

# Area 7 Bangalow

## Planning Proposal relating to land identified within the Bangalow Settlement Strategy as Area 7

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# Table of Contents

| <i>Section</i>                                                 | <i>Page</i> |
|----------------------------------------------------------------|-------------|
| Introduction .....                                             | 1           |
| Part 1          Proposal Objective                             | 2           |
| Part 2          Explanation of Provisions                      | 2           |
| Part 3          Justification                                  | 3           |
| Section A - Need for planning proposal .....                   | 3           |
| Section B - Relationship to strategic planning framework ..... | 5           |
| Section C - Environmental, social and economic impact .....    | 9           |
| Section D - State and Commonwealth interests .....             | 10          |
| Part 4          Community Consultation                         | 10          |
| Conclusion and Recommendations .....                           | 10          |

## Illustrations

|                                                 |   |
|-------------------------------------------------|---|
| Illustration 1          The Site .....          | 1 |
| Illustration 2          Proposed Rezoning ..... | 3 |

## Tables

|                                                                                 |    |
|---------------------------------------------------------------------------------|----|
| Table 1          Section 117 Directions .....                                   | 7  |
| Table A.1          Threatened Flora Recorded in the DEC and EPBC Database ..... | 15 |
| Table A.2          Threatened Fauna Recorded in the DEC and EPBC Database ..... | 17 |
| Table B.1          Social Impact Assessment Scope .....                         | 20 |
| Table B.2          Community Consultation .....                                 | 21 |

## Appendices

- Appendix A Ecological Assessment
- Appendix B Social Impact Assessment
- Appendix C SEPP 55 Preliminary Soil Contamination Assessment

## Introduction

This Planning Proposal has been prepared in relation to the entirety of the following lots, located at Bangalow on the Far North Coast of NSW:

- Lots 25, 26, 27 and 30 DP 879204;
- Lots 32, 33 and 34 DP 880271;
- Lots 35, 36, 37, 38, 41, 42, 43, 44, 45, 46, 47, 48, 49 and 50 DP 1010427; and
- Lot 54 DP 1013908.

The Planning Proposal relates to part of Lot 77 DP 1031773.

As detailed further below, the land has been examined for its potential for urban development as part of Byron Shire Council's Bangalow Settlement Strategy 2003.



**Illustration 1     The Site**

The Strategy nominates these lots as a future urban growth area for Bangalow.

Rezoning of the lots has also been considered as part of Byron Shire Council's Shire-wide Local Environmental Plan. While work toward the preparation of that Plan continues, Council has more recently resolved to proceed with the rezoning of sites nominated in the Bangalow Strategy by way of a separate Gateway process, to avoid further delays associated with the Shire-wide LEP.

## **Part 1 Proposal Objective**

To enable the future urban development of the following sites that are currently zoned 1(b1) Agricultural Protection:

- Lots 25, 26, 27 and 30 DP 879204;
- Lots 32, 33 and 34 DP 880271;
- Lots 35, 36, 37, 38, 41, 42, 43, 44, 45, 46, 47, 48, 49 and 50 DP 1010427; and
- Lot 54 DP 1013908,

and to enable the future urban development of that part of Lot 77 DP 1031773 that is currently zoned 1(b1) Agricultural Protection (b1), that is north of the 400 m buffer to the sewage treatment plant, for low-density residential housing.

## **Part 2 Explanation of Provisions**

Amend the Byron Local Environmental Plan 1988 Zoning Map in accordance with the proposed zoning map shown below. The entirety of the following lots are to be zoned 2(a) Residential (R2 Low Density Residential):

- Lots 25, 26, 27 and 30 DP 879204;
- Lots 32, 33 and 34 DP 880271;
- Lots 35, 36, 37, 38, 41, 42, 43, 44, 45, 46, 47, 48, 49 and 50 DP 1010427; and
- Lot 54 DP 1013908.

Land within Lot 77 DP 1031773 currently zoned 1(b1) Agricultural Protection (b1), where north of the 400 m buffer to the sewage treatment plant, is to be zoned 2(a) Residential (R2 Low Density Residential). The zoning of that part of Lot 77 DP 1031773 that is within the 400 m buffer to the sewage treatment plant will not be changed; i.e. it will remain 1(b1) Agricultural Protection.

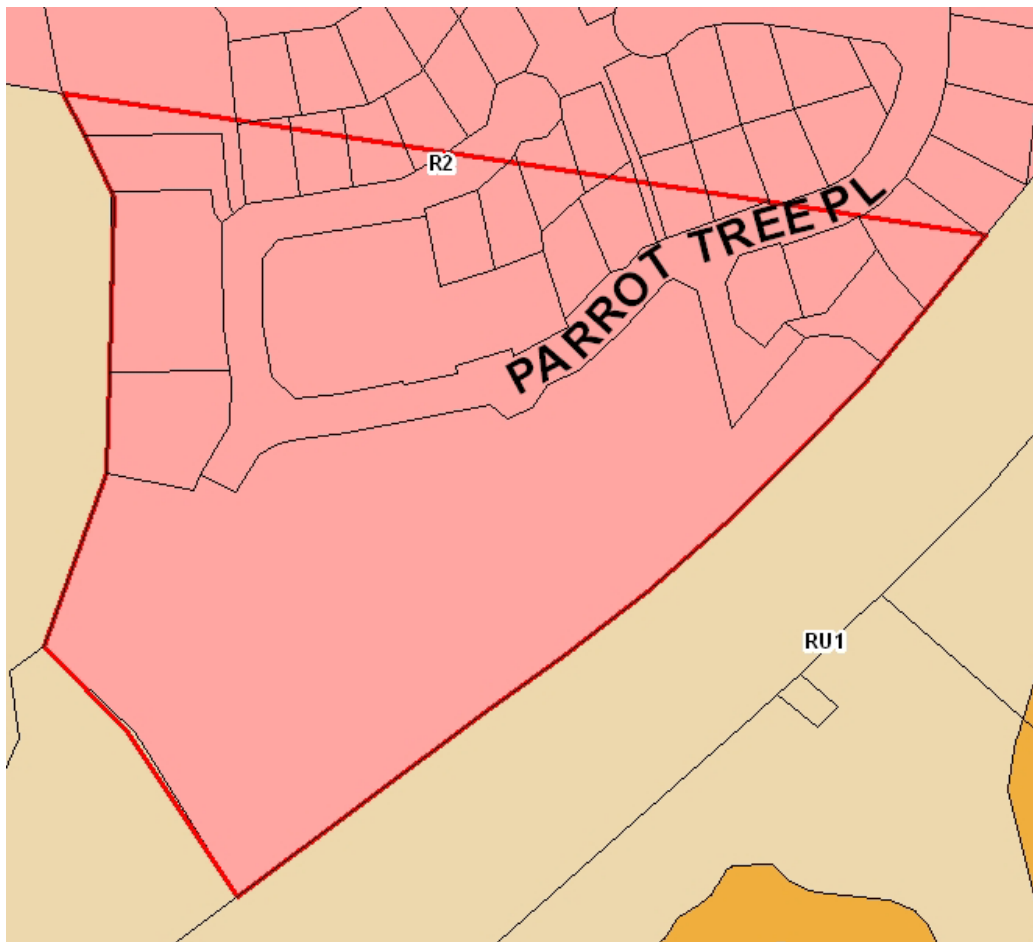


Illustration 2 Proposed Rezoning

## Part 3 Justification

### Section A - Need for planning proposal

#### 1. Is the planning proposal a result of any strategic study or report?

This Planning Proposal is a direct result of the Bangalow Settlement Strategy 2003. This strategy was prepared to meet the requirements of Clause 38 of the *North Coast Regional Environmental Plan*, which is now *State Environmental Planning Policy (North Coast Regional Environmental Plan)*. The strategy provides a framework for rezoning, servicing and the release of urban land within Byron Shire. It addresses issues and outcomes developed in consultation with the community, which will be used in planning and managing future settlement. It aims to set the parameters for future growth of urban areas within Bangalow in a responsible and sustainable manner.

In the strategy, the subject land is identified as Area 7 (of nine areas identified as potential future use areas for village expansion). In relation to Area 7, the strategy identifies the key constraints as being the adjoining railway and the requirement for a 400 m buffer to the nearby sewage treatment plant.

The strategy makes the following recommendations regarding the future development of Area 7:

- *Residential development is supported in that part of Area 7, which is contiguous with existing residential subdivision, subject to the expansion of the railway underpass to provide safe passage of traffic and access to the Lismore to Bangalow road, and improvement of pedestrian and cycle access to the village centre.*

We understand that Council has liaised with the RTA regarding plans to improve the railway underpass as part of a broader discussion of the Lismore/ Rifle Range Road intersection upgrade. Pedestrian and cycleway access has been provided in previous stages of the development, to link to the village centre. Development of the subject lots will include appropriate extensions to this pedestrian/ cycleway to service additional residents.

- *Any residential development of Area 7 should provide for planting and walkway/ bicycle way along the railway line. Although this area is more than 1000 metres from the village centre, it would be efficient to utilise existing infrastructure and complete the subdivision pattern.*

The development of the subject lots will involve the provision of a landscaped buffer along the railway line. It is not considered appropriate, however, to provide a pedestrian/ cycleway along this boundary. Such a pathway would be sandwiched between rear fences of adjoining lots and the railway line. *Crime Prevention Through Environmental Design* (CPTED) principles suggest that such a long narrow path should be avoided. The requirement for pedestrian/ cycleway access can be better accommodated within the proposed road reserve system, where a separate path can be provided in a location that is open with maximum passive surveillance from adjoining lots and the public domain.

- *The site may be developed in two stages, the first utilising existing road and service infrastructure. The estimated yield from this stage is approximately 10 – 15 lots.*

Consideration of appropriate staging, if necessary, will be part of the subsequent development application process. Preliminary concept designs for Lot 77 DP 1031773 only, prepared and submitted to Council, indicate that a more appropriate size for the first stage is 20 – 22 lots. This will optimise utilisation of the land and infrastructure available at the site.

- *A later stage further to the south west, may yield additional residential lots, but this is subject to: maintaining the 400 metre buffer to the sewage treatment plant; vegetation buffers to Lismore Road and the railway line; planting the riparian zone of the drainage line to the west; improvement of the railway underpass on Rifle Range Road; and pedestrian and cycle access to the village centre.*

The proposed development of the lots can easily accommodate all of these requirements. On 20 November 2006, at a meeting of Council and the proponent regarding the rezoning of Lot 77 DP 1031773, Council officers indicated that they were very supportive of any proposed development being treated as one stage, not two as referred to in the strategy.

Furthermore, Byron Shire Council's Local Environmental Study (July 2008) recommends the lots be rezoned R2 Low Density Residential and RU1 Primary Production in accordance with **Illustration 2** of this report.

## **2. Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?**

Amending the Byron Local Environmental Plan 1988 Zoning Map so that the entirety of the following lots:

- Lots 25, 26, 27 and 30 DP 879204;
- Lots 32, 33 and 34 DP 880271;
- Lots 35, 36, 37, 38, 41, 42, 43, 44, 45, 46, 47, 48, 49 and 50 DP 1010427; and
- Lot 54 DP 1013908,

and that part of Lot 77 DP 1031773 that is outside of the sewage treatment plant buffer area, is zoned 2(a) Residential (R2 Low Density Residential) is the best and most efficient way of utilising the land for village expansion.

## **3. Is there a community benefit?**

The Bangalow Settlement Strategy 2003 was prepared to balance overall community benefit outcomes with the need to provide for sustainable expansion of the village population. The community benefit

associated with the development lies in the provision of additional housing options / diversity in a manner that minimises environment, social and economic impacts.

It is proposed, in this case, to provide for community uses through dedicating an area of open space within the development and constructing a pedestrian and cycle network that will link each residence in the development to the Bangalow town centre. The possibility of establishing community gardens within nearby land zoned 1(b1) Agricultural Protection (RU1 Primary Production) will also be investigated. Further analysis and design of these community benefits will be explored at development application stage.

In addition, there is net community benefit in the rezoning of the lots, as it will contribute to Council's housing targets as set by the Far North Coast Regional Strategy, in which the land is mapped as Proposed Future Release.

## **Section B - Relationship to strategic planning framework**

### **4. *Is the planning proposal consistent with the objectives and actions contained within the applicable regional or sub-regional strategy?***

The applicable regional strategy is the Far North Coast Regional Strategy. This strategy consolidates and builds on previous planning work, including the Northern Rivers Regional Strategy and local council settlement strategies.

The strategy includes the subject lots as a 'Proposed Future Urban Release Area'. Rezoning of the subject site is therefore consistent with the Far North Coast Regional Strategy.

### **5. *Is the planning proposal consistent with the local council's Community Strategic Plan, or other local strategic plan?***

As discussed above, the proposal is consistent with the *Bangalow Settlement Strategy 2003*.

### **6. *Is the planning proposal consistent with applicable State Environmental Planning Policies?***

Several State Environmental Planning Policies (SEPPs) would apply to future development on the lots. These are identified and discussed below.

#### **SEPP 14 *Coastal Wetlands***

The lots are not identified as containing any SEPP 14 wetland areas. The closest SEPP 14 wetland is wetland number 83 near Broken Head (approximately 12 kilometres away).

#### **SEPP 44 *Koala Habitat Protection***

The subject land does not contain any koala food trees. It would not, therefore, be considered potential koala habitat as defined in this SEPP.

#### **SEPP 55 *Remediation of land***

The risk of land contamination is low given the history of land uses on the lots. A preliminary Soil Contamination Assessment has been prepared for Lot 77 DP 1031773. This is contained within

#### **Appendix C.**

#### **SEPP Major Development**

This SEPP consolidates criteria and identifies developments, which are 'State Significant'.

The development of any of the lots post rezoning would not be categorised within this SEPP as a project to which Part 3A of the Act applies, nor would it be categorised as Regional Development.

#### *SEPP Rural Lands*

This SEPP provides for the protection of agricultural land that is of State or regional significance. The site proposed to be rezoned is mapped as regionally significant farmland. The SEPP contains specific provisions that relate to the assessment of a development applications over rural land. It does not contain provisions for rezoning applications.

The SEPP contains the following rural planning principles:

- a) *the promotion and protection of opportunities for current and potential productive and sustainable economic activities in rural areas.*
- b) *recognition of the importance of rural lands and agriculture and the changing nature of agriculture and of trends, demands and issues in agriculture in the area, region or State.*
- c) *recognition of the significance of rural land uses to the State and rural communities, including the social and economic benefits of rural land use and development.*
- d) *in planning for rural lands, to balance the social, economic and environmental interests of the community.*
- e) *the identification and protection of natural resources, having regard to maintaining biodiversity, the protection of native vegetation, the importance of water resources and avoiding constrained land.*
- f) *the provision of opportunities for rural lifestyle, settlement and housing that contribute to the social and economic welfare of rural communities.*
- g) *the consideration of impacts on services and infrastructure and appropriate location when providing for rural housing.*
- h) *ensuring consistency with any applicable regional strategy of the Department of Planning or any applicable local strategy endorsed by the Director-General.*

The proximity of the land to existing residents, with little or no opportunity for buffering, would limit the scope of agricultural pursuits on any of the lots, given the potential for future land use conflicts. This is reflected in the lots' inclusion in the Byron Local Environmental Study, the Bangalow Settlement Strategy and the Far North Coast Regional Strategy as land suitable for future urban development.

#### **7. Is the planning proposal consistent with applicable Ministerial Directions (s. 117 directions)?**

Directions made under section 117 of the *Environmental Planning and Assessment Act 1979*, issued on 1 July 2009, which are relevant to the site, are identified and addressed in **Table 1**, below.

**Table 1 Section 117 Directions**

| <b>Direction No.</b>       | <b>Objective</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Consideration</b>                                                                                                                                                                                                                                                                                                                      |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No. 1.2 – Rural Zones      | <p>A planning proposal must not rezone land from a rural zone to a residential, business, industrial, village or tourist zone.</p> <p>A planning proposal may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Department of Planning that the provisions of the planning proposal that are inconsistent are:</p> <p>(a) justified by a strategy which:</p> <ul style="list-style-type: none"> <li>(i) gives consideration to the objectives of this direction;</li> <li>(ii) identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites), and</li> <li>(iii) is approved by the Director-General of the Department of Planning.</li> </ul> | <p>This planning proposal does seek to rezone land that currently has a rural zoning to a residential zoning. However, this inconsistency is justifiable as both the <i>Far North Coast Regional Strategy</i> and the <i>Bangalow Settlement Strategy 2003</i> specifically identify the lots as a potential future residential area.</p> |
| No. 1.5 – Rural Lands      | <p>A planning proposal must be consistent with the Rural Planning Principles listed in <i>SEPP Rural Lands</i>.</p> <p>A planning may be inconsistent with the terms of this direction only if the relevant planning authority can satisfy the Department of Planning that the provisions of the planning proposal that are inconsistent are:</p> <p>(a) justified by a strategy which:</p> <ul style="list-style-type: none"> <li>(i) gives consideration to the objectives of this direction;</li> <li>(ii) identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites), and</li> <li>(iii) is approved by the Director-General of the Department of Planning.</li> </ul>                         | <p>See above. The proposal is consistent with the Rural Planning Principles and Rural Subdivision Principles listed in <i>SEPP Rural Lands</i>.</p>                                                                                                                                                                                       |
| No.3.1 – Residential Zones | <p>To ensure the orderly and economic use or development of residential land.</p> <p>This direction provides that residential zones should contain a range of provisions ensuring appropriate servicing, appropriate density controls, the provision of housing choice etc.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>The existing 2(a) zone within the Byron LEP provides for these outcomes and the rezoning of the lots to 2(a) will be consistent with the requirements of this direction.</p>                                                                                                                                                           |

| <b>Direction No.</b>                                                             | <b>Objective</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Consideration</b>                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Direction No.3.4 – Integrating Land Use and Transport                            | <p>To ensure that urban structures, building forms, land use locations, development designs, subdivision and street layouts achieve the following planning objectives:</p> <ul style="list-style-type: none"> <li>▪ improving access to housing, jobs and services by walking, cycling and public transport</li> <li>▪ increasing the choice of available transport and reducing dependence on cars</li> <li>▪ reducing travel demand including the number of trips generated by development and the distances travelled, especially by car</li> <li>▪ supporting the efficient and viable operation of public transport services</li> <li>▪ providing for the efficient movement of freight.</li> </ul> | <p>The subject lots are located on the urban fringe of Bangalow and adjoin existing residential areas. The existing residential area is serviced by public transport and contains a pedestrian / cycleway connection to the village centre of Bangalow. The proposed development will allow for an extension to these services.</p>  |
| No. 4.3 – Flood Prone Land                                                       | <p>To ensure that development of flood prone land is consistent with the NSW Government's Flood Prone Land Policy and the principles of the Floodplain Development Manual, 2005.</p> <p>To ensure that the provisions of an LEP on flood prone land is commensurate with flood hazard and includes consideration of the potential flood impacts both on and off the subject land.</p>                                                                                                                                                                                                                                                                                                                    | <p>The subject land is not considered to be flood prone.</p>                                                                                                                                                                                                                                                                         |
| No. 4.4 – Planning for Bushfire Protection                                       | <p>To protect life, property and the environment from bush fire hazards, by discouraging the establishment of incompatible land uses in bush fire prone areas.</p> <p>To encourage sound management of bush fire prone areas.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <p>The subject lots are not mapped as bushfire prone land.</p>                                                                                                                                                                                                                                                                       |
| No. 5.1 – Implementation of Regional Strategies                                  | <p>Planning proposals must be consistent with a regional strategy released by the Minister for Planning.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>The Strategy includes the subject lots as a 'Proposed Future Urban Release Area'. The proposed rezoning is therefore consistent with the Far North Coast Regional Strategy.</p>                                                                                                                                                   |
| No. 5.3 – Farmland of State and Regional Significance on the NSW Far North Coast | <p>To ensure that the best agricultural land will be available for current and future generations to grow food and fibre.</p> <p>To provide more certainty on the status of the best agricultural land, thereby assisting councils with their local strategic settlement planning.</p> <p>To reduce land use conflict arising between agricultural use and non-agricultural use of farmland as caused by urban encroachment into farming areas.</p>                                                                                                                                                                                                                                                      | <p>The lots are identified as being regionally significant farmland. However, the direction does not apply as the lots have been identified for urban settlement in the <i>Bangalow Village Settlement Strategy</i>, which is a strategy approved by the Director General of Planning under Clause 20 of SEPP (North Coast REP).</p> |

## Section C - Environmental, social and economic impact

### **8. *Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?***

An ecological assessment has been conducted for Lot 77 DP 1031733, which makes up the vast majority of the site. The results of this assessment are detailed in **Appendix A**.

The assessment examined all of Lot 77 DP 1031733 and concluded that there are no significant areas of natural vegetation found on site. Due to its highly modified nature, the study area does not provide suitable habitat for any threatened flora and fauna species, as a result there are no identifiable ecological constraints that will affect the rezoning proposal.

This view is supported in the Byron Shire Local Environmental Study (PB, 2008). In relation to Area 7, the LES notes that the riparian vegetation along the second order tributary of Byron Creek is the most significant environmental attribute and a riparian buffer should be established to protect this area.

### **9. *Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?***

#### Soil Contamination

The subject lots have historically been used for cattle grazing. Discussions with relatives of previous land owners indicated that chemicals have not previously been used in this part of the land. This land use history, however, could not be verified with certainty. A preliminary soil contamination assessment has been undertaken for Lot 77 DP 1031733. The report of that assessment is contained in **Appendix C**.

The assessment concludes that there is a very low likelihood of any soil contamination being present on that site. As the other lots that make up Area 7 were once part of same farm estate, it is equally unlikely that there is any contamination present in those lots.

#### Bushfire

Bushfire risk mapping provided by Byron Shire Council indicates that the lots are not bushfire prone. The requirements of the NSW Rural Fire Service 'Planning for Bushfire Protection' (Planning NSW 2001) therefore do not apply to the proposal.

#### Flooding

'Flood liable land' within Byron Shire is mapped in Part K of Byron Development Control Plan 2002. The subject lots are not shown as flood liable land in that mapping.

### **10. *How has the planning proposal adequately addressed any social and economic effects?***

A social impact assessment has been conducted. The results of this assessment are detailed in **Appendix B**.

The assessment resulted in a determination that an increase of around 50 lots would not constitute a significant change in terms of a social impact on the village of Bangalow. It roughly represents an 8 percent increase in population, based on the 2006 population for Bangalow village.

The increase could result in the economic strengthening of the Bangalow Village, increased usage of the public transport network, and a more coherent and physically complete neighbourhood. The increase in

population, and therefore increase in pressure on current services and amenities could contribute to improving the public service network of schools, hospitals and community facilities in the longer term.

The Byron Shire LES (PB, 2008) notes that a further SIA would be required at DA stage. It also notes that: *"the economic implications are considered positive. The proposed development would not only provide job opportunities during the construction phase, but will bring additional revenue into the local businesses and area once established"*.

## Section D - State and Commonwealth interests

### **11. Is there adequate public infrastructure for the planning proposal?**

The proposed rezoning is likely to result in an increase of around 50 lots and therefore will not result in a significant increase in demand for infrastructure. The existing provision of infrastructure servicing Bangalow is generally capable of catering for the additional population. Where there are potential shortfalls in existing services, such as education or health, it is anticipated that the additional population will contribute towards increases in services.

### **12. What are the views of State and Commonwealth public authorities consulted in accordance with the gateway determination?**

This section of the planning proposal will be completed following consultation with the State and Commonwealth Public Authorities identified in the gateway determination. This section will summarise any issues raised by public authorities not already dealt with in the planning proposal, and will address issues as required.

## Part 4 Community Consultation

As discussed in **Section 6** and **Appendix B** of this report, consultation has been carried out in accordance with Byron Shire Council's *Draft Social Impact Assessment Development Control Plan* and *Draft Social Impact Assessment Policy*, as part of conducting a social impact assessment for the future development of the lots.

In accordance with *A Guide to Preparing Local Environmental Plans* (Department of Planning, 2009) the gateway determination will specify the community consultation that must be undertaken on the planning proposal.

## Conclusion and Recommendations

This proposal to extend the village of Bangalow to include the entirety of the following lots:

- Lots 25, 26, 27 and 30 DP 879204;
- Lots 32, 33 and 34 DP 880271;
- Lots 35, 36, 37, 38, 41, 42, 43, 44, 45, 46, 47, 48, 49 and 50 DP 1010427; and
- Lot 54 DP 1013908,

and the north-eastern part of Lot 77 DP 1031773 is a direct result of the Bangalow Settlement Strategy 2003 and is supported by the Byron Local Environmental Study (July 2008).

The proposal is also supported by the Far North Coast Regional Strategy, which classifies the subject lots as a proposed future urban release area. It is consistent with all relevant Section 117 directions, excluding those regarding development of land within a rural zone. The inconsistencies are justifiable, given the lots' identification as a new urban area within the policy documents described above.

An analysis of potential environmental constraints, including contamination, bushfire, flooding, social impact and ecology has been carried out. The results of this analysis have been used to determine a suitable boundary to the proposed village expansion area.

The proposal objective, to enable the future urban development of the subject lots, that are currently zoned 1(b1) Agricultural Protection (b1), where outside of the sewage treatment plant buffer area, for low-density residential housing is therefore considered suitable. It is recommended that the Byron Local Environmental Plan 1988 Zoning Map be amended in accordance with the proposed zoning map included in this report.

This conclusion has been endorsed by the Local Environmental Study undertaken to support the Byron Shire Council's Shire-wide Local Environmental Plan (PB, 2008).

That LES considered the proposed residential zoning of the land and provides the following recommendation:

*"the rezoning of Area 7 (part of Lot 77 DP 1031773) is considered to be a logical extension of the existing residential area, and a large portion of the site is identified within the settlement strategy and the Far North Coast Regional Strategy as a future release area".*

Rezoning all of the subject lots that make up Area 7, where outside of the 400 m buffer to the sewer treatment plant, is all that is required as part of this Gateway Process.



**Rob van Iersel**

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## Ecological Assessment

### *Objective*

*To identify and protect site flora and fauna of high consideration value and enhance the biological diversity of the land through the protection of significant habitats, implementation of ecological buffers and landscape design.*

### **A.1 Flora**

A site inspection was undertaken by GeoLINK on 1st February 2007. The site was not surveyed extensively as the majority of the study area has been previously cleared and grazed by cattle.

The majority of the study area consists of low grassland and associated pasture species including exotic species such as Narrow-leaf Cotton Bush (*Gomphocarpus fruticosus*), Purple Top (*Verbena bonariensis*), Fireweed (*Senecio madagascariensis*) and Fleabane (*Conyza bonariensis*).

The only treed vegetation within the site is located along the creek line in the north western portion of the site and an isolated stand in the north eastern portion of the site (refer to **Plate A.1**). These two areas are both dominated by exotic species including Camphor Laurel (*Cinnamomum camphora*) and Small-leaf Privet (*Ligustrum sinense*). The riparian vegetation along the second order tributary of Byron Creek is dominated by Camphor Laurel and Small-leaf Privet (refer to **Plates A.2** and **A.3**); however it also contains some native Sweet Pittosporum (*Pittosporum undulatum*) and Cheese Tree (*Glochidion ferdinandi*). Cattle have full access to the creek and it is therefore currently in a degraded state.



Plate A.1            Isolated stand of Camphor and Privet

## A.2    Threatened Flora

Records of threatened species, populations or ecological communities known to occur within a 5 km radius of the site were obtained from the Department of Environment and Conservation Wildlife Atlas database. Fifteen threatened flora species were identified within the study area on this database. The Environment Protection Biodiversity Conservation (EPBC) Act Database was also examined for this area, and it lists 15 threatened flora species as '*species habitat likely to occur within area*'.

**Table A.1** summarises the flora species found in the DEC and EPBC database search and assesses the likelihood of their occurrence on the site.



Plate A.2      Riparian vegetation dominated by Camphor Laurel



Plate A.3      Camphor Laurel lined creek bank

**Table A.1 Threatened Flora Recorded in the DEC and EPBC Database**

| Scientific Name                                       | Common Name            | Status  |          | Habitat Requirement                                                                                                      | Suitability of Site Habitat | Potential Occurrence |
|-------------------------------------------------------|------------------------|---------|----------|--------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------------|
|                                                       |                        | TSC Act | EPBC Act |                                                                                                                          |                             |                      |
| <i>Acalypha eremorum</i>                              | Acalypha               | E       |          | Subtropical and dry rainforest and vine thickets                                                                         | Low                         | Unlikely             |
| <i>Archidendron hendersonii</i>                       | White Laceflower       | V       |          | Riverine and lowland subtropical rainforest and littoral rainforest                                                      | Low                         | Unlikely             |
| <i>Cryptocarya foetida</i>                            | Stinking Cryptocarya   | V       | V        | Littoral rainforest in sandy soils, mature trees known on basalt soils                                                   | Low                         | Unlikely             |
| <i>Davidsonia</i> sp. <i>Mullumbimby-Currumbin Ck</i> | Smooth Davidson's Plum | E       | E        | Lowland subtropical rainforest and wet eucalypt forest, isolated trees in paddocks & cleared land                        | Moderate                    | Possible             |
| <i>Desmodium acanthocladum</i>                        | Thorny Pea             | V       | V        | Fringes of riverine subtropical and dry rainforest on basalt derived soils                                               | Low                         | Unlikely             |
| <i>Diploglottis campbellii</i>                        | Small-leaved Tamarind  | E       | E        | Riverine and subtropical rainforest and Brush Box forest, some trees isolated in paddocks & roadsides                    | Moderate                    | Possible             |
| <i>Endiandra floydii</i>                              | Crystal Creek Walnut   | E       | E        | Warm temperate or subtropical rainforest with Brush Box overstorey, and in regrowth rainforest and Camphor Laurel forest | Low                         | Unlikely             |
| <i>Floydia praealta</i>                               | Ball Nut               | V       | V        | Riverine and subtropical rainforest, usually soils derived from basalt                                                   | Low                         | Unlikely             |
| <i>Gossia fragrantissima</i>                          | Sweet Myrtle           | E       | E        | Dry subtropical and riverine rainforest, isolated plants can be found in paddocks from regrowth                          | Moderate                    | Possible             |
| <i>Hibbertia hexandra</i>                             | Tree Guinea Flower     | E       |          | Heath, open forest or rainforest                                                                                         | Low                         | Unlikely             |
| <i>Hicksbeachia pinnatifolia</i>                      | Red Boppel Nut         | V       | V        | Subtropical rainforest, moist eucalypt forest and Brush Box forest                                                       | Low                         | Unlikely             |

| Scientific Name                | Common Name                 | Status  |          | Habitat Requirement                                                                            | Suitability of Site Habitat | Potential Occurrence |
|--------------------------------|-----------------------------|---------|----------|------------------------------------------------------------------------------------------------|-----------------------------|----------------------|
|                                |                             | TSC Act | EPBC Act |                                                                                                |                             |                      |
| <i>Isoglossa eranthemoides</i> | Isoglossa                   | E       | E        | Understorey of lowland subtropical rainforest, in moist situations on floodplains and slopes   | Low                         | Unlikely             |
| <i>Macadamia tetraphylla</i>   | Rough-leaved Queensland Nut | V       | V        | Subtropical rainforest usually near the coast                                                  | Low                         | Unlikely             |
| <i>Ochrosia moorei</i>         | Southern Ochrosia           | E       | E        | Riverine and lowland subtropical rainforest                                                    | Low                         | Unlikely             |
| <i>Owenia cepiodora</i>        | Onion Cedar                 | V       | V        | Subtropical and dry rainforest                                                                 | Low                         | Unlikely             |
| <i>Randia moorei</i>           | Spiny Gardinia              | E       | E        | Subtropical, riverine, littoral and dry rainforest, with Hoop Pine & Brush Box canopy          | Low                         | Unlikely             |
| <i>Syzygium hodgkinsoniae</i>  | Red Lilly Pilly             | V       | V        | Riverine and subtropical rainforest on rich alluvial or basaltic soils                         | Low                         | Unlikely             |
| <i>Syzygium moorei</i>         | Durobby                     | V       | V        | Subtropical and riverine rainforest                                                            | Low                         | Unlikely             |
| <i>Tinospora tinoporoides</i>  | Arrow-head Vine             | V       | V        | Wetter subtropical rainforest, including littoral rainforest, on fertile, basalt-derived soils | Low                         | Unlikely             |

V = vulnerable

E = endangered

The study area is not considered to contain suitable habitat for the majority of species listed above. The site is highly modified and does not contain the vegetation communities or associations preferred by most of these threatened species. No threatened species were identified during the site inspection by GeoLINK. However, species such as Smooth Davidson's Plum, Small-leaved Tamarind and Sweet Myrtle are known to occur in disturbed areas such as paddocks, Camphor Laurel forest and rainforest regrowth. The study area contains some of these habitat characteristics however none of these species were observed during the site inspection.

### A.3 Fauna

No significant fauna was observed during the site inspection conducted on 1<sup>st</sup> February 2007. The majority of the site has been significantly modified due to grazing resulting in vegetation consisting mainly of grassland with two sections of weedy vegetation dominated by Camphor Laurel and Small-leaf Privet trees. These areas may provide marginal refuge for fauna species. Two Eastern Water Dragons (*Physignathus lesuerii* ssp. *lesuerii*) were observed on the creek bank during the site inspection. The subject site generally lacks important habitat features such as fallen logs, dense leaf litter and vegetation

with spouts or hollows and therefore does not provide suitable areas of habitat for a range of native fauna species.

## A.4 Threatened Fauna

The Department of Environment and Conservation Wildlife Atlas database was assessed for records of threatened fauna species covering a 5km radius around the study area. The database listed four threatened species within the 5km radius as endangered (Schedule 1) or vulnerable (Schedule 2) under the *Threatened Species Conservation Act 1995* (TSC Act). The Environment Protection Biodiversity Conservation (EPBC) Act Database was also examined for this area, and it lists 12 threatened fauna species as 'species or species habitat likely or may occur within area'.

**Table 4.2** summarises the fauna species found in the DEC and EPBC database search and assesses the likelihood of their occurrence on the site.

**Table A.2 Threatened Fauna Recorded in the DEC and EPBC Database**

| Scientific Name                       | Common Name            | Status  |          | Habitat Requirement                                                                                                                                                     | Suitability of Site Habitat | Potential Occurrence |
|---------------------------------------|------------------------|---------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------------|
|                                       |                        | TSC Act | EPBC Act |                                                                                                                                                                         |                             |                      |
| <i>Mixophyes iteratus</i>             | Giant Barred Frog      | E       | E        | Deep, damp leaf litter in rainforests, moist eucalypt forest and nearby dry eucalypt forest                                                                             | Low                         | Unlikely             |
| <i>Litoria olongburensis</i>          | Wallum Sedge Frog      | V       | V        | Paperbark swamps and sedge swamps of the coastal 'wallum' country amongst sedges and rushes                                                                             | Low                         | Unlikely             |
| <i>Cyclopsitta diophthalma coxeni</i> | Double-eyed Fig-Parrot | E       | E        | Drier rainforests and adjacent wet eucalypt forest, wetter lowland also wetter lowland rainforests                                                                      | Low                         | Unlikely             |
| <i>Lathamus discolor</i>              | Swift Parrot           | E       | E        | Forests, woodlands, plantations, and banksias                                                                                                                           | Low                         | Unlikely             |
| <i>Xanthomyza phrygia</i>             | Regent Honeyeater      | E       | E        | Dry open forest and woodland with an abundance of nectar-producing eucalypts, particularly box-ironbark woodland, swamp mahogany forests, and riverine sheoak woodlands | Low                         | Unlikely             |
| <i>Lophoictinia isura</i>             | Square-tailed Kite     | V       | -        | Dry woodland and open forest, particularly along major rivers and belts of trees in urban or semi-urban areas                                                           | Moderate                    | Possible             |

| Scientific Name                         | Common Name                                 | Status  |          | Habitat Requirement                                                                                                                                                   | Suitability of Site Habitat | Potential Occurrence |
|-----------------------------------------|---------------------------------------------|---------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------------|
|                                         |                                             | TSC Act | EPBC Act |                                                                                                                                                                       |                             |                      |
| <i>Poephia cincta cincta</i>            | Black-throated Finch (southern)             | -       | E        | Grassy scrublands/ woodlands/ dune woodlands and Pandanus near water                                                                                                  | Low                         | Unlikely             |
| <i>Rostratula australis</i>             | Australian Painted Snipe                    | E       | V        | Well-vegetated shallows and margins of wetlands, dams, sewage ponds, wet pastures, marshy areas, irrigation systems, lignum, tea-tree scrub, and open timber          | Low                         | Unlikely             |
| <i>Turnix melanogaster</i>              | Black-breasted Button-quail                 | E       | V        | Drier rainforests and viney scrubs, often in association with Hoop Pine and a deep moist leaf litter layer. During drought it may move to adjacent wetter rainforests | Low                         | Unlikely             |
| <i>Ephippoorhynchus asiaticus</i>       | Black-necked Stork                          | E       | -        | Swamps, mangroves, mudflats, dry floodplains                                                                                                                          | Low                         | Unlikely             |
| <i>Ptilinopus regina</i>                | Rose-crowned Fruit-Dove                     | V       | -        | Subtropical and dry rainforest, moist eucalypt forest and swamp forest                                                                                                | Low                         | Unlikely             |
| <i>Phascolarctos cinereus</i>           | Koala                                       | V       | -        | Eucalypt forest, woodland                                                                                                                                             | Low                         | Unlikely             |
| <i>Dasyurus maculatus maculatus</i>     | Spotted-tail Quoll (SE mainland population) | V       | E        | Dry and moist eucalypt forests and rainforests, fallen hollow logs, large rocky outcrops                                                                              | Low                         | Unlikely             |
| <i>Potorous tridactylus tridactylus</i> | Long-nosed Potoroo                          | V       | V        | Cool temperate rainforest, moist and dry forests, and wet heathland, inhabiting dense layers of grass, ferns, vines and shrubs                                        | Low                         | Unlikely             |
| <i>Pteropus policephalus</i>            | Grey-headed Flying-fox                      | V       | V        | Roost in lowland rainforests and swamp forests, forage in rainforests and eucalypt forests                                                                            | Low                         | Unlikely             |
| <i>Chalinolobus dwyeri</i>              | Large-eared Pied Bat                        | V       | V        | Near cave entrances and crevices in cliffs                                                                                                                            | Low                         | Unlikely             |

V = vulnerable

E = endangered

The habitat suitability of the subject site has been assessed as 'low' for the majority of the species listed within **Table A.2**. This is mainly due to the highly modified state of the environment, which lacks cover that may provide protection for ground dwelling fauna or roosting sites in significant stands of trees for avifauna. The Square-tailed Kite is assessed as having a 'moderate' habitat suitability, however this species was not observed during site inspections.

## **A.5 Wildlife Corridors**

Fauna corridors are described as vegetation communities that allow the movement of fauna between connected landscape elements (Soule & Gilpin 1991). Corridors provide dispersion routes for migrating animals with large foraging or breeding ranges. Corridors are also particularly important for small remnants that do not support large viable populations.

The study area does not fall within any regional or sub-regional corridors and no areas of Critical Habitat are found on site as indicated by Key Habitat and Corridor mapping in north-east NSW from the National Parks & Wildlife Service.

## **A.6 Recommendations**

There are no significant areas of natural vegetation found on site. Due its highly modified nature, the study area does not provide suitable habitat for any threatened flora and fauna species, as a result there are no identifiable ecological constraints that will affect the rezoning proposal.

## Social Impact Assessment

### B.1 Introduction

Byron Shire Council have developed the *Draft Social Impact Assessment Chapter* in the *Draft Byron Shire Development Control Plan 2006* and the *Draft Social Impact Assessment Policy* as mechanisms for identifying and assessing the impact on communities of proposed projects, policies and development.

Social impact assessment assesses potential social impacts of change, using measurable social variables and community consultation as tools. The process includes plans to manage the identified impacts, whether positive or negative.

Initially a Social Impact assessment scope was prepared to identify the parameters of the study. The scope is presented in **Table B.1**.

**Table B.1 Social Impact Assessment Scope**

| <b><i>What are the standard issues for consideration?</i></b><br><i>(These issues are not listed in order of importance)</i> | <b><i>What baseline data is available?</i></b>                                                            | <b><i>What information needs to be collected by the applicant?</i></b>                                                           | <b><i>What is the most appropriate collection tool?</i></b>                                                            | <b><i>What is the most appropriate analysis tool?</i></b>                                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Transport                                                                                                                    | Road, rail, cycleway/ walkway access to town and places of employment.<br>Byron Shire Council Social Plan | Public transport services map.<br>Road upgrade details<br>Local perception and experience with access and transport availability | Call to bus companies<br>Liaison with council's assets engineers<br>Local experience in accessing transport facilities | Map showing accessibility of site to public transport, pedestrian and private transport networks linking to commercial, recreation, tourism and industrial areas. |
| Safety and security                                                                                                          | Crime statistics from police records                                                                      | Crime statistics from local police station<br>Community input                                                                    | Liaison with police<br>Neighbourhood community consultation                                                            | No specific analysis tool needed                                                                                                                                  |
| Diversity                                                                                                                    | Community profile data                                                                                    | Demographic profile statistics (ABS)                                                                                             | Download local census data                                                                                             | Comparison to state and regional statistics<br>Check alignment with Byron Shire Council social plan                                                               |

| <b><i>What are the standard issues for consideration?</i></b><br><i>(These issues are not listed in order of importance)</i> | <b><i>What baseline data is available?</i></b>                                                                                         | <b><i>What information needs to be collected by the applicant?</i></b>                    | <b><i>What is the most appropriate collection tool?</i></b> | <b><i>What is the most appropriate analysis tool?</i></b>                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Amenity                                                                                                                      | Information regarding existing community facilities (parents with young children, people with disabilities, young people, and elderly) | Amount and location of local open space<br>Range and availability of community facilities | Liaison with council social planners<br>Open space audit    | No specific tool needs                                                                                                                                                                                 |
| Employment and training                                                                                                      | Employment statistics – census data<br>Existence of local training facilities                                                          | Information on various employment and training options within accessible distance         | Download census data<br>Liaison with local trainers         | Compare the employment levels of the working population of Bangalow to that of surrounding areas, and assess the growth potential of the employment and training sector within the village and beyond. |
| Culture and village character                                                                                                | Bangalow Settlement Strategy<br>Previous heritage studies                                                                              | Community feedback on village character                                                   | Community consultation                                      | No specific tools required                                                                                                                                                                             |

Community Consultation was required for tabulated items below.

**Table B.2 Community Consultation**

| <b><i>Issues to be covered</i></b> | <b><i>Community Representatives that need to be included</i></b> | <b><i>Number of sessions to be held</i></b> | <b><i>Advertising of sessions required</i></b> |
|------------------------------------|------------------------------------------------------------------|---------------------------------------------|------------------------------------------------|
| Transport                          | Local bus company<br>Residents in the vicinity                   | One                                         | None                                           |
| Safety and security                | Residents in the vicinity                                        | One                                         | None                                           |
| Culture and village character      | Residents in the vicinity                                        | One                                         | None                                           |

The methodology used in undertaking the social impact assessment study is to assess the current situation in relation to all the issues identified for consideration, and then to indicate if and how the proposed development would impact upon the 'status quo'. These issues and the possible impacts as a result of the proposed development are discussed below.

The area being proposed for development extends from an already established (albeit fairly recent) urban area, and it will be planned and designed in such a way that it will result in an 'extension' of this community. Through this reasoning, it is expected that the proposed development will result in minor social impacts and therefore minimal change in comparison to the status quo.

### **B.1.1 Transport**

Current issues identified include:

- the Rifle Range Road and Lismore Road intersection has been identified for upgrading. Plans are currently with the RTA for the commencement of works. Section 94 funds have been cleared to fund improvement of the intersection;
- regional bus networks serve Bangalow and the area proposed for rezoning; and
- the Casino – Murwillumbah Railway line is not in use, however the infrastructure exists should it be reinstated.

Possible impacts as a result of proposed development include:

- an increase in traffic through the Rifle Range / Lismore roads intersection is expected - the intersection upgrade is due to be finished prior to completion of the development; and
- demand for bus services could increase.

The rezoning of the site will provide for a relatively minor extension of an existing residential estate, which has been designed with this ultimate extension in mind. The primary local access road, Parrot Tree Road, is in place.

Residential development of the site will not generate significant additional traffic volumes. Depending on ultimate design, additional traffic volumes are likely to be in the order of 500 vehicle movement per day. In the context of the existing network capacity, this increase is minimal and is unlikely to result in any detrimental local social impacts.

### **B.1.2 Safety and Security**

Current issues identified include:

- according to a member of the Police Accountability Team and recent crime statistics, Bangalow is regarded as the safest place to live in coastal NSW between Newcastle and Tweed Heads; and
- a positive social impact on the community's feeling of security has been identified as a result of this.

Possible impacts as a result of proposed development include:

- low impact on safety and security of Bangalow's community would be expected, if the development follows previous development impact patterns; and
- for safety and security can be reinforced through measures such as the use of street lighting, neighbourhood surveillance opportunities, and creating usable and accessible open public spaces.

Impacts on local safety and security can be minimised through incorporation of Crime Prevention Through Environmental Design (CPTED) principles at subdivision design stage. This is a requirement of Council, and so can be expected to occur. As such, the proposed rezoning will not significantly increase local safety and security issues.

### **B.1.3 Diversity**

Current issues identified include:

- Bangalow has a diverse demographic profile, and boasts a village feel and character that incorporates various groups, ranging from elderly to young families or single person households.

Possible impacts as a result of proposed development include:

- the proposed development could offer even further diversity to the village of Bangalow. With new residents come new skills, and an inevitable contribution to the village's diversity.

Residential development of the site is likely to have a beneficial impact in terms of adding to existing local diversity.

### **B.1.4 Amenity/ Community Facilities**

Issues identified include:

- according to the Bangalow Chamber of Commerce president, Michael Malloy, in 2007 the kindergarten had five classes – a jump from three the previous year. Also in 2007, the Primary school was at full capacity and an expansion plan was needed urgently; and
- community facilities are stretched in other areas as well. Single parents and single person households are not sufficiently catered for in the way of available affordable accommodation.

Possible impacts as a result of proposed development include:

- the proposed development will put further pressure on the already stretched resources with regard to community facilities. Conversely, additional Section 94 contributions coming from the development can add to the potentially available funds for the provision of new / additional facilities; and
- the new development could contribute to alleviating certain amenity / facility shortfalls, especially with regard to single person dwelling stock.

In the context of the existing Bangalow population, the rezoning of the subject site is minor. It will not significantly add to the local population.

Council's Section 94 Contributions plan provides for additional amenity / community facility outcomes commensurate with the scale and level of development. The development of the subject site will require the payment of various monetary contributions that will go toward the provision of additional / new services and facilities.

### **B.1.5 Employment and training**

Current issues identified include:

- residents of Bangalow currently rely upon the retail employment opportunities within the village of Bangalow, are self employed, work from small industrial operations in the Industrial Estate in Bangalow, or travel to Lismore, Tweed Coast, Byron or Ballina for other employment opportunities;
- secondary education institutions are not available in Bangalow, students must travel to Lismore, Byron, Ballina or Mullumbimby; and
- tertiary training opportunities exist in Lismore, Kingscliff, Ballina and Wollongbar at TAFE and University institutions.

Possible impacts as a result of proposed development include:

- The proposed development will put further pressure on the already stretched resources with regard to employment and training facilities. Conversely, the additional population can add to the existing 'local

market' for goods and services, creating new employment opportunities or strengthening the viability of existing employment ventures.

In the context of the existing Bangalow population, the rezoning of the subject site is minor. It will not significantly add to the local population. Impacts, positive or negative, on local employment and training opportunities are therefore not likely to be significant.

#### **B.1.6 Culture and Village Character**

During a study on Northern Rivers Regional Strategy, the Bangalow residents consulted felt strongly that the desirable qualities of a village (including size and quality of life) should be defined by four factors:

- **walkability** that is, the ability for most of the resident population to easily walk to all services and facilities;
- **self-reliance** that is, the village should 'stand-alone' and not rely heavily upon the services of other villages, towns, regional centres or cities;
- **active democracy** that is, a strongly networked community that actively participates in decision making relating to activities, events and future planning for the village – a 'strong sense of community';
- **distinctive image** that is, the village should tell a story about its past and reflect the ideals of its community.

These four core principles were identified by the community as being critical to a successful village and include many important principles such as sense of community and sense of place.

Current issues identified include:

- the character of the Bangalow village would certainly be changed should new development overwhelm the landscape. Slow, phased development is, however, beneficial in contributing to extending the village as a place which is more self reliant, with a distinctive image; and
- the walkability of a village does become more difficult as its size grows outwards. The proposed site is still within walking distance of the village core, and therefore meets with the expectations of the community with regard retaining a village 'feel'.

Possible impacts as a result of proposed development include:

- the proposed rezoning would not affect the culture and character of the village if it is developed using the guidance of various strategies and principles outlined by the existing community in Bangalow; and
- as the proposed rezoning is identified as being a candidate release area for urban settlement by the Bangalow Settlement Strategy (which was developed in consultation with the community), we can assume that the area has already been assessed in terms of fitting in with the 'desirable qualities' of Bangalow village residents

The subject site is within walking distance of the village core and constitutes an 'in-fill' of an existing residential estate. The development site and potential yield are not large in the context of the village. The development of the site is therefore unlikely to have a significant impact on the existing village character.

#### **B.1.7 Previous Community Consultation**

Detailed community consultation workshops were undertaken in Bangalow over the past 6 years, for two projects, namely the Bangalow Settlement Strategy and the Northern Rivers Regional Strategy.

The Northern Rivers Strategy workshops explored the potential role and contribution of villages in establishing and ensuring social, economic and ecological sustainability. This work was primarily focussed on settlement and population growth and economic development in the Northern Rivers region. The workshops also sought to establish community values relating to villages and examine a number of village characteristics (including size; density; community identity; connectedness and integration; function and design and diversity and multi-functionality).

The community was invited to participate through three processes – face to face interaction on the street; workshop of local community group leaders; and a website with a community questionnaire. In addition, various local community representatives were contacted, and their input recorded.

A summary of the survey responses is outlined below.

#### Economic Issues

Approximately 60% of the community group representatives surveyed were employed, most of whom were working in Lismore. Agriculture and tourism were identified as the main industries in Bangalow. Dairy and timber were the main industries from which Bangalow was thought to have evolved. The village evolved as a result of people locating to the place because of industry or employment. Most people carry out their day-to-day shopping in the village centre of Bangalow. Services which are most wanted in the community include public transport, police, weekly farmers' markets and a public swimming pool.

#### Environmental Issues

There was an overall consensus that the historical element of the environment has been protected adequately. However, the environment in terms of landscape and important wildlife habitats has not.

Most community group representatives have noticed an increase in housing and subdivisions as well as improvements to the main street in the last five years. Most people live in timber dwellings of which most are single detached houses that were built 10 – 20 years ago.

#### Social Issues

Most community group representatives surveyed describe Bangalow as: historical, busy/alive, expensive and relaxing. Bangalow's special attributes include: being small, historical, rural/country, quiet and culturally diverse. Most people travel to Byron Bay to the beach or walk within the village for recreation and generally agree that there are enough recreational areas in Bangalow. The community believes that the village atmosphere is created due to the fact that it is friendly and democratic, cohesive, and has a small population and physical size (walkable). The advantages of living in a village environment include: being able to walk everywhere, safety, knowing residents, and community spirit/caring for one another. Disadvantages included the lack of public transport and shopping facilities.

Other general comments include:

- Businesses are doing well, but there is little opportunity for work especially for the young;
- business success is dependent on the type of business e.g. real estate doing well, but the 'lolly shop' (retail sector) is not;
- improved rail service between Byron Bay, Bangalow and Lismore is desired;
- public transport is poor;
- lots of changes and new concepts were emerging from Bangalow – pesticides (drift), Landcare and Waterwatch, cycle ways, ways to deal with vehicle emissions, wildlife corridors, internet, and types of housing.

#### Survey Responses from Business Sector Representatives

The majority of the business sector surveyed were either professionals or in the retail sector. Most of these people were born outside of Bangalow, from other towns in NSW, outside of NSW or overseas. A cross section of ages was surveyed, however most people were aged between 51 – 60 years. All of the business sector representatives surveyed are residents and have lived in Bangalow for an average period of approximately nine years. Generally, they think that Bangalow is successful socially, however, they are undecided as to whether Bangalow is successful, or not, in terms of economics and the environment.

### Economic Issues

The people surveyed from the business sector are either business owners or they are employed and work in the village centre. The main industries, in their opinion, include: local trade/services; tourism; agriculture/farming and real estate. Generally, they believe that the original industries from which Bangalow evolved were: dairy; timber; and farming/agriculture. Most shopping is carried out in other villages or towns including Tweed Heads, Ballina, Byron Bay, Lismore and Mullumbimby. Services which are particularly wanted in the village include: more food shops; banking facilities with regular hours; regular trains and transport in general.

### Environmental Issues

Sixty-five percent of the business sector people surveyed believe that historic landscapes and structures, and important wildlife habitats have been protected adequately in and around Bangalow. Most people agree that there are too many housing estates, and have noticed this change in the last one to five years. They mostly live in single detached dwellings made of timber or red brick, which were built approximately 20 or more years ago. The architectural styles of their houses mostly reflect the heritage and culture of the village. Ninety percent of residents recycle waste.

### Social Issues

The business sector describes Bangalow as being: historical; busy/alive; expensive and relaxing. Bangalow's special attributes include: its people/ friendly nature; history; location and small size. Most people feel as though they are valued as part of the village community and partake in numerous community events. A large proportion of people believe there are not enough recreational areas and would like botanical gardens and a public swimming pool. They believe the village atmosphere is created by the friendly residents and the small population size.

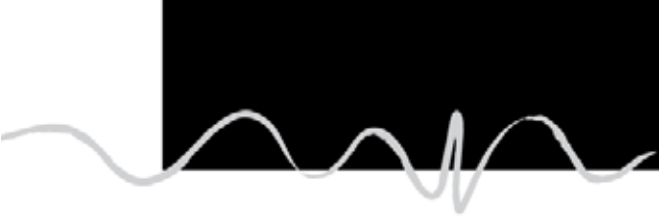
The advantages of living in a village include: feeling safe; being close to work and having a sense of belonging. The most common disadvantages included: lack of shopping; loss of anonymity and access to transport. However, there was a portion (approximately 40%) that believed there are no disadvantages at all to living in a village environment.

## **B.1.8 Social Impact Assessment Summary**

An increase of between 48 and 50 lots does not constitute significant change in terms of a social impact on the village of Bangalow. It represents between a 7.7 and 8.0 percent increase in population (based on the current population figure for Bangalow village of 1250 people (**Book of Bangalow, Aug 2006**), and based on 2 people per household (**based on the Byron Shire Council average according to the ABS**).

The increase could result in the economic strengthening of the Bangalow Village, increased usage of the public transport network, and a more coherent and physically complete neighbourhood.

The increase in population, and therefore increase in pressure on current services and amenities may be a catalyst for change with regards improving the public service network of schools, hospitals, and community facilities in the longer term.



# Appendix C

## **SEPP 55 Preliminary Soil Contamination Assessment**



# **SEPP55 Preliminary Soil Contamination Assessment**

## **Part Lot 77 DP 1031773, Parrot Tree Place, Bangalow**

Prepared for: PICAMORE Pty Ltd  
Ref: BEE0015  
Report no.: 070016  
Date: March 2007  
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# Table of Contents

| Section                                 | Page      |
|-----------------------------------------|-----------|
| <b>1 Introduction</b>                   | <b>1</b>  |
| 1.1 Scope of Work.....                  | 1         |
| 1.2 Summary .....                       | 1         |
| <b>2 Site Description and History</b>   | <b>3</b>  |
| 2.1 Site Location.....                  | 3         |
| 2.2 Topography, Soils and Geology ..... | 3         |
| 2.3 Surrounding Environment.....        | 3         |
| 2.4 Site History .....                  | 4         |
| <b>3 Site Soil Investigations</b>       | <b>7</b>  |
| 3.1 Soil Sampling .....                 | 7         |
| 3.2 Analysis .....                      | 7         |
| 3.3 Quality Assurance .....             | 8         |
| 3.4 Assessment Criteria .....           | 8         |
| 3.5 Results .....                       | 10        |
| <b>4 Conclusions</b>                    | <b>11</b> |
| <b>5 References</b>                     | <b>12</b> |
| <b>6 Usage Note</b>                     | <b>13</b> |

## List of Exhibits

|             |                              |   |
|-------------|------------------------------|---|
| Exhibit 2.1 | Site Locality.....           | 5 |
| Exhibit 2.2 | Subject Site .....           | 6 |
| Exhibit 3.1 | Soil Sampling Locations..... | 9 |

## List of Tables

|           |                        |    |
|-----------|------------------------|----|
| Table 3.1 | Sampling Results ..... | 10 |
|-----------|------------------------|----|

## List of Appendices

|          |                             |
|----------|-----------------------------|
| <b>A</b> | Laboratory Analysis Results |
|----------|-----------------------------|

# 1 Introduction

*Black EARTH Environmental* has been requested by *PICAMORE Pty Ltd* through *GeoLINK* to undertake a preliminary SEPP55 investigation for land described in real property terms as Part Lot 77 DP1031773, Parrot Tree Place, Bangalow. The land is currently zoned for agricultural use. The proponents of the land wish to proceed with rezoning the land to allow for future residential development in line with the Bangalow Village Settlement Strategy adopted in November of 2003.

State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55) relates to contaminated land issues. Clause 7(1) of SEPP 55 requires that a Council cannot approve an application for rezoning of land unless it has duly considered whether such land is contaminated.

This report has been prepared to assist Council in making that decision.

## 1.1 Scope of Work

This assessment has been undertaken to determine the relative risk associated with the rezoning of the land for residential development with respect to soil contamination. The tasks involved in undertaking this assessment were to:

- identify the land use history of the site, with particular attention to any uses that may have led to potential contamination
- assess the site condition and surrounding environment to determine any visual signs of contamination, sensitive local environments or potential contamination “hot spots”
- based on the above, determine if soil sampling is required and if so, design a soil sampling pattern for the subject site
- analyse individual samples for a range of potential contaminants in relation to the environmental and health investigation levels recommended by the ANZECC guidelines (ANZECC, 1992) in addition to those recommended by NEPC guidelines (NEPC, 1999) to confirm if the presence of any contaminates represents a risk for future rezoning.

## 1.2 Summary

Previous site owners and managers were contacted and an oral site history can be obtained back as far as 1957. The oral site history provided indicates that the site has never been used for any other purpose than cattle grazing, no pesticides or herbicides have been used on the subject site, there is no records of the site ever having a registered cattle dip located on it or within 200m of the site and no crops were ever grown on the site succeeding 1957.

Although the site is considered to represent a very low risk of soil contamination, soil sampling was undertaken to ensure that if contamination was contained within the soils it would be identified prior to rezoning. A total of 21 soil samples were taken from across the

site. Analysis of the samples show contaminant levels well below the relevant ANZECC and NEPC guideline limits.

It was concluded that the site does not represent a risk to human health or the environment through soil contamination and on this basis the land is suitable for rezoning for residential development.

## 2 Site Description and History

### 2.1 Site Location

The site is located approximately 1.25 km south west of the centre of Bangalow and approximately 2.2km south west of the southern interchange with the Pacific Highway. The site is on the limits of existing residential development within Bangalow and adjoins existing developed land to the north and east. The site is divided into three separate portions by the roads Parrot Tree Place and Ivory Curl Place. The main portion is 5.8 Ha in size and is irregular in shape. The remaining portions are approximately 0.5 and 0.3 ha in size and predominately rectangular in shape. A site locality diagram is provided in **Exhibit 2.1**. An aerial showing the subject site in detail is provided in **Exhibit 2.2**.

### 2.2 Topography, Soils and Geology

The site is on gently undulating terrain. The highest point on the site is approximately RL 51 meters and occurs within the eastern third of the site. A large tree is growing at the highest point of the site. The lowest point of the site, at approximately RL 44 meters, is located at the most western point. A small named creek, Paddy's creek, meanders along the western boundary of the site and for a small section is partly located on the site.

The site predominately drains to the west and into Paddy's creek. A small portion of the most eastern part of the site drains eastwards under the railway line and Lismore road into Byron creek located to the south east of the site. All slopes on the site are generally less than 10% and no slumping or mass movements were observed to have occurred.

The soils of the area are mapped by Morand (1994) as being moderately deep, well drained Krasnozems over Lismore Basalts. The soils are a self mulching dark reddish brown with a clay loam texture. The soils are highly suitable for agricultural pursuits, being well structured and having a high nutrient storage capacity. Field observations taken while on site were consistent with the soil descriptions and mapping provided by Morand (1994).

A small mound was observed in the northeastern section of the site. The mound appeared to be comprised of local natural soils being consistent in color and texture with no large or obvious foreign material observed to be present within the mound. It was concluded however, that the stockpile was not naturally occurring and had been placed there some time within the past. Conversation with the current owner, Allan Johnston, indicated that the stockpile was placed there during the development of the adjacent residential area and comprised of native soils moved from another part of the site.

### 2.3 Surrounding Environment

Existing residential development is located to the north and east, the disused railway line abounds the site to the south with rural grazing land to the west.

## 2.4 Site History

The site is currently owned by *PICAMORE Pty Ltd.* who bought the site in 1993 and developed the surrounding residential area shortly thereafter. Prior to the purchase by *PICAMORE Pty Ltd.*, the site was owned and managed by Mr Alexander Herrmann.

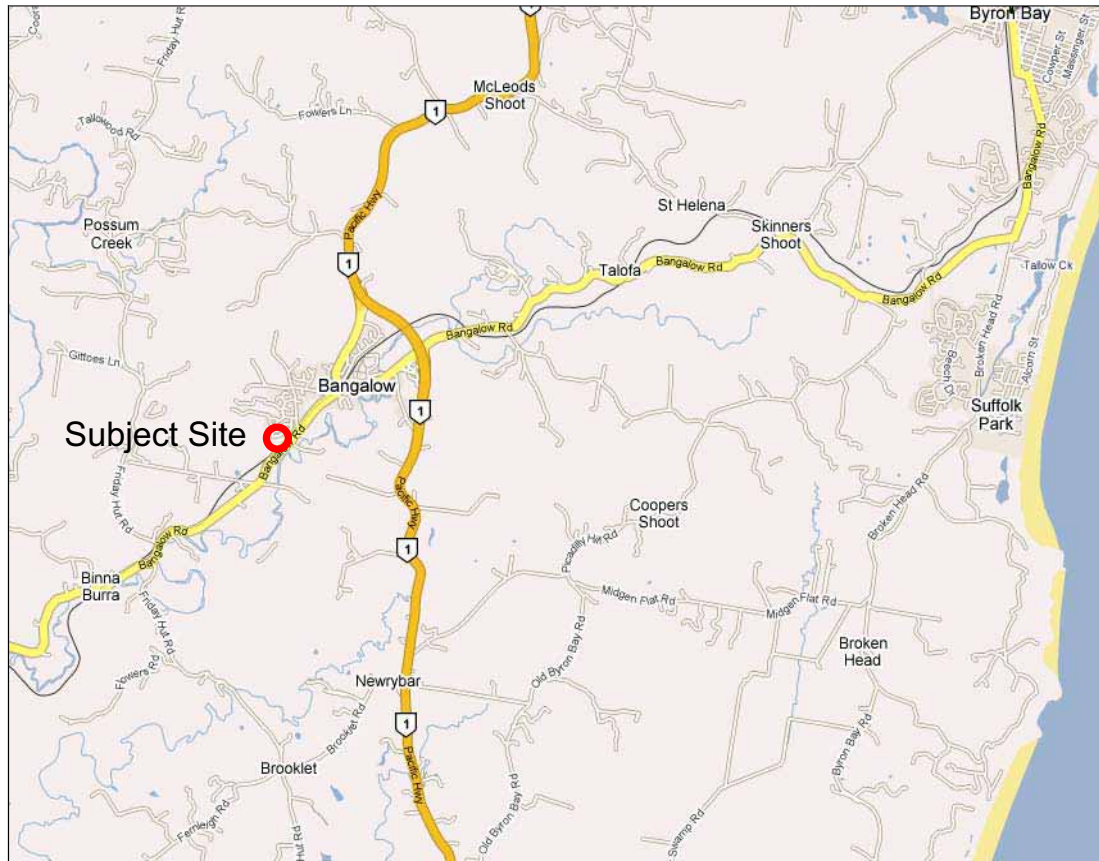
Mr Alexander Frederick Herrmann owned the property for approximately 6 years prior to October 1993 when he sold it to *PICAMORE Pty Ltd.* Alexander's sister (name unknown) owned the property prior to these 6 years for a period of approximately 30 years (i.e. from approximately 1957). During the time that his sister owned the property, Alexander Herrmann was the primary manager, managing the property on behalf of his sister who lived in the USA for these 30 years. The daughter of Alexander Herrmann was contacted with regard to the site and its history and was able to verbally confirm that the land was solely used as cattle grazing, was never used to grow commercial crops during the years that her father ran the property and she had no recollection of chemicals ever being used in large quantities by her father on the property.

A search of the Department of Primary Resources dip site register was undertaken to determine if any dip sites had been located on or near the property. The database indicates that there has never been a cattle dip site on the property, or within close proximity of the property. The closest dip site was off Rifle Range road approximately 700 meters from the site.

Beyond 1957, limited site history can be readily obtained. The site history is therefore not considered to be sufficiently conclusive to rule out the risk of contamination of soil on the subject site. However, it should be noted that the site history would suggest the risk of contamination of soils on the site is extremely limited and highly unlikely.

In accordance with the SEPP55 Guidelines, soil sampling should be undertaken to confirm that the soils on the site do not pose a risk to human health or the environment through past contamination if site history cannot categorically.

## Exhibit 2.1 Site Locality



## Exhibit 2.2 Subject Site



Source: Google Earth

Boundary location approximated only from cadastral information. No reliance should be placed on boundary locations.

### Key:

— Site boundary (approximate only)

## 3 Site Soil Investigations

### 3.1 Soil Sampling

The following sampling, analysis and data quality objectives have been adopted for this site investigation:

- to confirm the soils on the subject site do not pose a risk to human health or the environment through soil contamination
- to employ quality assurance when sampling, assessing and during evaluation of the subject soils
- to ensure that decontamination techniques are applied during the sampling procedure and that no cross contamination of samples occurs.

Table A (*Contaminated Sites Sampling Design Guidelines*, NSW EPA 1995) was taken into consideration when designing the sampling program. The potential for development and topography of the site were also considered when deciding the most appropriate sampling pattern for the subject site. Given that site history from 1957 indicates there to be a very limited potential for contamination of the site to have occurred, a reduced sampling density was applied to the site. A sampling density of 3.2 samples per hectare was adopted requiring the collection of approximately 20 individual samples. A systematic sampling pattern which covered the majority of the developable area of the site was adopted.

Due to the presence of an unnatural soil mound located on the site, an additional sample was taken from the mound to ensure the mound did not represent a risk of contamination. In total, 21 individual soil samples were collected at the locations indicated in **Exhibit 3.1**. 20 of these soil samples were then composited into five discrete composite samples for analysis. Sample no. CS5, taken from the soil mound observed to be on site, was analysed as a single sample and not combined into a composite sample.

Given the site history, proposed rezoning and the characteristics of the soils in the locality (i.e., deep, well drained, Krasnozem soils), it was not considered necessary to conduct soils sampling at depth. Thus, for the preliminary soil sampling investigation, surface soil samples only were taken. The sampling pattern and density adopted is considered sufficient to ensure that should soil contamination be present on the site, it will be detected. All samples were collected at the same depth of 100-200mm below surface and were of equal size (200mL). A small garden spade was used to collect each sample, which was washed and dried prior to the collection of the next sample.

The preliminary soil investigation was undertaken on the 9 February 2007. The weather was sunny and clear with a slight north easterly wind blowing.

### 3.2 Analysis

All samples were sealed, stored in a chilled esky and delivered to Environmental Analysis Laboratory (NATA Registered) within the Southern Cross University, Lismore. Samples were then composited by EAL staff in accordance with laboratory procedures before being processed for analysis. When compositing samples, results from each composite sample

must be multiplied by the number of sub-samples (in this case, four) to provide an upper limit estimate of the concentration in any one of the sub-samples. Results are provided in **Section 3.5**.

### 3.3 Quality Assurance

All sampling was undertaken using the same quality assurance methodology. Prior to the site inspection, the equipment was thoroughly washed and decontaminated. During the sampling procedure the equipment was washed before each soil sample was taken to ensure there was no cross- contamination. A chain of custody form, which identified the sample identification code, the collection date and the type of analysis to be undertaken was fully completed and despatched with the samples.

### 3.4 Assessment Criteria

The ANZECC Guidelines are the accepted guidelines in Australia and New Zealand for establishing “threshold” levels in relation to soil contamination. These threshold levels suggest further investigation is required if levels are exceeded. The NEPC guidelines further expand on the ANZECC threshold limits based on health and environmental risk assessments for a variety of land uses including residential with varying levels of accessible soil risks, open space, commercial and industrial.

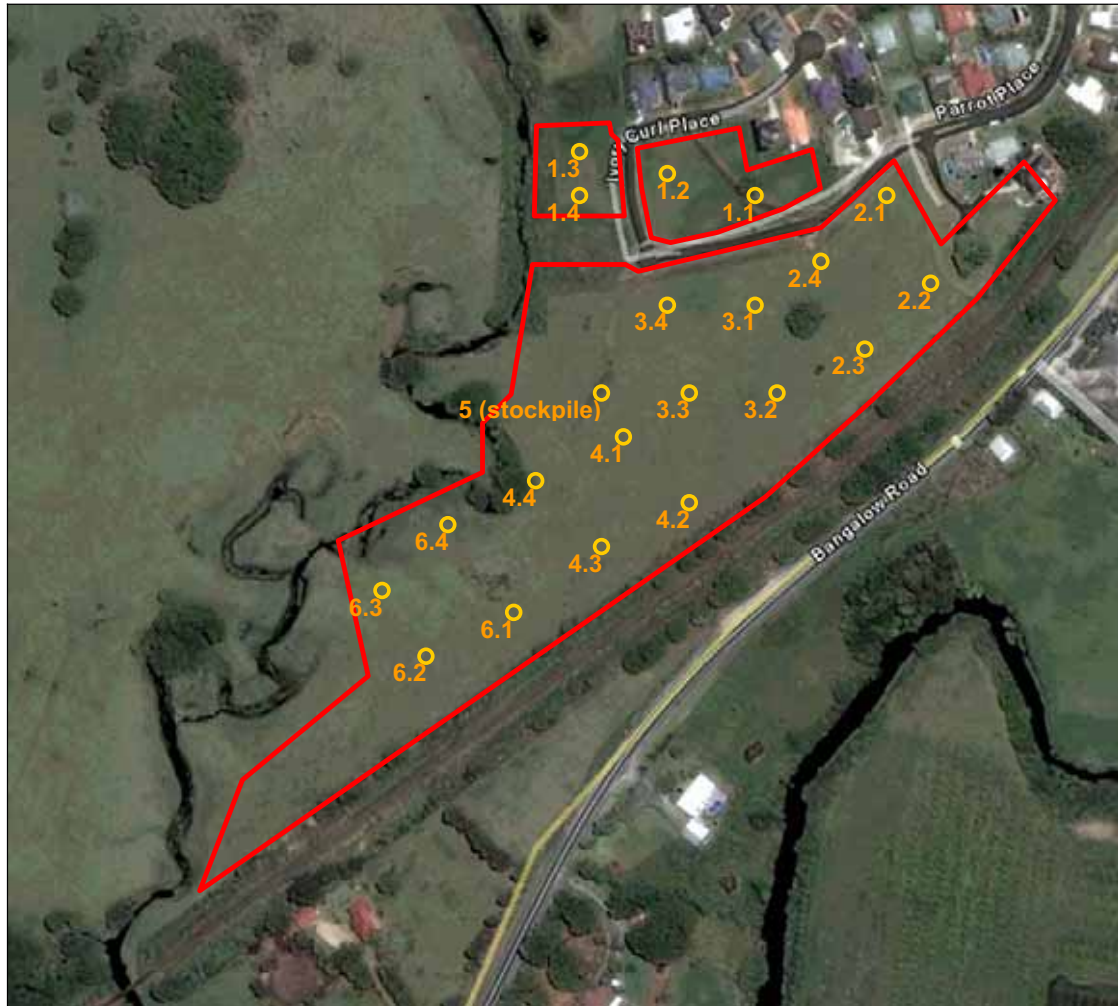
The investigation threshold levels identified by “*ANZECC Guidelines for the Assessment and Management of Contaminated Sites*” are provided below and were used to identify if high levels of contaminants exist at the site:

- |                   |           |
|-------------------|-----------|
| ▪ Lead            | 300 mg/kg |
| ▪ Arsenic (total) | 100 mg/kg |
| ▪ Cadmium         | 20 mg/kg  |
| ▪ PCB (total)     | 1 mg/kg   |

In addition, the results were compared to the following Health-Based investigation levels identified by “*NEPC Guideline on Health Based Investigation Levels*”:

- |                          |          |
|--------------------------|----------|
| ▪ OC (Aldrin + Dieldrin) | 10 mg/kg |
| ▪ OC (DDT+DDD+DDE)       | 200mg/kg |

### Exhibit 3.1 Soil Sampling Locations



**Key:**

- Site soil sampling points

### 3.5 Results

The laboratory soil analysis reports containing the full results are provided in **Appendix A**. A summary of the results and comparison to the guideline limits is provided below in **Table 3.1**.

**Table 3.1 Sampling Results**

| Analyte            | Single Sample Threshold (mg/kg) | Composite Sample Threshold (mg/kg) | CS1 (1.1,1.2, 1.3,1.4) | CS2 (2.1,2.2, 2.3,2.4) | CS3 (3.1,3.2, 3.3,3.4) | CS4 (4.1,4.2, 4.3,4.4) | CS5  | CS6 (6.1, 6.2, 6.3, 6.4) |
|--------------------|---------------------------------|------------------------------------|------------------------|------------------------|------------------------|------------------------|------|--------------------------|
| Lead               | <300                            | <75                                | 9.4                    | 9.8                    | 7.7                    | 11.9                   | 13.7 | 8.8                      |
| Arsenic            | <100                            | <25                                | 1.6                    | 1.8                    | 2.0                    | 2.2                    | 1.9  | 2.7                      |
| Cadmium            | <20                             | <5                                 | 0.3                    | 0.4                    | 0.4                    | 0.4                    | 0.3  | 0.3                      |
| PCB's              | <1                              | <0.25                              | nd                     | nd                     | Nd                     | nd                     | nd   | nd                       |
| OC's               | <10                             | <2.5                               | nd                     | nd                     | Nd                     | nd                     | nd   | nd                       |
| OP's (DDT+DDD+DDE) | <200                            | <50                                | nd                     | nd                     | Nd                     | nd                     | nd   | nd                       |

nd - no detection

As can be seen from the above table, exceedances of threshold values for further investigation were not detected. All samples returned result well below the threshold investigation limits.

## 4 Conclusions

Verbal historic information regarding the subject site could be obtained as far back as 1957. Historic information indicated that the site has only ever been grazed by cattle and has been free of potentially contaminating activities. However, the historic information gathered was not considered to be conclusive or sufficient to categorically indicate the site does not pose a risk of soil contamination. In addition, the activity of cattle grazing, which has been historically carried out on the site, is listed under Table 1 of the SEPP55 guidelines as a potentially contaminating activity. Soil sampling was therefore undertaken to confirm if any contaminating chemicals were present within the soil at the subject site.

The results of soil sampling undertaken at the site indicate that the soils on the subject site do not represent a risk to human health or the environment from soil contamination. Soil sampling results indicate that the site is unlikely to contain any significant levels of contamination for arsenic, lead, cadmium, organochlorines, organophosphate or Polychlorinated Biphenyls (PCB's). Concentrations in the samples taken were well below ANZECC and NEPC investigation threshold limits.

Further investigation on the subject site is therefore not warranted under the SEPP55 guidelines and the site is considered suitable for rezoning with regards to the potential for soil contamination.

Should there be any questions relating to this report please do not hesitate to contact the undersigned for further clarification.

Regards,



**Cameron Black**  
Environmental Engineer

## References

Australia and New Zealand Environment and Conservation Council (ANZECC), 1992, *Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites*, Australia and New Zealand Environment and Conservation Council.

D. T. Morand, 1994. Soil Landscapes of the Lismore/Ballina 1:100,000 Sheet.

Environment Protection Authority, 1995, *Contaminated Sites Sampling Design Guidelines*, Environment Protection Authority, Sydney.

National Environment Protection Council (NEPC), 1999, *National Environment Protection (Assessment of Site Contamination) Measure 1999*, National Environment Protection Council.

## Usage Note

Black EARTH Environmental declares that it does not have, nor expects to have, a beneficial interest in the subject project.

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## **Appendix A**

### **Laboratory Analysis Results**

# RESULTS OF SOIL ANALYSIS (Page 1 of 1)

21 soil samples supplied by Black Earth Environmental on 9th February, 2007 - Lab Job No. E6902  
 Soil samples supplied were composited by EAL into 5 composite samples for analysis  
 Analysis requested by Cameron Black Your Job.: Picamore site

| ANALYTE                                 | METHOD REFERENCE | Composite 1<br>site 1.1,1.2,<br>1.3,1.4 | Composite 2<br>site 2.1,2.2,<br>2.3,2.4 | Composite 3<br>site 3.1,3.2,<br>3.3,3.4 | Composite 4<br>site 4.1,4.2,<br>4.3,4.4 | Individual 5<br>site 5 | Composite 6<br>site 6.1,6.2,<br>6.3,6.4 | Composite Acceptable Limit<br>Column 1 | Individual Acceptable Limit<br>Column 1 | Background Range |
|-----------------------------------------|------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|------------------------|-----------------------------------------|----------------------------------------|-----------------------------------------|------------------|
|                                         | Job No.          | E6902/1                                 | E6902/2                                 | E6902/3                                 | E6902/4                                 | E6902/5                | E6902/6                                 | See note 1                             | See note 1                              | See note 2       |
| SILVER (mg/Kg DW)                       | a                | 0.6                                     | 0.9                                     | 1.6                                     | 1.4                                     | 1.1                    | 0.8                                     | na                                     | na                                      | na               |
| ARSENIC (mg/Kg DW)                      | a                | 1.6                                     | 1.8                                     | 2.0                                     | 2.2                                     | 1.9                    | 2.7                                     | <25                                    | <100                                    | 0.2-30           |
| LEAD (mg/Kg DW)                         | a                | 9.4                                     | 9.8                                     | 7.7                                     | 11.9                                    | 13.7                   | 8.8                                     | <75                                    | <300                                    | <2-200           |
| CADMIUM (mg/Kg DW)                      | a                | 0.3                                     | 0.4                                     | 0.4                                     | 0.4                                     | 0.3                    | 0.3                                     | <5                                     | <20                                     | 0.04-2.0         |
| CHROMIUM (mg/Kg DW)                     | a                | 98                                      | 96                                      | 126                                     | 154                                     | 174                    | 144                                     | ..                                     | ..                                      | ..               |
| COPPER (mg/Kg DW)                       | a                | 28                                      | 31                                      | 34                                      | 33                                      | 35                     | 33                                      | <250                                   | <1000                                   | 1-190            |
| MANGANESE (mg/Kg DW)                    | a                | 1274                                    | 1351                                    | 1151                                    | 791                                     | 1225                   | 1288                                    | ..                                     | ..                                      | ..               |
| NICKEL (mg/Kg DW)                       | a                | 36                                      | 47                                      | 42                                      | 38                                      | 41                     | 40                                      | <150                                   | <600                                    | 2-400            |
| SELENIUM (mg/Kg DW)                     | a                | <0.5                                    | <0.5                                    | <0.5                                    | <0.5                                    | <0.5                   | <0.5                                    | na                                     | na                                      | na               |
| ZINC (mg/Kg DW)                         | a                | 146                                     | 176                                     | 241                                     | 221                                     | 194                    | 188                                     | <1750                                  | <7000                                   | 2-180            |
| MERCURY (mg/Kg DW)                      | a                | 0.38                                    | 0.38                                    | 2.63                                    | 1.06                                    | 0.81                   | 0.63                                    | <3.75                                  | <15                                     | 0.001-0.1        |
| IRON (% DW)                             | b                | 10.5                                    | 9.9                                     | 11.0                                    | 11.5                                    | 11.3                   | 10.3                                    | na                                     | na                                      | na               |
| ALUMINIUM (% DW)                        | b                | 5.6                                     | 5.4                                     | 5.4                                     | 5.5                                     | 6.2                    | 5.9                                     | na                                     | na                                      | na               |
| PESTICIDE ANALYSIS SCREEN               |                  |                                         |                                         |                                         |                                         |                        |                                         |                                        |                                         |                  |
| DDD, DDE, DDT (mg/Kg)                   | c                | <0.02                                   | <0.02                                   | <0.02                                   | <0.02                                   | <0.02                  | <0.02                                   | <50                                    | <200                                    | <0.02            |
| Other Organochlorine Pesticides (mg/Kg) | c                | <0.02                                   | <0.02                                   | <0.02                                   | <0.02                                   | <0.02                  | <0.02                                   | <2.5                                   | <10                                     | <0.02            |
| Organophosphate Pesticides (mg/Kg)      | c                | <0.1                                    | <0.1                                    | <0.1                                    | <0.1                                    | <0.1                   | <0.1                                    | ..                                     | ..                                      | <0.1             |
| PCB's (mg/Kg)                           | c                | <0.2                                    | <0.2                                    | <0.2                                    | <0.2                                    | <0.2                   | <0.2                                    | <2.5                                   | <10                                     | <0.2             |

## METHODS REFERENCE

- <sup>1,3</sup>Nitric/HCl digest - APHA 3120 ICPMS
- <sup>1,3</sup>Nitric/HCl digest - APHA 3120 ICPOES
- Analysis sub-contracted - results attached

## NOTES

- Column 1 ' Residential with gardens and accessible soil including childrens daycare centres, preschools, primary schools, town houses or villas' (NSW EPA 1998)
- Environmental Soil Quality Guidelines, Page 40, ANZECC, 1992.

## Additional NOTES

DW = Dry Weight

Organochlorine pesticide (OC's) screen:

(Aldrin, Cis-chlordane, Trans-chlordane, HCB, DDD, DDE, DDT, Alpha-BHC, Beta-BHC, Delta-BHC, Lindane, Dieldrin, Endrin, Heptachlor, Heptachlor epoxide, Alpha-endosulfan, Beta-endosulfan, Endosulfan sulfate, Methoxychlor)

Organophosphorus pesticide (OP's) screen:

(Dichlorvos, Phosdrin, Demeton (total), Ethoprop, Monocrotophos, Phorate, Dimethoate, Diazinon, Disulfoton, Methyl parathion, Chlorpyrifos, Ronnel, Parathion, Stirofos, Prothiofos, Azinophos methyl, Coumaphos, Fenitrothion, Fenthion, Malathion)

PCB's = Polychlorinated Biphenyls

(Arochlor 1016, 1232, 1242, 1248, 1254, 1260)

na = no guidelines available

checked.....