR recommends that this is the preferred option, primarily because it would provide a solution that would not discriminate against cultural concerns, nor detract from the aesthetics of urban residential design, and would also be accommodated within a reserve that could be set aside for recreation and leisure activities. It would also avoid any conflict that might otherwise arise from developing a listed Aboriginal site.

- ASR recommends that the location should be cleared of all dead vegetation, and the holes left within the stump remains filled with earth and levelled off to remove them as trip-hazards.
- The location should be protected by a 10m (minimum) radius buffer zone, centred on the burnt stump.
- The circular buffer zone should be set aside as, or within, a park, reserve or recreation area within the subdivision.
- This might necessitate a redesigning of the footprint and layout of the subdivision to accommodate the reserve.
- Finally, by way of respect to the cultural association of the place the reserve should be named by the Aboriginal community, as for example, “Gunyah Tree Reserve” or something of the Aboriginal community’s choosing.

Postscript

Subsequent to the recommendations of the 2002 report the proponents elected to set aside the residential block on which the scarred tree occurred as a reserve.

Further postscript

In its review of the proposal the Intelligence Supervisor, Mid North Coast Local Area Command of the NSW Police Force (Port Macquarie), recommended that the scarred tree reserve should comprise the residential block and the mirror-block to the rear, thus creating a reserve linking the two roads to the front and rear of the scarred tree site, thereby allowing for “natural surveillance through the entire reserve”.

9. SIGNIFICANCE ASSESSMENT

The DECCW policy to safeguard all sites, Aboriginal places, and archaeological material of significance wherever possible requires that some means of assessing the significance of the sites is necessary. This is not only for the purpose of determining whether the proposed development can proceed as proposed, but also to provide Cultural Resource Managers with the information for future management of the area.

9.1 Cultural significance

The Aboriginal or cultural significance of Aboriginal relics and sites can only be assessed by the Aboriginal community, and in particular, the Elders. It is the responsibility of the archaeologist to ensure that the Elders or elected representatives of the Aboriginal community are advised of the survey results, and are consulted as to their knowledge and opinion of the significance of the area, and to transcribe and present those expressions in report form.

In this instance, Mr Larry Kelly, Community Elder, was aware of the presence and significance of 'The Diamond Tree' and the routes traditionally used to approach it, but he had not been aware of the scarred tree prior to this investigation.

At the conclusion of the investigation the scarred tree was discussed at length, as were the various management options available to the Nambucca Heads LALC. It was clear that there would be considerable difficulty in preserving the tree where it was, which was in the heart of a proposed residential subdivision, not only in terms of preserving the integrity of the tree, but in terms of its ongoing management, Aboriginal community access to the tree, the potential risk to the public and private property from falling limbs, and any insurance claims arising from injury or loss that could be attributed to the presence of the tree. Mr Kelly advised Appleton that he would discuss the options with the other members of the Nambucca Heads LALC and inform him of the council's recommendations. A copy

of the recommendations subsequently received from the land council has been included in the appendices as **Appendix i**.

The recommendations of the Nambucca Heads LALC were that 'all developers and sub contractors undertake a site identification course conducted by NPWS'. But notably, the recommendations did not refer to the future management of the scarred tree, or specifically recommended its preservation. See further discussion in Section 2, Aboriginal Consultation for issues subsequently raised by Louise Robinson, CEO, Nambucca Heads LALC.

9.2 Research potential

In the absence of any artefactual material in a depositional context, or of known specific Aboriginal association with the survey area the research potential was assessed to be very low. There was little potential for the scarred tree to add any further information other than that which has been recorded in this report.

10. RECOMMENDATIONS

In the absence of any identified artefactual context or places of Indigenous cultural significance within the survey area other than the site of the scarred tree it is recommended that no constraints to the proposed subdivision have been identified. However, while the Nambucca Heads LALC did not specifically recommend that the scarred tree should be preserved, it was recorded as an Aboriginal site on the Aboriginal Heritage Information Management System.

Subsequently the proponents set aside the residential block on which the scarred tree occurred as a reserve.

The Nambucca Heads LALC recommended that 'all developers and sub contractors undertake a site identification course conducted by NPWS', however, it is unreasonable to expect either that every person working on the site should be expected to undertake a course which to be effective would take two days at the least, or that every one who attended such a course would necessarily understand or benefit from instruction. However, in acknowledgement of the concerns of the Nambucca Heads LALC, ASR recommends that both the Site Manager/Foreman and the operators of the earthmoving equipment should be required to read a copy of this report, and contact the archaeologist with any concerns.

ASR also recommends that the archaeologist should be on site to give a "lunch box" briefing to all those who will be onsite at the start up of works. An "A4" handout with illustrations of artefacts that might be found on the project site, together with the written procedure to be followed in the event that artefacts are found, together with a brief warning as to the likely outcome if the procedure is ignored, should be handed out to everyone entering the site when they are first inducted into the OH&S issues relevant to the Project Site.

ASR also recommends that all Section 149 (2) Certificates issued for properties within the proposed subdivision as a requirement of the Title Conveyancing process should carry the following information (or words to the effect if Council so chooses):

"The Bellwood/Nambucca Aboriginal Community believes that any prospective Aboriginal purchaser of residential property in the proposed subdivision should be advised that it is a common belief amongst Aboriginal people of the area that anyone residing within "bull-roarer" distance of the Highly Culturally Significant carved tree known as the "*Diamond Tree*" may experience sickness".

While approval as a "Part 3A Major Project" negates any constraints that might have existed under previous legislation such as the National Parks and Wildlife Act 1974 (as amended), nevertheless all developers, contractors and their employees should be

cognisant of the provisions of the National Parks and Wildlife Act 1974 (as amended), which was in part designed to manage the Indigenous archaeological record.

Under the provisions of the National Parks and Wildlife Act 1974, all earthmoving contractors and operators should be instructed that in the event of any bone or stone artefacts, or discrete distributions of shell, being unearthed during earthmoving, work should cease immediately in the area of the find, and the Nambucca Heads Local Aboriginal Land Council, and officers of DECCW, Coffs Harbour, informed of the discovery.

Work should not recommence in the area of the find, until those officials have inspected the material and permission has been given to proceed. Those failing to report a discovery and those responsible for the damage or destruction occasioned by unauthorised removal or alteration to a site or to archaeological material may be prosecuted under the National Parks and Wildlife Act 1974, as amended.

In the event that a relic or item is discovered during earthworks details of the discovery should be communicated to: The Archaeologist, NPWS Northern Zone, and to The Chairperson, Nambucca Heads Local Aboriginal Land Council (addresses at the front of this report).

GENERAL GLOSSARY:

The definitions that follow are for terms used in this and other reports written by the author, and do not necessarily apply to their use in different contexts.

ADZE : A modified flake with at least one steeply-retouched working edge. While all adzes are generally considered to be wood-working tools it is probable that some also served as cores and others as scrapers. Adzes with a uniform butt were frequently hafted to make a chisel-like tool, but the intended use of the adze determined the size of the adze and whether it was hafted (Flenniken and White, 1985).

ARCHAEOLOGICAL DEPOSIT :

Sediments which contain evidence of past Aboriginal use of the place, such as artefacts, hearths, burials etc.

ARTEFACT : Any object that has attributes as a consequence of human activity (Dunnell, 1971). In this report 'artefacts' has been used generally to describe pieces of stone that have been modified to produce flakes, flaked pieces, cores, hammerstones, or axes.

BACKED BLADE :

A stone tool manufactured from a flake on which one margin has been modified by the removal of small flakes to blunt the edge or margin opposite the cutting edge.

BORA GROUND :

A ceremonial site comprising of one or two connected circles composed of compacted or mounded earth, or defined by an arrangement of stones, of 2 to 30m diameter, generally used in male initiation rites.

CAMPSITE : A place at which the density of artefacts and the variety of material indicates that people 'frequently' used the place as a stopping or resting place. Such places are also likely to contain or be close to water resources, food resources, or stone material resources. In this report a campsite is used to describe artefact scatters that are associated with hearths or fireplaces, as distinct from scatters that are not associated with hearths or fireplaces, which are described as Open Scatters.

CHALCEDONY :

A form of silica (partially translucent), which occurs as linings in cavities in rocks. When banded it is known as AGATE (Department of Mines, 1973). Chalcedony is uniformly coloured and agate has curved bands or zones of varying colour (Cook & Kirk, 1991).

CHERT : Another name for sedimentary chalcedony. It occurs most frequently in limestones, or in marine sedimentary rock, or as pebbles in sedimentary rock. In its depositional context it is often concentrated in bedding planes. Chert found in deep-water limestones is formed from radiolaria and diatoms (siliceous planktonic micro-organisms) (Cook & Kirk, 1991).

Chert is a form of amorphous or extremely fine-grained silica, partially hydrous, found in concretions and beds. It is classified as a chemical sedimentary rock although it may be precipitated both organically and inorganically (Department of Mineral Resources, n.d.).

CONGLOMERATE :

Naturally cemented gravel. Conglomerate is a coarse-grained clastic sedimentary rock composed of generally rounded fragments of other rock types larger than 2 mm in diameter, set in a fine-grained matrix of sand, silt, or any of the common natural cementing materials (Department of Mineral Resources, n.d.).

CORE : A piece of stone from which flakes have been removed, that cannot otherwise be described as a retouched or modified artefact.

CORTEX : The naturally altered surface of stone – eg. the water-worn surface of river pebbles.

DEBITAGE : The small waste material observed in knapping floors. Generally, waste material is described as all those fragments having a maximum dimension of less than 10mm

FLAKE : A fragment of stone exhibiting features indicating that it has been deliberately removed from a core piece. These features are evident as:

- i) Platform: Plane or point at which a blow was delivered to remove the flake.
- ii) Bulb of Percussion: Convex surface that occurs on the face or ventral surface of a flake, radiating from the point of impact, produced as a consequence of the force pattern.
- iii) Erillure: see below.

Other terms:

- i) Dorsal: The back or outer face of a flake as it would have been prior to removal from a core. Frequently either ridged or exhibiting negative flake scars when removed in secondary flaking, with a natural weathered cortex when removed in primary flaking.
- ii) Ventral: The 'chest' or inner face of a flake as it would have been prior to removal from the core. The surface upon which the Bulb of Percussion occurs.
- iii) Platform Preparation: The removal of flakes from a surface to produce a level platform. May be evidenced by retouch scars to the platform.
- iv) Retouch: The removal of small flakes from an edge or margin of an artefact to modify its shape or sharpen its edge.
- v) Proximal: The end of a flake closest to the striking platform.
- vi) Distal: The end of a flake furthest from the striking platform.
- vii) Margin: The edge of an artefact.
- viii) Erillure: A small circular to elliptical negative flake scar occurring on the surface of the bulb of percussion on flakes of very fine-grained or highly silicified material. It occurs 'naturally' as a consequence of internal forces generated at the time of flake removal.
- ix) Split Cone: Occurs when the flake splits down its axis frequently removing part of the striking platform. Generally believed to be produced by faulty knapping technique, but is also probably a consequence of flawed material.
- x) Transverse Snap: Occurs when a flake snaps across its axis. Generally believed to be caused by post-depositional impacts such as human or stock treadage, or vehicular traffic.

FLAKED PIECE :

A fragment of stone exhibiting flake scars indicating that it is an artefact, but not displaying diagnostic features, such as a Bulb of Percussion, Striking Platform, or an Erillure.

GREYWACKE :

A type of sandstone, grey or greenish-grey in colour, tough and well indurated and typically poorly sorted (Clark & Cook, 1986).

A generally poorly sorted, dark sandstone containing feldspar and sand-sized rock fragments of metamorphic or volcanic rocks (Department of Mineral Resources, n.d.). Usually a dark and coarse-grained rock compared to mudstones and siltstones that are much finer-grained and better sorted.

HOLOCENE PERIOD :

The period from 10,000 years ago to the present.

IGNEOUS ROCK :

Rock formed by the cooling and solidification of magma on or below the earth's surface (Geography Dictionary, 1985).

In situ : In its original place – as deposited.

ISOLATED ARTEFACT :

A solitary stone artefact, at least 50m from its nearest neighbour. This is based on NPWS policy that two artefacts within 50m of each other constitute a site.

KNAPPING FLOOR:

A discrete scatter of artefacts in which at least two artefacts are recognisably of the same material, and derive from the same piece of stone. Also described as a stone tool manufacturing site or floor.

LOCATION : The place at which an artefact is found, or a place identified as having either archaeological or Aboriginal significance.

MEASUREMENT :

I) Flake:

- i) Length: Measured along the percussion axis at right angles to the platform.
- ii) Width: The greatest width measured at right angles to the percussion axis.
- iii) Thickness: The greatest thickness measured at right angles to the percussion axis.

II) Flaked piece:

- i) Length: The longest dimension
- ii) Width: The greatest width measured perpendicular to the length.
- iii) Thickness: The greatest thickness measured perpendicular to the length.

III) Core:

- i) Length: The longest dimension.
- ii) Width: The greatest width measured perpendicular to the length.
- iii) Thickness: The greatest thickness measured perpendicular to the length.

MIDDEN : A refuse heap or stratum of food remains, such as mollusc shells, and other occupational debris (Dortch, 1984 – see also Meehan, 1982).

MUDSTONE : A fine-grained detrital rock, usually quite massive and well consolidated. May be black through grey to off-white, browns, reds and dark blues/greens. Frequently found in association with sandstones (Cook & Kirk, 1991).

Identification is often aided by colour variations in layering. A source for stone material tool manufacturing material found as river pebbles in creek beds, and artefacts often display a water-worn cortex.

NEGATIVE FLAKE SCAR :

A concave surface resulting from the removal of a flake, occurring on the surface of the rock from which a flake has been removed.

PLEISTOCENE PERIOD :

The period from about 10,000 years ago to 2 million years ago.

POTENTIAL ARCHAEOLOGICAL DEPOSIT (PAD) :

Synonymous with Potentially Archaeologically Sensitive : Having the potential to contain archaeological material although none is visible.

QUARTZITE :

Quartzites are formed by the regional or contact metamorphism of quartz arenites, siltstones, and flints (cherts). They are composed essentially of quartz, and usually have a fine-grained granoblastic (grains are roughly the same size) texture. Generally massive, but may sometimes show sedimentary structures (Cook & Kirk, 1991).

ROTATION :

The removal of flakes from a core by blows directed at different angles, to different platforms. May be evident on the dorsal surface of a flake as negative flake scars, which do not follow the same direction as the percussion axis of the flake. This may be confused with scars produced during core preparation.

SCAT : The solid waste material produced by an animal – dung, droppings, manure (Triggs, 1985).

SCATTER : Two or more artefacts occurring within 50 metres. Scatter may also be used in the context of 'background scatter', meaning the general distribution of artefacts across the landscape that cannot be recognised as discrete concentrations.

SILCRETE : A near surface or surface siliceous induration (Desen & Peterson, 1992).

A conglomerate consisting of surficial sand and gravel cemented into a hard mass by silica.

A siliceous duricrust (Bates & Jackson, 1980).

Crusts may form as a result of low, infrequent rainfall, on reasonably flat surfaces. These are known as duricrusts – those cemented by silica are known as silcretes (Clark & Cook, 1986), sometimes referred to locally as 'billy' (Gentilli, 1968), or 'grey billy'.

Silcrete on the northern tablelands of NSW forms at the surface contact between sediments of the Sandon Beds and the Armidale Beds with overlying basalt, where groundwater (more rich in silica than surficial water) interacts with surficial water and precipitates new quartz as the matrix to the sediments (N.D.J. Cook, Dept. of Geophysics, UNE, pers. Comm.).

In softer formations of quartz sands, groundwater has apparently been responsible for the formation of concretionary layers of silcrete. Under altered climatic conditions, the less competent beds erode away leaving concretions. Since they are often the size of old-fashioned woollies and are greyish and white, they are popularly known as grey billy (slang for billy goat) (Fairbridge, 1968).

SITE : A discrete area or concentration of artefactual material, place of past Aboriginal activity, or place of significance to Aboriginal people.

SOIL SCIENCE TERMS (taken from Banks, 1995, and others as referenced).

BEDROCK : Outcrop of *in situ* rock material below the soil profile.

BENCH : A strip of relatively level earth or rock breaking the continuity of a slope.

BLOWOUT : A closed depression formed in the land surface by wind eroding sands and depositing them on adjacent land.

CLAYPAN : A depression caused by the aeolian deflation of sediments, or by the presence of a prior lake.

DUNE : A ridge built up by wind action composed of sands, silts, or sand-sized aggregates of clay.

FLOODPLAIN : A large flat area, adjacent to a watercourse, characterised by frequent active erosion and aggradation by channelled and overbank stream flow.

GIBBER : A level surface covered by a thick deposit of gravel or broken siliceous pebbles, occurring in the more arid parts of the continent, thought to have been formed from the break-up of a siliceous (silcrete) surface crust, and termed gibber plains (Whittow, 1984) – see also silcrete.

GILGAI : Surface microrelief associated with soils containing shrink-swell clays. Gilgai consists of mounds and depressions, or irregularly distributed small mounds and subcircular depressions varying in size and spacing. Vertical interval usually <0.3m; horizontal interval usually 3-10m, and surface almost level. Sometimes called 'crab-hole' soils.

GULLY : An open incised channel in the landscape generally greater than 30cm deep and characterised by moderately to very gently inclined floors and steep walls.

HUMMOCK : A small raised feature above the general ground surface.

LANDFORM ELEMENTS :

Crest : Landform element standing above all points in the adjacent terrain.

Flat : Neither a crest or a depression <3% slope.

Upper slope : Adjacent to and below a crest or flat but not a depression.

Midslope : Not adjacent to a crest, a flat or a depression.

Lower slope : Adjacent to and above a flat or a depression but not a crest.

LITHOSOLS : Shallow soils showing minimal profile development and dominated by the presence of weathering rock and rock fragments.

RILL : A small channel cut by concentrated runoff through which water flows during and immediately after rain.

RUNOFF : That portion of precipitation not immediately absorbed into or detained upon the soil and which thus becomes surface flow.

SCARP/CLIFF : A steep slope terminating a plateau or any level upland surface.

SCRUB : vegetation structure consisting of shrubs 2-8m tall.

SHEET EROSION : The removal of the upper layers of soil by raindrop splash and/or runoff.

SOIL PROFILE :

“A HORIZON” : The top layer of mineral soil. This may consist of two parts:

A₁ HORIZON: Surface soil and generally referred to as the topsoil.

A₂ HORIZON: similar in texture, but paler in colour, poorer in structure, and less fertile.

“B HORIZON” : The layer below the A Horizon. This consists of 2 parts:

B₁ HORIZON: A transitional horizon dominated by properties characteristic of the underlying B₂ horizon.

B₂ HORIZON: typically contains concentrations of silicate clay and/or iron, and/or aluminium and/or translocated organic material.

“C HORIZON” : The parent rock. Recognised by its lack of pedological development, and by the presence of remnants of geologic organization.

“R HORIZON” : Hard rock that is continuous (Charman & Murphy, 1993; 350-1).

SPUR : A ridge which projects downwards from the crest of a mountain as a water-parting (Whittow, 1984).

SUBSOIL : Sub-surface material comprising the B and C Horizons of soil with distinct profiles; often having brighter colours and higher clay contrasts.

SURFACE CONDITION :

Gravelly : Over 60% of the surface consists of gravel (2-69mm).

Hardsetting : Soil is compact and hard.

Loose : Soil that is not cohesive.

Friable : Easily crumbled or cultivated.

Self-mulching : A loose surface mulch of very small peds forms when the soil dries out.

SWALE : A linear level-floored open depression excavated by wind or formed by the build-up of two adjacent ridges.

SWAMP : Watertable at or above the ground surface for most of the year.

TERRACE : A flat or gently inclined surface bounded by a steeper ascending slope on its inner margin and a steeper descending slope on its outer margin (Whittow, 1984).

TOPSOIL : A part of the soil profile, typically the A₁ horizon, containing material that is usually darker, more fertile and better structured than the underlying layers.

UNDERSTOREY : A layer of vegetation below the main canopy layer.

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APPENDICES

- Appendix i – Correspondence from Nambucca Heads LALC.**
- Appendix ii – Advertisement to ‘interested Aboriginal stakeholders’.**
- Appendix iii – Response from Nambucca Heads LALC.**
- Appendix iv – Correspondence to Office of the Registrar, ALRA, and reply.**
- Appendix v – Correspondence to DECC, and reply.**
- Appendix vi – Correspondence to Nambucca Shire Council, and reply.**
- Appendix vii – Correspondence to NSW Native Title Services.**
- Appendix viii - Letter sent to Aboriginal stakeholders.**
- Appendix ix - Email from Nambucca Heads LALC to Dept of Planning.**
- Appendix x – Site types.**

Appendix i – Correspondence from Nambucca Heads LALC.



Phone: 02-65689 281
Email: nhlalc@bigpond.com

Unit 2/3 Sussex Street
PO Box 358
Nambucca Heads NSW 2448

Fax: 02-65689161

7 January 2003

Mr John Appleton
Archaeological Surveys & Reports Pty Ltd
10 Roslyn Street
ARMIDALE NSW 2350

Dear John,

Reference: Site inspection for Faringdon Pty Limited

A site inspection was carried out on Monday 2 December 2002 with yourself and Mr Larry Kelly at the site as attached.

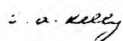
Although the site inspection was undertaken and there may be no evidence of physical and/or cultural material, there is oral history in the area as well as the NP & WS recorded sites in the area. Before development of the area commences, there will be conditions required to be part of the development application.

- A) All work must stop if any Aboriginal material is unearthed or found and the Nambucca Heads Local Aboriginal Land Council and NP & WS contacted.
- B) All developers and sub contractors undertake a site identification course conducted by the NP & WS.

I have also enclosed the account for the days' work and a current map and site identification list from the NP & WS.

I may be contacted on the above number for any further information.

Yours sincerely



Christine Kelly
Coordinator

Appendix ii – Advertisement to ‘interested Aboriginal stakeholders’.

PUBLIC NOTICE

NOTICE OF INTENT, CULTURAL HERITAGE

A Development Application is to be lodged with the Minister for Planning for a residential subdivision of Lot 2, DP 1119830, Marshall Way and Alexandra Drive, Bellwood, as a Part 3A "Major Project".

An archaeological investigation of the property for sites of Indigenous cultural significance was undertaken in December 2002, with Mr Larry Kelly, Nambucca Local Aboriginal Land Council.

Heritage consultation is to be undertaken for the proposed residential subdivision of Lot 2 DP 1119830 in accordance with "Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation" (DECC 2005), Part 6 Approvals of the National Parks & Wildlife Act 1974 (as amended).

Expressions of interest or comments regarding the Aboriginal cultural significance of Lot 2 DP 1119830 are invited from Aboriginal stakeholders. A report of the archaeological investigation is available on request.

Aboriginal stakeholders with an interest in the project are invited to register their interest within 14 days, with John Appleton, Archaeological Consultant, Tel. 02 6772 6512, Fax. 02 6772 4567, Mob. 0428 651 789.

JOHN APPLETON

From: JOHN APPLETON [japples@northnet.com.au]
Sent: Wednesday, 3 June 2009 3:52 PM
To: Mid Coast Observer (classifieds.kempsey@ruralpress.com)
Subject: Claassifieds: Public Notice
Attachments: Bellwood Part 3A ad2 (2).doc

Dear Sir/Madam

Would you please arrange to place this advertisement in the Mid Coast Observer – one day only. I would also appreciate a copy of the page on which the advertisement appears.

Regards

John Appleton

JOHN APPLETON

From: JOHN APPLETON [japples@northnet.com.au]
Sent: Wednesday, 3 June 2009 3:56 PM
To: Nambucca Guardian News (editor.guardiannews@ruralpress.com)
Subject: Classifieds: Public Notice
Attachments: Bellwood Part 3A ad2 (2).doc

Dear Sir/Madam

Would you please arrange to place the attached advertisement in the Nambucca Guardian News – one day only. I would also appreciate it if you would send me a copy of the page on which it appears.

Regards

John Appleton

03/06/2009 16:31 02-6563-1779

MVHAPPYNINGS

PAGE 01/01

MID-COAST OBSERVER

Ph 02 65626577

MACLEAY ARGUS

Ph 02 65626622

FAX: 65631779

NOTICE OF INTENT, CULTURAL HERITAGE

A Development Application is to be lodged with the Minister for Planning for a residential subdivision of Lot 2, DP 1119830, Marshall Way and Alexandra Drive, Bellwood, as a Part 3A "Major Project".

An archaeological investigation of the property for sites of Indigenous cultural significance was undertaken in December 2002, with Mr Larry Kelly, Nambucca Local Aboriginal Land Council. Heritage consultation is to be undertaken for the proposed residential subdivision of Lot 2 DP 1119830 in accordance with "Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation" (DECC 2005), Part 6 Approvals of the National Parks & Wildlife Act 1974 (as amended).

Expressions of interest or comments regarding the Aboriginal cultural significance of Lot 2 DP 1119830 are invited from Aboriginal stakeholders. A report of the archaeological investigation is available on request.

Aboriginal stakeholders with an interest in the project are invited to register their interest within 14 days, with John Appleton, Archaeological Consultant, Tel 02 6772 6512, Fax 02 6772 4567, Mob. 0428 651 789

Please sign for
approval & relax.

Thanks

Kylie

& 7 day a/c will be
sent to you.

PROOF OF CLASSIFIED

DATE: 3/6/09 ATTENTION: John Appleton FAX: 02 6772 4567

REPRESENTATIVE: Kylie DEADLINE FOR APPROVAL: 11am Thurs

COSTS:

☐ The Macleay Argus ☒ The Mid-Coast Observer 10/6 \$238.96

☐ Macleay Valley Happynings ☐ Other

☒ MSB Package: 1st week Additional Weeks

MSB Package consists of:

The Macleay Argus - Tuesday & Friday editions

The Mid-Coast Observer - Wednesday

Port Macquarie Express - Wednesday

Nambucca Guardian News - Thursday

(Any additional consecutive weeks in the
MSB Package run at ½ price)

CLIENTS SIGNATURE: X

PN 193 2161

REQUIRED FOR APPROVAL

Please tick which paper/package is required--

* plus \$2.95 for 7 day accounts.

Appendix iii – Response from Nambucca Heads LALC.

JOHN APPLETON

From: Louise Robinson [nambuccaheadslalc@bigpond.com]
Sent: Wednesday, 24 June 2009 1:13 PM
To: 'JOHN APPLETON'
Subject: Lot 2 Dp 1119830

John

Please be advised that Nambucca Heads LALC wish to register an interest in the proposed development for a residential subdivision under part 3A.

Please provide a copy of the Archaeological investigation to P.O Box 358
Nambucca Heads NSW 2448.

Cheers
Louise

Appendix iv – Correspondence to Office of the Registrar, ALRA, and reply.

Archaeological
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&
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John Appleton

A.C.I.S., A.C.I.M., B.A. (Hons)

16 Curtis Street, Armidale, NSW 2350

Tel. 02 6772 6512 Fax 02 6772 4567 Mob. 0428 651 789

Email japples@northnet.com.au

ABN 67 075 625 722

Ms Megan Mebberson
Office of the Registrar, ALRA
Tranby Aboriginal College
11-13 Mansfield Street
Glebe 2037

22nd June 2009

Dear Megan

Re: Archaeological investigation: Lot 2 DP 1119830, Bellwood.

This is to advise that Geoff Smyth Consulting has been engaged by Advanced Property Investment Systems Pty Ltd to prepare an application under Part 3A of the *Environment Planning and Assessment Act 1979* (EP&A Act) for a residential development on Lot 2, DP 1119830, Marshall Way and Alexandra Drive, Bellwood.

Archaeological Surveys & Reports Pty Ltd (ASR) has been engaged to complete a Cultural Heritage Assessment of the proposed residential subdivision. Advertisement of the Cultural Heritage Assessment was placed in the "Mid-Coast Observer" and "Nambucca Guardian News" in early June in accordance with the requirements of the "Guidelines For Aboriginal Cultural Heritage Impact Assessment and Community Consultation" (DECC 2005).

Information on any Aboriginal groups, stakeholders or traditional knowledge holders in the Bellwood, Nambucca Heads area, with an interest in the management of Indigenous heritage matters, is sought. Could you please provide contact details for any known

Aboriginal groups with a cultural interest in this area. The nominated groups can then be included in the consultation process with regard to potential Indigenous heritage issues. It would be appreciated if you could provide any feedback to me by 17th July 2009.

Regards



11-13 Mansfield Street
Glebe NSW 2037
PO Box 112, Glebe NSW 2037
P. 02 9562 6327 F. 02 9562 6350

Mr John Appleton
Archaeological Surveys & Reports Pty Ltd
16 Curtis Street Armidale
NSW 2350

Dear Mr Appleton

Re: Request - Search for Registered Aboriginal Owners

I refer to your letter dated 22 June 2009 regarding a Cultural Heritage Assessment in the Bellwood area.

I have searched the Register of Aboriginal Owners and the subject land does not appear to have Registered Aboriginal Owners pursuant to Division 3 of the *Aboriginal Land Rights Act 1983* (NSW).

I trust that you are in contact with the Nambucca Local Aboriginal Land Council. The land council may be able to assist you with information and contact details for other interested groups.

Yours sincerely

Megan Mebberson
Senior Project Officer
Office of the Registrar, *Aboriginal Land Rights Act* (1983)

24 June 2009

Appendix v – Correspondence to DECC, and reply.

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John Appleton

A.C.I.S., A.C.I.M., B.A. (Hons)

16 Curtis Street, Armidale, NSW 2350

Tel. 02 6772 6512 Fax 02 6772 4567 Mob. 0428 651 789

Email japples@northnet.com.au

ABN 67 075 625 722

Aboriginal Heritage Planning Officer
Department of Environment and Climate Change
Locked Bag 914
Coffs Harbour 2450

22nd June 2009

Dear Sir/Madam

Re: Archaeological investigation: Lot 2 DP 1119830, Bellwood.

This is to advise that Geoff Smyth Consulting has been engaged by Advanced Property Investment Systems Pty Ltd to prepare an application under Part 3A of the *Environment Planning and Assessment Act 1979* (EP&A Act) for a residential development on Lot 2, DP 1119830, Marshall Way and Alexandra Drive, Bellwood.

Archaeological Surveys & Reports Pty Ltd (ASR) has been engaged to complete a Cultural Heritage Assessment of the proposed residential subdivision. Advertisement of the Cultural Heritage Assessment was placed in the "Mid-Coast Observer" and "Nambucca Guardian News" in early June in accordance with the requirements of the "Guidelines For Aboriginal Cultural Heritage Impact Assessment and Community Consultation" (DECC 2005).

Information on any Aboriginal groups, stakeholders or traditional knowledge holders in the Bellwood, Nambucca Heads area, with an interest in the management of Indigenous heritage matters, is sought. Could you please provide contact details for any known

Aboriginal groups with a cultural interest in this area. The nominated groups can then be included in the consultation process with regard to potential Indigenous heritage issues. It would be appreciated if you could provide any feedback to me by 17th July 2009.

Regards

Your reference :
Our reference : DOC09/29973, Fil07/3505
Contact : Ciaron Dunn, (02) 6659 8221
Date : 8 July 2009

Archaeological Surveys & Reports
John Appleton
16 Curtis St
Armidale NSW 2350

Dear Mr Appleton

**RE: ARCHAEOLOGICAL INVESTIGATION: LOT 2 DP 1119830, BELLWOOD,
NAMBUCCA SHIRE, NSW**

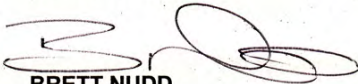
I refer to your correspondence to the Department of Environment and Climate Change (DECC), dated 22 June 2009 regarding the above matter.

Please find attached a list of known Aboriginal parties that DECC feels is likely to have an interest in your development. I note this is not necessarily an exhaustive list of all interested Aboriginal parties and receipt of this list does not remove the requirement of a proponent/consultant to advertise the proposal in the local print media and contact other bodies and community groups seeking interested Aboriginal parties, in accordance with DECC's *Interim Community Consultation Requirements for Applicants (2004)*.

If you encounter any changes to the contact details of interested Aboriginal parties or become aware of additional parties, we encourage you to forward this information to the Department so we can update our records.

If you have any further question regarding this matter, please contact Ciaron Dunn, Aboriginal Heritage Planning Officer on (02) 6659 8221.

Yours sincerely



BRETT NUDD
A/Manager Planning and Aboriginal Heritage – North East
Environment Protection & Regulation Group

Encl: Attachment 1

Department of **Environment and Climate Change** NSW



ATTACHMENT 1

**ABORIGINAL STAKEHOLDER GROUPS IN NAMBUCCA AREA THAT DECC
HAS IN REGARD TO THE 'INTERIM COMMUNITY CONSULTATION
REQUIREMENTS FOR APPLICANTS'.**

Nambucca Local Aboriginal Land Council Unit 2/3 Sussex Street Nambucca Heads NSW 2448 Louise Robinson	Gumbaynggirr Elders, Cultural Heritage Officer PO Box 400 Nambucca Heads NSW 2448
Goori Broadcasters of Radio Nambucca Inc., Gary Williams PO Box 491 Nambucca Heads NSW 2448	Gumbaynggirr Nation, Cultural Heritage Officer 14 Belwood Road Nambucca Heads NSW 2448
Gumbaynggirr Native Title Group, Cultural Heritage Officer 14 Belwood Road Nambucca Heads NSW 2448	Gumbaynggirr Warrior Elders of the Nambucca River, Cultural Heritage Officer 14 Belwood Road Nambucca Heads NSW 2448
Murrumbidgee Aboriginal Language and Cultural Co-operative Ltd, Ken Walker Lot 465 Bellwood Road Via Nambucca Heads NSW 2448	Ngurrula Aboriginal Corporation, Noel Campbell PO Box 62 Macksville NSW 2447
Mimi Mothers Aboriginal Corporation, Ruth Walker PO Box 49 - 65 High Street Bowraville NSW 2449	

Appendix vi – Correspondence to Nambucca Shire Council, and reply.

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John Appleton

A.C.I.S., A.C.I.M., B.A. (Hons)

16 Curtis Street, Armidale, NSW 2350

Tel. 02 6772 6512 Fax 02 6772 4567 Mob. 0428 651 789

Email japples@northnet.com.au

ABN 67 075 625 722

General Manager
Nambucca Shire Council
PO Box 177
Macksville 2447

22nd June 2009

Dear Sir/Madam

Re: Archaeological investigation: Lot 2 DP 1119830, Bellwood.

This is to advise that Geoff Smyth Consulting has been engaged by Advanced Property Investment Systems Pty Ltd to prepare an application under Part 3A of the *Environment Planning and Assessment Act 1979* (EP&A Act) for a residential development on Lot 2, DP 1119830, Marshall Way and Alexandra Drive, Bellwood.

Archaeological Surveys & Reports Pty Ltd (ASR) has been engaged to complete a Cultural Heritage Assessment of the proposed residential subdivision. Advertisement of the Cultural Heritage Assessment was placed in the "Mid-Coast Observer" and "Nambucca Guardian News" in early June in accordance with the requirements of the "Guidelines For Aboriginal Cultural Heritage Impact Assessment and Community Consultation" (DECC 2005).

Information on any Aboriginal groups, stakeholders or traditional knowledge holders in the Bellwood, Nambucca Heads area, with an interest in the management of Indigenous heritage matters, is sought. Could you please provide contact details for any known Aboriginal groups with a cultural interest in this area. The nominated groups can then be included in the consultation process with regard to potential Indigenous heritage issues.

It would be appreciated if you could provide any feedback to me by 17th July 2009.

Regards

JOHN APPLETON

From: Arthur Tsembis [Arthur.Tsembis@nambucca.nsw.gov.au]
Sent: Wednesday, 15 July 2009 2:58 PM
To: japples@northnet.com.au
Cc: Patricia Walker
Subject: FW: Re: Contacts For John Appleton

Hello John

I refer to your letter dated 22 June 2009 regarding your intention to undertake a Cultural Heritage Assessment for a proposed residential subdivision on Lot 2 DP 1119830, Bellwood.

Council's Community Development Officer (Aboriginal) has provided contact details below of persons that should be consulted in the preparation of the study.

Regards

Arthur Tsembis

Manager Planning and Assessment
Nambucca Shire Council

Phone: 02 6568 0260 Fax: 02 6568 2201 Mobile: 0429 318 739

Email: arthur.tsembis@nambucca.nsw.gov.au

www.nambucca.nsw.gov.au

From: Patricia Walker
Sent: Wednesday, 15 July 2009 2:49 PM
To: Arthur Tsembis
Subject: Re: Contacts For John Appleton

Arthur

Major stakeholders would be;

Nambucca Heads LALC – this LALC has an Aboriginal Heritage Portfolio (Victor Buchanan and Russell Walker)

CEO: Louise Robinson
Phone: 6568 9281
Email: nambuccaheadsllalc@bigpond.com

Murrumbidgee Aboriginal Language and Cultural Centre

Contacts: Ken Walker, Gary Williams, Dallas Walker
Phone: 6569 4294
Email: muurrbay@westnet.com.au

Bowraville Aboriginal Lands Council – majority of Buchanan's live in Bowraville

CEO: Barry Ford
Phone: 6564 7812
Email: bowralc@bigpond.net.au

Stuart Island Tribal Elders Corporation

Contact: John Marshall
Address: 5 Bellwood Road, Nambucca Heads

I hope this helps.

Kind regards

Patricia Walker

Community Development Officer (Aboriginal)

Nambucca Shire Council

44 Princess Street

PO Box 177

Macksville NSW 2447

Phone: 02 6568 0249

Fax: 02 6568 2201

Email: patricia.walker@nambucca.nsw.gov.au

www.nambucca.com.au

DISCLAIMER

This message is intended solely for the addressee. It is confidential and may be legally privileged. Access to this message by anyone else is unauthorised. Unauthorised use is strictly prohibited and may be unlawful. If you are not the intended recipient, any disclosure, copying or distribution of the message, or any action or omission taken by you in reliance on it, except for the purpose of the delivery to the addressee is prohibited and may be unlawful. Any confidentiality or privilege is not waived or lost because this e-mail has been sent to you by mistake. Please immediately contact the sender if this e-mail is incomplete or illegible or if you have received it in error. Thank you.

Appendix vii – Correspondence to NSW Native Title Services.

**Archaeological
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John Appleton

A.C.I.S., A.C.I.M., B.A. (Hons)

16 Curtis Street, Armidale, NSW 2350

Tel. 02 6772 6512 Fax 02 6772 4567 Mob. 0428 651 789

Email japples@northnet.com.au

ABN 67 075 625 722

NSW Native Title Services
PO Box 982
Dubbo 2830

22nd June 2009

Dear Sir/Madam

Re: Archaeological investigation: Lot 2 DP 1119830, Bellwood.

This is to advise that Geoff Smyth Consulting has been engaged by Advanced Property Investment Systems Pty Ltd to prepare an application under Part 3A of the *Environment Planning and Assessment Act 1979* (EP&A Act) for a residential development on Lot 2, DP 1119830, Marshall Way and Alexandra Drive, Bellwood.

Archaeological Surveys & Reports Pty Ltd (ASR) has been engaged to complete a Cultural Heritage Assessment of the proposed residential subdivision. Advertisement of the Cultural Heritage Assessment was placed in the "Mid-Coast Observer" and "Nambucca Guardian News" in early June in accordance with the requirements of the "Guidelines For Aboriginal Cultural Heritage Impact Assessment and Community Consultation" (DECC 2005).

Information on any Aboriginal groups, stakeholders or traditional knowledge holders in the Bellwood, Nambucca Heads area, with an interest in the management of Indigenous heritage matters, is sought. Could you please provide contact details for any known Aboriginal groups with a cultural interest in this area. The nominated groups can then be included in the consultation process with regard to potential Indigenous heritage issues.

It would be appreciated if you could provide any feedback to me by 17th July 2009.

Regards

Appendix viii – Letter sent to Aboriginal stakeholders.

Archaeological
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John Appleton

A.C.I.S., A.C.I.M., B.A. (Hons)

16 Curtis Street, Armidale, NSW 2350

Tel. 02 6772 6512 Fax 02 6772 4567 Mob. 0428 651 789

Email japples@northnet.com.au

ABN 67 075 625 722

27th August 2009

Dear Sir/Madam

Re: Scarred tree site

Lot 2, DP 1119830, Marshall Way and Alexandra Drive, Bellwood.

A Development Application is to be lodged with the Minister for Planning for a residential subdivision of Lot 2, DP 1119830, Marshall Way and Alexandra Drive, Bellwood, as a Part 3A "Major Project".

An archaeological investigation of the property for sites of Indigenous cultural significance was undertaken, with Mr Larry Kelly, ATSIC Representative and Land Council Sites Officer, Nambucca Local Aboriginal Land Council in December 2002. During the investigation a scarred tree was recorded. The scar was indicative of bark removal with an axe to provide shelter such as a gunyah. The tree was recorded, and a Site Recording Form was lodged with DECC to list the site on the Aboriginal Heritage Information Management System (DECC Sites Register). Subsequently the tree was destroyed by fire.

Heritage consultation is being undertaken for the proposed residential subdivision of Lot 2 DP 1119830 in accordance with "Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation" (DECC 2005), Part 6 Approvals of the National Parks & Wildlife Act 1974 (as amended).

Letters were sent to the Office of the Registrar ALRA; the Aboriginal Heritage Planning unit in the Department of Conservation and Climate Change; NSW Native Title Services; and to Nambucca Shire Council requesting that they provide a list of the Aboriginal stakeholders who should be included in the consultation process.

Your name was provided as one of a number of stakeholder groups.

This is to advise you that it is proposed to retain the tree location as a reserve to be dedicated to the Nambucca Shire Council for its care, control and management to preserve the cultural sensitivity attached to the tree. The area set aside is equivalent to a house block. The site will be cleared of weeds and debris and the uneven ground levelled to make it safer for people to visit and walk on the site. Nothing remains of the scarred tree and so the site will be a site in name only.

Regards

Appendix ix – Email from Nambucca Heads LALC to Dept of Planning.

Sebastian Tauni - Key Issues and Assessment Requirements - 09_0140

From: "Louise Robinson" <nambuccaheadsalc@bigpond.com>
To: <sebastian.tauni@planning.nsw.gov.au>
Date: 27/10/2009 14:17
Subject: Key Issues and Assessment Requirements - 09_0140

In the Nambucca Heads Land Council area there are a concentration of Aboriginal Culture and Heritage Sites in an around the Nambucca River. This area with the proposed subdivision forms a corridor that historically leads towards a number of major sites outside of this area.

The concerns surround the following for the Aboriginal Members of the Land Council:

1. The distance from the Sacred Site listed on the AHIMS register with DECC is measured in metres but should be measured the distance a large bull roarer can be heard from the site. (Effectively this means that housing closer to this would be for Non Aboriginal people only as many sicknesses would result from Aboriginal woman and children living there) The link road (Alexander Drive to Marshall way) cannot be used by Aboriginal woman and Children and should be moved.
2. The area contains a burial grounds which may not be able to be identified and if disturbed will cause grief to the Local Aboriginal population.
3. This is a men's area and there would be many other issues that I cannot be privy to but which should be addressed.
4. All consultation should be culturally appropriate – It should be called at a place that is easily accessible by foot or transport should be provided, it should be held on an off pension week and it needs to be advertised outside of the paper (Many Aboriginal people do not read the paper)
5. The sacred areas need to be hidden from view of woman and this must be addressed.
6. If the burial sites are within the Sapp 14 area then adequate signage and restricted access must be addressed.
7. If this subdivision is passed, thought must be given to prospective purchases being warned of the sacred site so they can be fully informed of their purchase. (Aboriginal families from outside the area would be devastated if they found out after purchase). Large red warning stickers could be attached to all contracts.
8. This is one of only a few highly cultural areas of the Gumbayngirr Nation and is significant to men from as far away as Grafton.

I'm sure there is more. As a woman I cannot speak on behalf of the Men and would ask you to consider these few points as a Indicator to the significance of this area.

Louise Robinson
CEO
65689281

file:///C:/Temp/XPGrpWise/4AE700E1SYDNDOM2BRIDPO11001763568194F61/GW}... 27/10/2009

Appendix x : Site Types

Site types associated with Indigenous activities and culture

The definitions that follow are for terms used in this report, and do not necessarily apply to their use in different contexts.

Art sites are defined as places where any medium has been applied to a rock surface either as symbols, characters, drawings, paintings, or any other rendition, recognisable as not being a natural discolouration or feature. They also include markings to a rock surface, either by engraving, abrading, or pecking, and which cannot be identified as being a natural feature.

Bora rings are circles of 2-30 metres diameter of compressed earth (from repeated treading or dancing), or stone arrangements, at which men performed initiation ceremonies, and are the most frequently recorded ceremonial sites. Sometimes they occur as two rings joined by a central track in a barbel configuration. They usually occur on level or low-lying country, which is usually the first topographical unit to be cultivated, or utilised for highways and roads, but they may also occur as circular stone arrangements on elevated rock platforms and hilltops. If they are or were present then they are usually either already known and have been recorded, or they have long since been destroyed.

Carved trees are readily recognised by even the untrained observer. The carving is incised either into the outer bark, or more commonly, into the living wood after removal of a section of the bark. The designs frequently consist of 'diamond cross-cuts', but may also consist of stylised animal motifs. Previously unrecorded carved trees are still discovered in relatively remote or inaccessible areas. Carved trees frequently occur near burial sites and/or Bora rings, but in some regions they may have been tribal boundary markers.

Fish traps may occur either in rivers or on seashores. They are recognisable as unnaturally formed stone arrangements that were constructed to trap fish (or eels or turtles) carried into the enclosure in deep water, and which are left stranded within the enclosure as the water level drops. The fish were then caught by nets, hand, or by spear.

Grinding grooves are usually observed on the surfaces of large sedimentary boulders or exposed shelves and outcrops of sedimentary rock along creek banks and beds, or near water. They have been produced by Aborigines using the rock surface to shape and sharpen the edges of stone to produce ground-edged axes, or to sharpen wooden spears (the latter tend to be narrow and deep). Water was used to lubricate the surface of the rock. The grooves frequently occur as linear abraded depressions in the rock, and may each be between 10 and 50 centimetres long, up to 15 centimetres wide, and 2 to 5 centimetres deep. Some sedimentary rock surfaces may exhibit shallow ground depressions of roughly round or elliptical shape, and these are more likely to be associated with seed grinding, root crushing, or other food preparation.

Middens may be identified variously as beach, lagoon, lacustrine, or estuarine, and are most likely to be observed at or above the water line where erosion, topsoil removal, or mining has exposed the shell. The size of the midden can vary enormously, with the smallest comprising a 'one off', "dinner-time camp" (Meehan. 1982), with as few as two or three shells, or a shallow lens of only a few centimetres. The largest middens may extend for many kilometres and may comprise of a number of lenses and layers of shell and ash up to several metres deep. These large middens may be evidence of continuous exploitation of the resource over many thousands of years. Middens of fresh water mussel shell may be found in eroding creek banks or in eroding terraces, particularly near both existing and defunct water holes.

Isolated shell or fragments may occur on any surface and in any situation. A single shell may have been discarded by a bird, but the presence of use-wear would indicate Aboriginal use of the shell as a tool, which was discarded after use. Such occurrence is likely to be where there is no immediate source of stone material suitable for tool manufacture.

Natural Mythological sites are places of significance to Aborigines, either because they are described in mythological stories or songlines, or because they were used in religious ceremonies. They may occur anywhere and while some are more predictable than others – as for example, permanent water holes, waterfalls, rock promontories, etc., others may have no particularly remarkable features. Seldom is there any recognisable artefactual evidence or anything to distinguish it from similar features in the vicinity. These sites must of necessity be identified by Aboriginal people with an association with the place.

Open sites, campsites, knapping floors, scatters, and isolated artefacts, are most likely to occur on eroded and exposed creek banks, particularly where slope wash or stock trails has removed the humic layer, or on eroded ridges and spurs, particularly near the junctions in watercourses.

Open sites are most likely to be present in greatest numbers near a source of either raw stone material, or potential food resources, or in a natural corridor between two differentially preferred environmental zones, or at the contact between two environmental zones containing different resources.

Artefacts in open scatters are likely to be manufactured from the dominant raw material available; i.e. Greywacke on greywacke-sourced soils, quartz on granite-sourced soils, silcrete and chert on relict sedimentary soils.

Artefact assemblages in open scatters are likely to consist predominantly of discard material, i.e., cores, flakes, flaked pieces, and debitage.

Artefacts exhibiting retouch scars and backing are most likely to occur in sites where secondary activity took place peripheral to the central camp site, although this is a generality and can only be observed where there is sufficient surface visibility to identify peripheral sites. Fragments of flakes with retouch or backing may occur on knapping floors indicating breakage occurring during manufacture, or maintenance areas in which damaged tools have been replaced and discarded.

Isolated artefacts are likely to be most frequently observed where the groundcover obscures all but the larger artefacts, such as cores, and large flakes, or where there is little contrast between the texture of artefactual material and the surface upon which it lies. Artefacts of materials contrasting with the matrix may be visible regardless of size; eg. quartz artefacts may be far more visible than much larger basalt artefacts against a background of dark humic terrace soils.

PADs or Potential Archaeological Deposits are deposits, usually in shelters (but they may also be identified where there are intact deposits in open areas), which although not containing any visible archaeological material, are considered likely to contain archaeological material below the surface. These 'sites' are not recorded as sites on the Aboriginal Site Register, but are identified as places that require subsurface testing to establish whether a site exists or not.

Rock shelters with art or occupation deposits, are most likely to occur where the character of the parent rock is sufficiently massive or consolidated for it to retain a structure that weathers differentially to form shelters and overhangs.

Scarred trees are perhaps the most difficult site type to determine as having been caused by deliberate removal of the bark by humans and not as a consequence of natural events; such as abrasion from falling trees or branches, natural branch attrition, fire damage, or contact from vehicles or stock. They may occur in places wherever there are tree species that produce bark suitable for tool and implement manufacture. While some scars are clearly the consequence of deliberate bark removal by Aborigines (either evidenced by stone axe marks, or identified by Knowledge Holders), some scars were made by settlers, and stockmen, and surveyors who frequently blazed trails and property boundaries by scarring the trees, and by timber men who removed a strip of bark to test the suitability of a tree for logging.

Other site types such as hearths, burials, etc., are less easily predicted, although burials are frequently associated with carved trees, and Bora rings, and hearths with campsites, shelters, and shell middens.



**This report has been compiled in 'Plain English',
but presented in a format suitable for developing policies
for the management of the cultural resources,
and as a basis for scientific reference
in future research studies.**

Project No. 446/09

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ARCHAEOLOGICAL SURVEYS & REPORTS Pty Ltd

12th^h August 2010

**Re: Known history of the cultural significance of
the Bellwood area.**

There are two sites recorded in the vicinity of the Project Site prior to the recent archaeological investigation of Lot 2 DP 1119830, Alexandra Drive Bellwood. The two sites are, the "Diamond Tree" and a burial.

The "Diamond Tree".

The "Diamond Tree", AHIMS Site #21-6-0090, was first recorded by NPWS archaeologist Kim Gollan in January 1974. In 1974 the National Parks & Wildlife Act 1974 was enacted and NPWS as the government department responsible for the care and management of Aboriginal sites hastily dispatched its archaeologists throughout New South Wales to record all known Aboriginal sites. The "Diamond Tree" was one of the more well known sites being within only a short distance from the Bellwood residential area. Gollan assisted by the late Mr Ray Kelly, an Aboriginal Ranger and Knowledge Holder attached to the same unit as Gollan at Coffs Harbour, recorded the site and consulted with the only surviving Initiated Elder in the area, the late Mr Harry Buchanan.

No other sites were recorded in the vicinity either at the time or later, and as Ray Kelly had the reputation of recording sites wherever they occurred it is probable that no other sites were known to exist, either by Gollan, Kelly, or more significantly, Mr Buchanan. It

is reasonable to assume that if those three gentleman did not record any other sites in the Project Site that no other sites were known to exist.

The burial site

The “Bellwood Ck Burials”, AHIMS Site #21-6-0164, was recorded by Lisa Appo in August 1995, where it had been reported that skeletal remains had been exposed during sand extraction in the bank of Bellwood Creek downstream of the current Project Site.

- And then in the survey of the Project Site in December 2002 a previously unrecorded and presumably previously unknown site, the “Gunyah tree” was recorded by Larry Kelly and John Appleton.

The “Gunyah tree”

The “Gunyah tree” was a scarred tree from which the bark had been deliberately removed, and was presumed to have been made by an Aboriginal person. The tree from which bark had been removed by an axe, presumably to provide covering for a gunyah, or Aboriginal shelter, was recorded during the current investigation (December 2002).

The investigation had been undertaken with the assistance of Mr Larry Kelly, Community Knowledge Holder, ATSIC member, and at the time, Sites Officer for Nambucca Local Aboriginal Land Council. Mr Kelly had been unaware of the existence of the scarred tree prior to our discovery.

Other sites in the Project Site.

Mr Kelly was unaware of any other Aboriginal sites in the Project Site, but stated that Bellwood Creek had been a traditional path to the “Diamond Tree”. It should be noted that there are no plans to impact on Bellwood Creek and the proposed subdivision has been designed to leave a wide woodland buffer zone to either side of the creek.

THE ABORIGINAL CONSULTATION PROCESS.

The Aboriginal consultation for this project has been comprehensive, and when considered together with previous work of others to identify sites in the area, has been exhaustive.

The number of times that the area has been investigated reads as follows;

- As referred to previously Gollan recorded the “Diamond Tree” in consultation with an Initiated Elder in 1974.
- Appo recorded the “Bellwood Ck Burial” in 1995.
- Appleton and Mr Stan Jarrett, Chairperson Nambucca Heads LALC, and Knowledge Holder, and Mr Barry Phyball, Community Elder and LALC representative, surveyed an area adjacent to the Project Site for the proposed subdivision for “Swimming Creek Estate” (off Forest Street and Palmer Street) in June 1997, but no sites were found.
- Appleton and Mr Larry Kelly, Sites Officer Nambucca Heads LALC, ATSIC Member and Knowledge Holder investigated the current Project Site in December 2002.
- In December 2009 Appleton arranged for a meeting at Bellwood with the Aboriginal Community representatives for the morning of 14th December 2009, but only two representatives turned up, and left soon after to advise other community members that a second meeting was to be held at 2pm that day.
- Appleton attended the agreed place at the agreed time for the ‘second’ meeting but no-one arrived within an hour after the agreed time.

In addition to the consultation that had already taken place as described above, an advertisement describing the proposed subdivision and stating that the field investigation had taken place in December 2002, and that the proponent now proposed to apply for approval for the proposed subdivision as a Part 3A “Major Project”, was placed in the *Mid-Coast Observer* on 3rd June 2009. The advertisement invited all registered Aboriginal stakeholders to register their interest in the project. The only response to the advertisement was received from Nambucca Heads LALC.

In addition, on 22nd June 2009, letters were sent to DECC (now DECCW) Coffs Harbour, Nambucca Shire Council, NSW Native Title Services, and ALRA requesting that they provide a list of all registered Aboriginal stakeholders for the area, and as a result nine stakeholders were identified.

Subsequently letters were sent on 27th August 2009 to each of the nine stakeholders advising them of the investigation that had taken place and what had been proposed to facilitate the retention of the site of the scarred tree as a reserve. Only one response was received and that was from the Nambucca Heads LALC.

Since the scarred tree was recorded the Project Site has been cleared and so if there were any sites yet to be found they have now been destroyed, and it is reasonable to assert that no further investigation for sites in the Project Site is necessary.

Regards.

ANNEXURE H

Engineering Issues Statement

Engineering Issues Statement

Residential Subdivision

Bellwood South

Lot 1 DP 1119830

Marshall Way
Nambucca Heads

June 2015

de Groot & Benson Pty Ltd

Engineering Issues Statement

Residential Subdivision

Bellwood South

Lot 1 DP 1119830

Marshall Way
Nambucca Heads

June 2015

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DOCUMENT CONTROL STATUS

Issue	Rev.	Issued To	Qty	Date	Reviewed	Approved
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Project Manager: Rob de Groot
Name of Organisation: Bellbird Park Pty Ltd
Name of Project: Engineering Issues Statement Bellwood South
Name of Document: Bellbird Park - Bellwood South
Job Number: 91111



1 INTRODUCTION

de Groot & Benson Pty Ltd have been engaged by Bellbird Park Pty Ltd to prepare an Engineering Issues Statement as part of a Development Application for the residential subdivision of Part Lot 1 DP1119830 Marshall Way, Nambucca Heads. The site is located within the local government area of Nambucca Shire Council, and is situated approximately 1km west of Nambucca River.

1.1 Existing Site

The development site is approximately 14.045 ha in total and is currently undeveloped bushland catchment, with a few access tracks. It is proposed to develop approximately 12.07 ha of the site into a residential subdivision, with the rest of the property (1.97 ha) being deferred area, as is shown in drawing 91111-DA-204.

The site is zoned as R1 - General Residential land, and is surrounded by Faringdon Playing Fields to the north, residential development to the east, Bellwood Road (partially constructed) to the south and forest to the west.

The site generally falls to the north, with the local topography of the land varying due to spurs and gullies which run through the site. On inspection, two distinct spurs visibly run northeast into the central section of the property alongside each other, creating a gully in between. The topography of the eastern section of the site is defined by a gully, the west bank of which is formed by the eastern side of the eastern spur.

Access to the site is from Spring Street and Marshall Way. Spring St stems off Marshall Way, and currently terminates at the eastern boundary of the property, whereas access from Marshall Way is via an access passage between two existing residential lots at the northern corner of the site.

Drawing 91111- DA-201 shows the existing site and its topography.

2 PROPOSED DEVELOPMENT

The proposed development application is for the staged subdivision of the property into conventional 133 residential allotments.

Specifically, civil construction required for this development includes:

- Earthworks
- The construction of internal roads
- Stormwater Drainage Systems and WSUD elements
- Connection to services including water, sewer, electricity, telecom etc.

The proposed development is shown on 91111-DA-204.

2.1 STAGING

The development is proposed to be constructed in seven stages, varying in size from approximately 12 lots to 30 lots. The initial stages are to be in the north of the property, connecting to Marshall Way, and the later stages are at the south of the development, being accessed by Spring St.



The proposed staging is shown on drawings 91111-DA-203 and 91111-DA-204.

3 EXISTING INFRASTRUCTURE

3.1 WATER

Reticulated water is available to the site from mains located in Marshall Way.

3.2 SEWERAGE

Sewerage services are available to the site from existing gravity mains which service residences in Marshall Way.

3.3 POWER & TELECOMMUNICATIONS

Power and communications facilities are also available to the site.

4 ENGINEERING ISSUES AFFECTING THE DEVELOPMENT

4.1 STORMWATER DRAINAGE

Currently no stormwater management systems are in place on the site, and therefore the property drains naturally to the north via overland flow based on the topography of the land.

Drainage from the development will be collected by pits and pipe system and discharged into swales where it will receive treatment. The swales will direct the stormwater flows to the northern corner of the site, following which it will run east through a culvert constructed as part of the future extension of Marshall Way, before finally connecting to the existing local drainage network. The runoff will then travel to Nambucca River, before finally discharging to the sea.

For further information regarding the proposed stormwater management for this development, refer to drawing 91111-DA-205.

4.2 WATER QUALITY

4.2.1 Water Quality During Construction

In order to manage stormwater runoff quality during the construction phase, a Sediment and Erosion Control Plan will be implemented, based on LandCom 'Blue Book' principles.

4.2.2 Post Construction Water Quality

The proposed stormwater management strategy would incorporate stormwater quality improvement devices (SQIDs) into the drainage network in order to manage post-construction stormwater quality.



The following Water Sensitive Urban Design elements would be utilised for the proposed subdivision:

- Rainwater Tanks - each lot to have a 5 kL rainwater tank as per BASIX, which will allow collection of non-potable water for re-use.
- Buffer Strips - the majority of runoff from impervious ground level areas within residential allotments must pass over vegetated land prior to entering the pit and pipe system, and as such will receive some "Buffer Strip" type treatment.
- Swales - The pit and pipe system is to discharge into swales which run along the western and northern borders of the development.

These SQIDs would ensure that the runoff from the development receives treatment before leaving the site.

4.3 TRAFFIC ISSUES RELATING TO THE DEVELOPMENT

4.3.1 Access

At present, access to the proposed subdivision is from Marshall Way at the north of the development, and Spring Street at the south of the development.

The residences within the proposed development are to be serviced by creating a new road network which connects to these two existing roads.

Internal roads were designed in accordance with Nambucca Shire Council's current DCP and Austroads standards.

4.3.2 Road Construction and Design Widths

Road construction details are shown on Drawing 91111-DA-203 and are summarised below:

- Spring Street Extension: Spring St is to be extended south into the site. The road is to be typically 8.0m wide, AC sealed, with a crown central and 3.0% cross fall to a standard roll kerb and gutter, within a road reserve 16.0m wide. The road terminates at a turning circle, where it intersects with Road 1.
- Road 1: Road 1 is to connect to Marshall Way, at the northern corner of the site. The road is to be typically 8.0m wide, AC sealed, with a crown central and 3.0% cross fall to a standard roll kerb and gutter, within a road reserve of varying width. The road terminates at a turning circle, where it intersects with the future extension of Spring St.
- Road 2: Road 2 is to connect to Road 1 and Spring Street, running approximately northwest to southeast. The road is to be typically 6.0m wide, AC sealed, with a crown central and 3.0% cross fall to a standard roll kerb and gutter, within a 15m road reserve.
- Road 3: Road 3 runs from its intersection with Road 2 and Spring St. The road is to be typically 6.0m wide, AC sealed, with a crown central and 3.0% cross fall to a standard roll kerb and gutter, within a 15m wide road reserve.
- Road 4: Road 4 is to stem off Road 3, terminating in a cul-de-sac head, with radius of 9.0m. The road is to be typically 6.0m wide, AC sealed, with a crown central and 3.0%



cross fall to a standard roll kerb and gutter.

- Road 5: Road 5 is to stem off Spring St and terminate at an intersection with Road 2 and Road 3. The road is to be typically 6.0m wide, AC sealed, with a crown central and 3.0% cross fall to a standard roll kerb and gutter, within a 15m wide road reserve.
- Road 6: Road 6 is to stem off Road 5 and terminate with a cul-de-sac head, with radius of 9m. The road is to be typically 6.0m wide, AC sealed, with a crown central and 3.0% cross fall to a standard roll kerb and gutter, within a 15m wide road reserve.

All road gradings are to comply with Nambucca Shire Council's design standards.

4.3.3 Traffic Generation of the Development

As was previously mentioned, the proposed development would include 133 residential lots. In accordance with the RMS (formerly the RTA) 'Guide to Traffic Generating Developments', each residential lot can be expected to produce:

- 7.4 daily vehicle trips
- 0.78 weekday evening peak hour vehicle trips
- 0.71 weekday morning peak hour vehicle trips

The expected additional traffic loading from the new development is therefore:

- 984 daily vehicle trips
- 104 weekday evening peak hour vehicle trips
- 94 weekday morning peak hour vehicle trips

4.3.4 Garbage Services

The proposed geometry for the internal roads conform to all of Council's design standards, and as such would allow a standard garbage truck to service the subdivision.

4.4 WATER SUPPLY

The development will be serviced by 150mm and 100mm internal lines connected to the existing mains in Marshall Way and Spring Street. Long and short water connections off these new water mains will be provided to supply reticulated water to each lot.

Concept plans for water supply are shown on Drawing 91111-DA-207.

4.5 SEWERAGE

The subdivision is to be serviced by three distinct sewer branches, which are to connect to existing mains which run along Marshall Way.

The majority of the site, (the allotments west of the eastern spur) is to drain to the northern most corner, and connect into an existing manhole adjacent to the proposed Lot 1. The lots on the eastern side of the eastern spur are to drain to an existing manhole adjacent to the proposed Lot 62. The remaining lots (at the base of the eastern spur) are to drain to an existing line, which runs alongside the existing portion of Road 1.



Concept plans for sewerage are shown on Drawing 91111-DA-206.

4.6 ELECTRICAL AND TELSTRA SERVICING

Electrical and Telecom will be made available to the site from existing services which run to neighbouring developments along Marshall Way. At this stage, we do not know whether Telstra will be providing the phone and data services or NBNCo. This will be subject to negotiation and Federal Government policy post development consent.

4.7 FLOODING

The site elevation is sufficient that flooding should not prove to be an issue. Furthermore, a Flood Study of the Nambucca River and surrounding areas was conducted in 2013, by WMA Water for the RMS. In this flood study, the site does not fall within the 1% AEP flood extents.

As such, flooding is not considered an issue for this site.

4.8 FILLING / BULK EARTHWORKS

Filling and bulk earthworks are proposed as part of the development. Essentially the filling proposed relates to localised filling of some of the steeper gullies etc to better allow for road grading, lot drainage and sewer.

The proposed extent of earthworks is shown on Drawings 91111-DA-202.

All bulk earthworks would be carried out in accordance with Council's Subdivision Guidelines.

It is anticipated that all fill material will be sourced from:

- On site ridges
- Boxing out for the roadways
- Excess material from the construction of various pipe-laying activities.

4.9 SITE GEOLOGY

4.9.1 Geotechnical Assessment

Geotechnical issues are not considered a constraint on this development.

We have supervised the construction of the initial subdivision in Marshall Way as well as the various structural slabs and footings designs for residential homes in this estate.

Essentially, from our geotechnical site investigations and are fairly consistent with:

- Topsoil – depth varied from 100mm to 200mm on average
- Clay – a highly weathered shale / clay mixture, generally either orange, yellow or brown colour with some quartz present. The clay is generally moist and firm. The shales increased with depth.

In our opinion, the dwelling sites will generally vary in classification between Class S and Class M in accordance with AS 2870 – Residential Slabs and Footings – Construction (2011).



4.10 SLOPE

Generally the site has land slopes less than 18% other than some small isolated areas that are up to 24%. The steeper area of the site will be re-graded as part of the bulk earthworks to ensure serviceability of the subdivision and ensure compliance with all relevant standards and policies. In light of this, the slope of the site does not represent any major constraint to development.

4.11 CHEMICAL CONTAMINATION

Aerial records show that the site was formerly heavily treed. We could find no evidence of any history of banana or small crop cultivation, or indeed any agricultural use of the land.

Given the above, and our experience in dealing with contaminated sites, we believe that possible contamination of the site due to past agricultural use will not be a constraint to development.

We have carried out a preliminary investigation of the site using the guidelines presented in SEPP 55 "Managing Land Contamination Planning Guidelines". For a Preliminary Investigation, SEPP 55 suggests the following issues need to be considered. They are summarised below:

SEPP 55 Issues to consider	DGB Response
<ul style="list-style-type: none"> ▪ Is the information about the site's history adequate: <ul style="list-style-type: none"> – are the descriptions of activities on the site detailed enough to identify a use listed in Table 1? – are there any big gaps in the history that might hide a use listed in Table 1? – are the sources reliable? – is the information verifiable? – Does the information conform with the relevant EPA guidelines? 	<p>The site has some aerial photographic history dating back to the 1950's.</p> <p>The current owners who have owned the site since 1990 advise that in their time of ownership no such activity has been undertaken on the site.</p> <p>There is no evidence of any agricultural activity on the site in these photos.</p>
<ul style="list-style-type: none"> • If contamination or a contaminating activity, whether previous or existing, is confirmed should the proponent conduct a detailed investigation to further define the extent and degree of contamination? 	<p>No contaminating activity has been found to occur on the site</p>
<ul style="list-style-type: none"> • If the site history suggests that the site is unlikely to be contaminated but there are gaps in the history and Table 1 uses were permissible under the zoning during those periods, is limited site sampling needed to confirm the site is not contaminated? Consult a site auditor if necessary. 	<p>Given that the site was fully treed till the late 1990's, early 2000's, there is no evidence of gaps in the history. Further, from this evidence it would appear that no Table 1 activities have occurred on the site</p>
<ul style="list-style-type: none"> • Does this site pose a significant threat to human health or the environment? <p>If so, refer to the CLM Act in relation to duty to notify the EPA.</p>	<p>In our opinion, the site does not pose a threat to human health</p>



SEPP 55 Issues to consider	DGB Response
<ul style="list-style-type: none">Is a site audit of the preliminary investigation necessary? See section 3.6.1. <p>If there is sufficient information to satisfy the planning authority that the site is suitable for the proposed use, the planning process should proceed in the normal way.</p>	It is our opinion that no further investigations are required.

4.12 ACID SULPHATE SOILS

The site is mapped on "Potential Acid Sulfate Soils maps" held by Council as Class 5. The majority of the site is relatively high, with only the northern most lots being below RL 6.0m AHD.

The deepest excavation will be associated with sewerage construction along the northern boundary of the site, where the site is at approximately RL 3.5m at its lowest point. The deepest excavations will therefore be in the order of RL 2.20m.

As such, the development will not affect any land below RL1.0m AHD. This being the case, there should be no issues relating to potential acid sulphate soils.