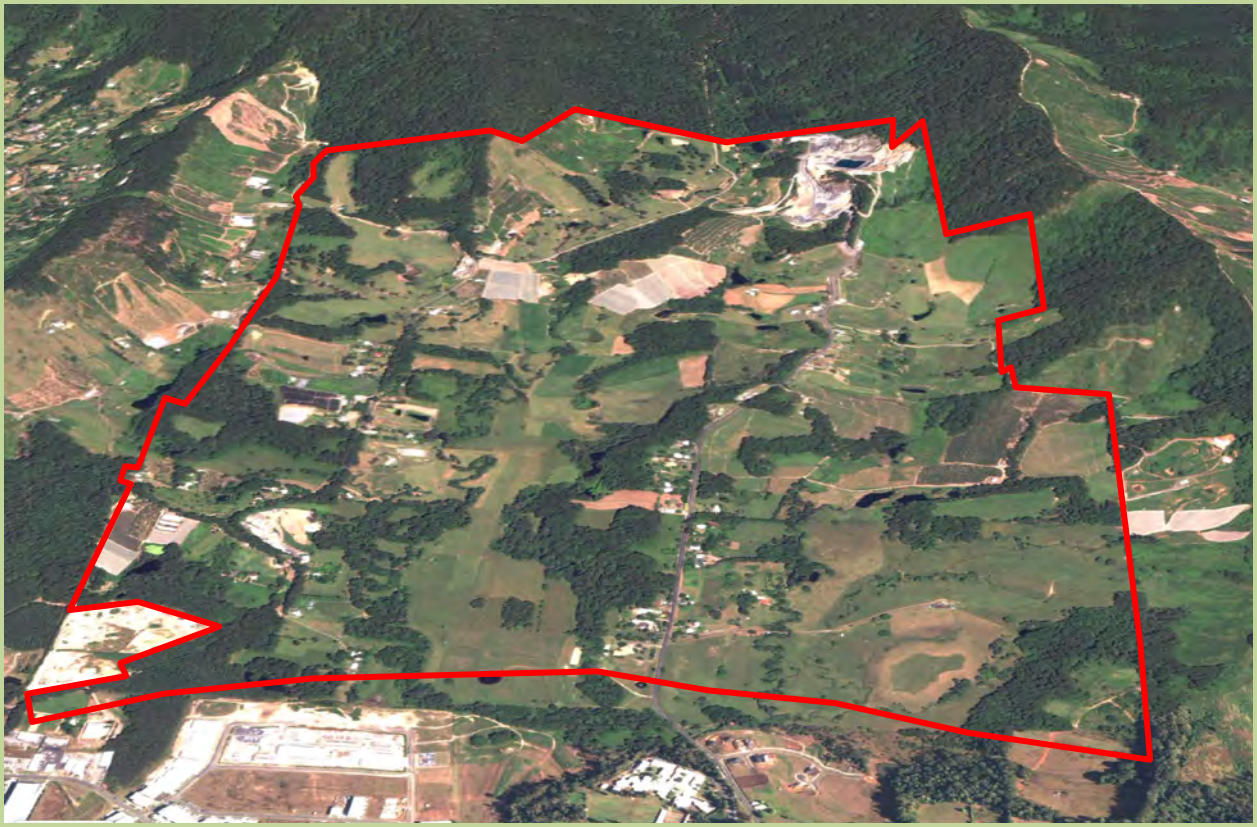
Coffs Harbour Local Environmental Plan 2013

PLANNING PROPOSAL

North Boambee Valley (West)



October 2014

Geoff Smyth Consulting

de Groot & Benson Pty Ltd

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1. INTRODUCTION

This Planning Proposal has been prepared in accordance with section 55 of the *Environmental Planning and Assessment Act 1979 (EP&A Act)* and the guideline prepared by the Department of Planning dated July 2009 entitled *"A guide to preparing Planning Proposals"*. In particular, this Planning Proposal addresses the following specific matters in the guideline:

- Objectives and intended outcomes;
- Explanation of provisions;
- Justification;
    - Need for the Planning Proposal;
    - Relationship to strategic planning framework;
    - Environmental, social and economic impact; and
    - State and Commonwealth interests.

The purpose of this Planning Proposal is to assess the capability and suitability of the land known as North Boambee Valley West for a range of land uses. The study objectives are to

> *Address the environmental, social and economic issues described in the brief, assessing the general suitability of the site for development purposes and the appropriateness of zonings that would be complementary to surrounding land uses.*

The Study Area is shown on **Error! Reference source not found.**. This Planning Proposal follows the preparation and exhibition of the North Boambee Valley West Structure Plan in 2009. The land area that is the subject of this Planning Proposal is referred to as the North Boambee Valley West (NBV) Release Area within this report.

This Planning Proposal addresses matters that are intended to be included in the LEP. More detailed planning matters will be guided by a site-specific Development Control Plan (draft North Boambee Valley West DCP) to support the LEP. This is currently being drafted for exhibition. The DCP will be prepared and implemented in accordance with Part 3 Division 6 of the *EP&A Act*.

de Groot and Benson, Consulting Engineers in association with Geoff Smyth Consulting were engaged by Council to carry out the necessary site assessment and to prepare this Planning Proposal. The following sub-consultants carried out specialist technical assessments:

• Keiley Hunter Urban Planner	Keiley Hunter	Strategic Planner
• Jackie Amos Landscape Architect	Jackie Amos	Landscape Architect
• Eco Logical Australia Pty Ltd	Dr. Lachlan Copeland Peter Knock Susan Courtney Martin Stuart Tim Hill	Ecologists, Bush Fire Consultants, Archaeologists

- SLR Consulting Australia Pty Ltd — Tristan Robertson — Noise Assessment

North Boambee Valley west Vision Statement:

> ***"to guide future development to North Boambee Valley (west) in a manner that is sensitive to the distinct rural and bushland character of the valley and that maintains the high scenic amenity of the valley and its views. North Boambee Valley (west) should be a contemporary Coffs Harbour suburb that is integrated with the valley setting and that embraces its bushland as part of a comprehensive network of 'green spaces' and recreational areas."***

Key outcomes of the site investigations carried out for this Planning Proposal are:

- Identification of a haulage route from the Holcim hard rock quarry to the Pacific Highway interchange at south Coffs Harbour.
- Mapping and zoning of riparian buffers to improve water quality, ecological function and stability of beds and banks in the study area.
- Mapping and zoning of additional areas of high conservation land.
- Improving existing high value vegetation areas by infill regeneration and connection through wildlife and riparian corridor construction involving an additional 35 ha of land suitable for environmental zoning.
- Flood mitigation works including a large detention basin and compensatory floodways along the creek buffers to compensate floodplain filling and provide significant benefits downstream of the release area.
- Mapping and rezoning residential and employment land as follows:
  - Zone R2 Low Density Residential – 80.4 ha of land in the northern area of the site off North Boambee Road is suitable for low density residential development;
  - Zone R3 Medium Density Residential– 7.2 ha of land in the northern area of the site off North Boambee Road is suitable for medium density residential development. Within the land to be rezoned R3, there is an 8,500 m^2 area of land suitable for neighbourhood scale convenience retail premises, medical centre and community facilities that will serve the day to day needs of the new community. This land will be identified in the DCP Masterplan.
  - Zone IN1 General Industrial - 37 ha of land is suitable for industrial development.
  - Identification of 49.2 ha of land in the southern area of the site off Englands Road land that may have future potential to become a rural residential investigation area under a separate strategic study.
- Provision of a range of residential land types and areas that will accommodate around 2,400 people.
- Rationalisation of recreation zoned land.
- North Boambee Valley (west) has its own features in terms of topography and relationship to the ridges that enclose the area. Development on the eastern side of the highway corridor has an established urban character; however, it is not appropriate that NBV (west) emulate the settlement characteristics of the eastern precinct.

- Future urban development must take on a site specific approach that retains the scenic amenity of the valley and respects the topography, vegetation, riparian areas and distinct rural character of the setting.

This Planning Proposal affects the land shown within the red boundaries at **Illustration 1.1** and comprises the study area for the North Boambee Valley (West) Structure Plan. For simplicity, throughout this report, the study area/release area will be referred to as "NBVw".

The following Planning Proposal provides a summary of the findings of the various site assessments and explains where and why some land zonings vary from the adopted Structure Plan. Part of the study area has been found to be unsuitable for industrial land use and it is therefore recommended that this land remain under its present zoning. Whilst this land is considered to be amenable for future rural residential development, at this stage, the area cannot be included in this Planning Proposal until such time as it is included in a settlement planning strategy that has been adopted by Council and endorsed by Planning and Infrastructure NSW (NSWP&I)

Full copies of each of the comprehensive site assessments are found as appendices to this report.

2. SITE IDENTIFICATION

North Boambee Valley is located on the north coast of NSW within the Coffs Harbour Local Government Area to the southwest of the city centre on the southern fringe of the Coffs Harbour urban area. The valley is west of the existing Pacific Highway and is accessed by North Boambee Road and Englands Road. The RMS preferred Pacific Highway bypass route divides the North Boambee Valley western and eastern precincts. The location of the NBVw land release area is shown in **Illustration 1.1**.

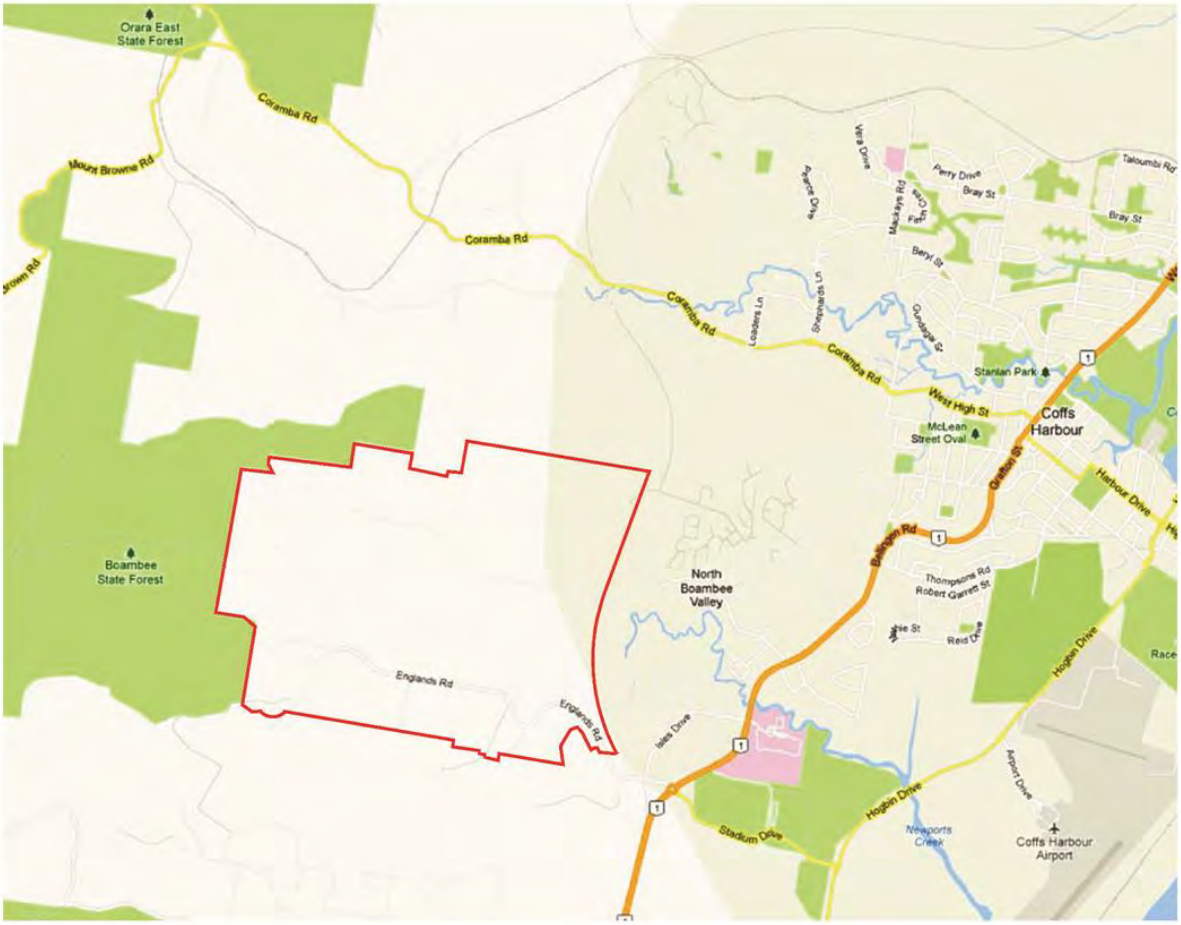
The release area is approximately 585 ha in area and is generally bound by a steep escarpment to the north which forms part of the Roberts Hill ridge and by Boambee State Forest to the west. The North Boambee Valley quarry is located in the western extent of the site. South of the site is rural agricultural land. The site includes two roads, North Boambee Road in the north and Englands Road. Both roads traverse the site in an east west direction. An aerial image of the site is shown at **Illustration 1.2**.

Most of the release area is currently zoned RU2 Rural Landscape and E2 Environmental Conservation under Coffs Harbour Local Environmental Plan 2013 (refer to **Illustration 1.3**). A small area of the site is zoned R2 Low Density Residential, and RE2 Private Recreation. Bordering the site, to the south east is land zoned IN1 General Industrial and to the west the State Forest zoned RU3 Forestry.

The site includes part of Newports Creek and its tributaries with Newports Creek running in an east west direction between North Boambee Road and Englands Road. The topography of the site is undulating with the higher locations in the west of the site.

The site is mainly cleared rural land comprising banana plantations, exotic fruit cultivation and grazing land. There are pockets of remnant vegetation throughout the site. The remnant vegetation includes areas of tall open forest, swamp forest, open forest, riparian vegetation and unidentified vegetation. The site contains primary and secondary koala habitat with most of the primary koala habitat concentrated south of Englands Road and along the North Boambee Road ridgeline.

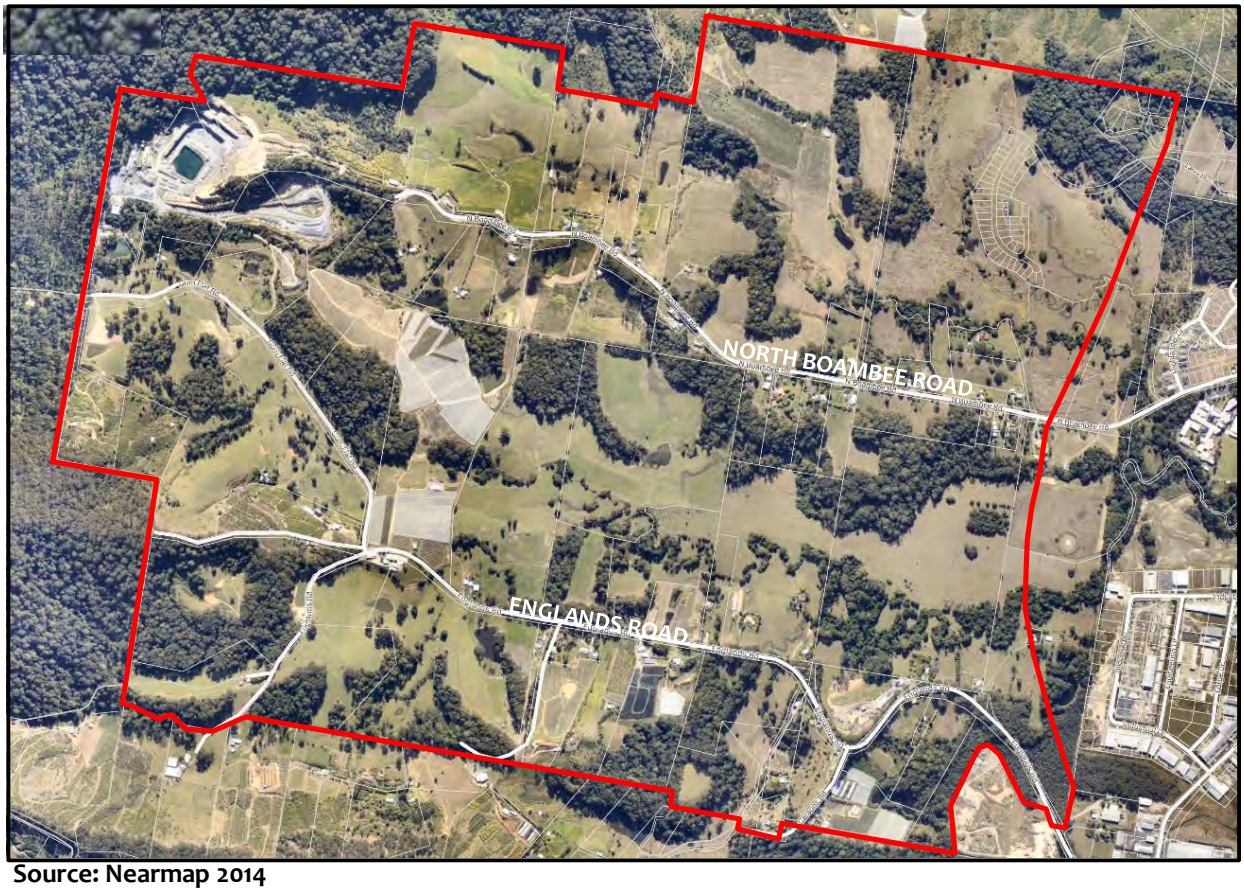
Illustration 1.1 Site Locality Plan



LEGEND

site boundary

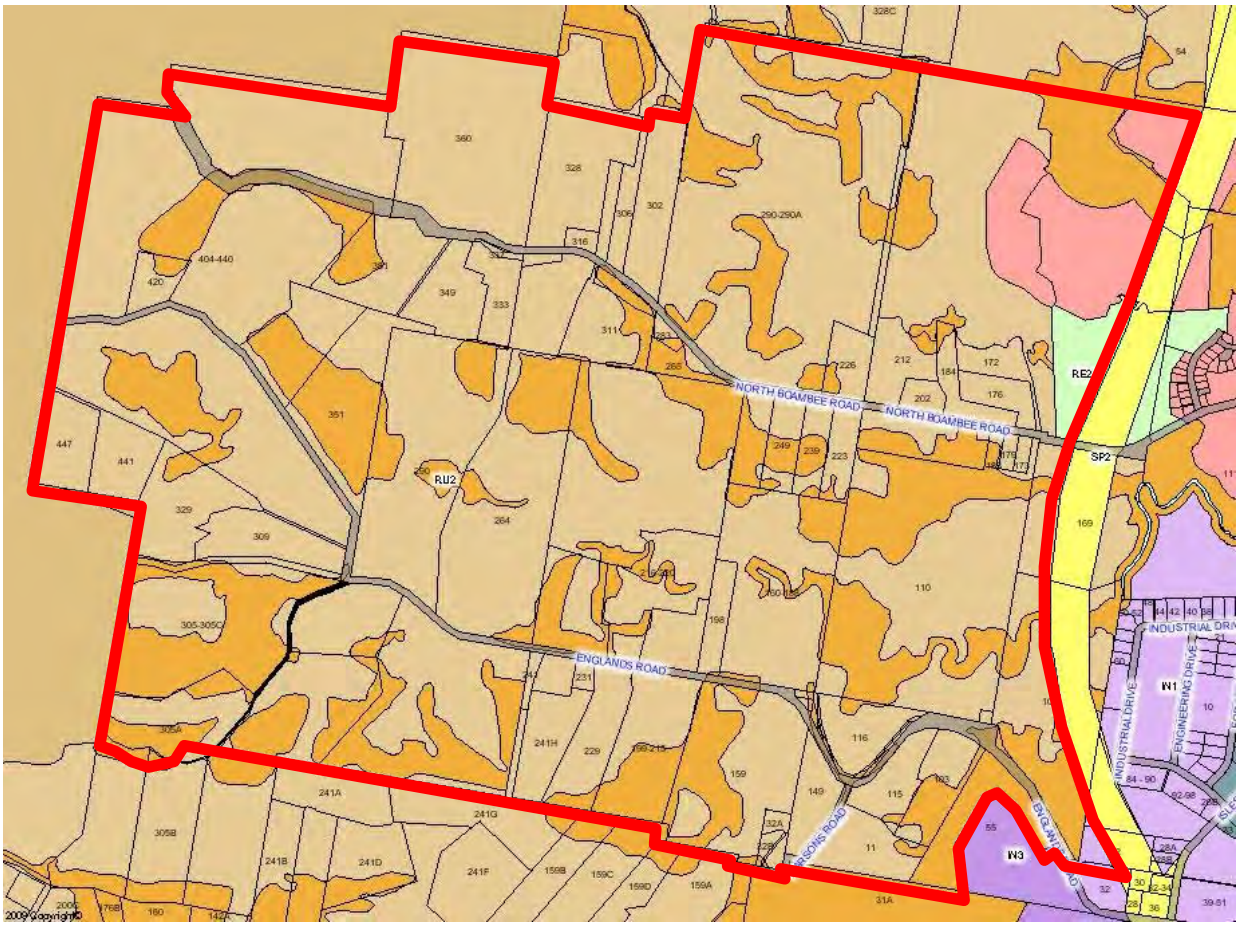
Illustration 1.2 Aerial Plan



Source: Nearmap 2014

STUDY AREA

Illustration 1.3 Coffs Harbour LEP 2013



E1	National Parks and Nature Reserves
E2	Environmental Conservation
IN1	General Industrial
IN3	Heavy Industrial
IN4	Working Waterfront
R1	General Residential
R2	Low Density Residential
R3	Medium Density Residential
R4	High Density Residential
R5	Large Lot Residential
RE1	Public Recreation
RE2	Private Recreation
RU2	Rural Landscape
RU3	Forestry

3. BACKGROUND

The NBVw release area was initially identified as having potential for future urban development in 1982 when Council first resolved to prepare a draft LEP proposing to rezone the area for urban and industrial development. The draft LEP(s) were not supported by the (then) Department of Planning and Infrastructure as the land was considered to be good agricultural land. This position changed following the preparation of the Coffs Harbour Urban Release Outline Development Strategy (UNE 1990) where it was found that the land should not be precluded from non-agricultural development.

In 1997 North Boambee Valley (east) was rezoned for residential development as Stage 1. Part of this area is known as the 'Lakes Estate', 'Highland Estate'. Bishop Druitt College, a senior school, is located on the southern side of North Boambee Road. Stages 2 and 3 were to progress between 2001-2010 and 2010-2021 respectively.

In December 2004, the RTA (now RMS) announced their preferred Pacific Highway bypass route, effectively severing Stages 2 and 3 from Stage 1 – NBV east. In 2008, Council developed the NBVw Structure Plan for the land west of the highway bypass route. The Structure Plan was exhibited from December 2008 to January 2009 and was adopted by Council in 2010.

This Planning Proposal builds on the work already carried out in the Structure Plan by rationalising site opportunities and constraints based on detailed site investigations. This Planning Proposal is the "next step" in the process of preparing a draft LEP to rezone land in the NBVw study area.

4. THE PLANNING PROPOSAL

The following environmental assessments were carried out to inform the Planning Proposal. Each assessment is summarised in this section with the full report included as an Appendix to the Planning Proposal.

4.1. Flora and Fauna

The Flora and Fauna Assessment of the NBVw study area prepared by Ecological Australia (**Appendix A**) highlights the high value vegetation and corresponding threatened species habitats that still persist in the v ey despite long utilisation by the agricultural and forestry industries.

The forested habitats provide a range of resources for a number of threatened flora and fauna species as documented in this report, most notably the Koala (Phascolarctos cinereus). The report outlines the species and habitats found through this study and species likely to occur seasonally based on those available habitats. The habitats in the valley have experienced significant disturbance and pressures as well as the species that depend on them.

Through clearing controls put in place since LEP 2000 for Koala habitat protection, these disturbances have lessened. The remnant forested habitats are disjunct and fragmented and are likely to stagnate or degrade through edge effects such as weed invasion without re-establishing functional connectivity.

Through a process of environmental assessment and data collation a framework for ongoing protection of high environmental values and a network of riparian and forest corridors has been outlined. Through this data collection process and analysis, the various geographic data sets have been combined and refined to produce a significant lands layer (or environmental constraints) creating a framework of lands to be maintained and enhanced and areas to be revegetated (wildlife and riparian corridors) as part of the rezoning process. This analysis is presented in **Illustration 4.1.3 Conservation Linkages and Riparian Buffers**.

Part 5A of the EP&A Act requires consideration of the likely impacts of the draft LEP on threatened species, populations or ecological communities, or their habitats. There are a number of threatened species known to occur in the study area including one Endangered Ecological Community (EEC).

Vegetation Communities

Vegetation mapping is based on existing mapping (Fisher et al) and 'ground truthing' undertaken as part of the current survey. Mapped vegetation within the study area includes areas mapped as native, exotic (Camphor Laurel dominated), and regrowth; totalled 194 Ha within 43 distinct patches. Only four vegetation patches were greater than 10 Ha. Areas of derived grassland were not mapped. Riparian zones within the valley are very narrow and therefore too small to delineate and are categorised by surrounding Eucalypt forest types. Five vegetation categories are mapped (**Illustration 4.1.1 Vegetation Communities**) with three main vegetation communities distinguished from the study area they are:

- Open Forest;
- Tall Open Forest;

- Swamp Forest and
- Camphor Laurel Dominated
- Regrowth

Additionally, some parts of the study area were considered not natural in that they were highly modified by agricultural (horticultural) or for other purposes.

Flora and Fauna Species

The following two flora species listed under the NSW TSC act were located in the study area:

- Slender Marsdenia *(Marsdenia longiloba)* (TSC E and EPBC V); and
- Rusty Plum *(Niemeyera whitei)* (TSC V)

Eight threatened fauna species listed as Vulnerable under the *Threatened Species Conservation Act 1995* were recorded during the field surveys; they are:

Birds	Mammals
Spotted Harrier (*Circus assimilis*)	Koala (*Phascolarctos cinereus*)
Black Bittern (*Ixobrychus flavicollis*)	Little Bentwing (*Miniopterus australis*)
Square-tailed Kite (*Lophoictinia isura*)	Eastern Bentwing (*Miniopterus schreibersii oceanensis*) Large-footed Myotis (*Myotis macropus*) East coast freetail-bat (*Mormopterus norfolkensis*)

First impressions of vegetation type and condition and fauna habitats of the NBVw study area are that they appear in relatively good condition with predominately their structure and floristic content intact. From the collated species lists for this study there are good indications for most faunal groups found utilising the remnant vegetation's resources and the available in-stream and dammed water resources.

Obvious deviations to this theme were the arboreal hollow-obligate fauna such as glider and possum gilds which appear to be at very low numbers. Hollow bearing resources were few particularly in the larger hollow size category suitable for the midsize mammals and bird species. Microbat hollow-dependant fauna were well represented as they require much smaller hollows. Half the detected microbat species will also roost in cave or cave like structures such as timber bridges, culverts and old mine shafts. As identified in the likelihood tables, many more species are expected to utilise the habitats including summer seasonal and annual migrants.

After a decade of Koala habitat protection through local Planning initiatives, disturbance regimes within the majority of habitats appears to have reduced with areas showing active signs of regeneration. This will include weed growth as this too indicates a potential change to land use over time. Koalas were however found only in a limited number of surveyed patches while good quality Koala habitat forest types containing majority Tallowwood showed no Koala evidence at all.

Illustration 4.1.1 Vegetation Communities

Riparian Buffers

Drainage buffers were mapped based on stream order categorisation (refer to tale below). Stream order ranged from 1st order through to 4th order for the lower section of Newport's Creek. This created buffers ranging from 10m (both sides) through to 40m (both sides). The mapped buffers are designed as a guide to defining environmental constraints and all buffer delineations will need to be performed as part of a Vegetation Management Plan (VMP) for future development proposals.

It is important to note that the NSW Office of Water guidelines provide that:

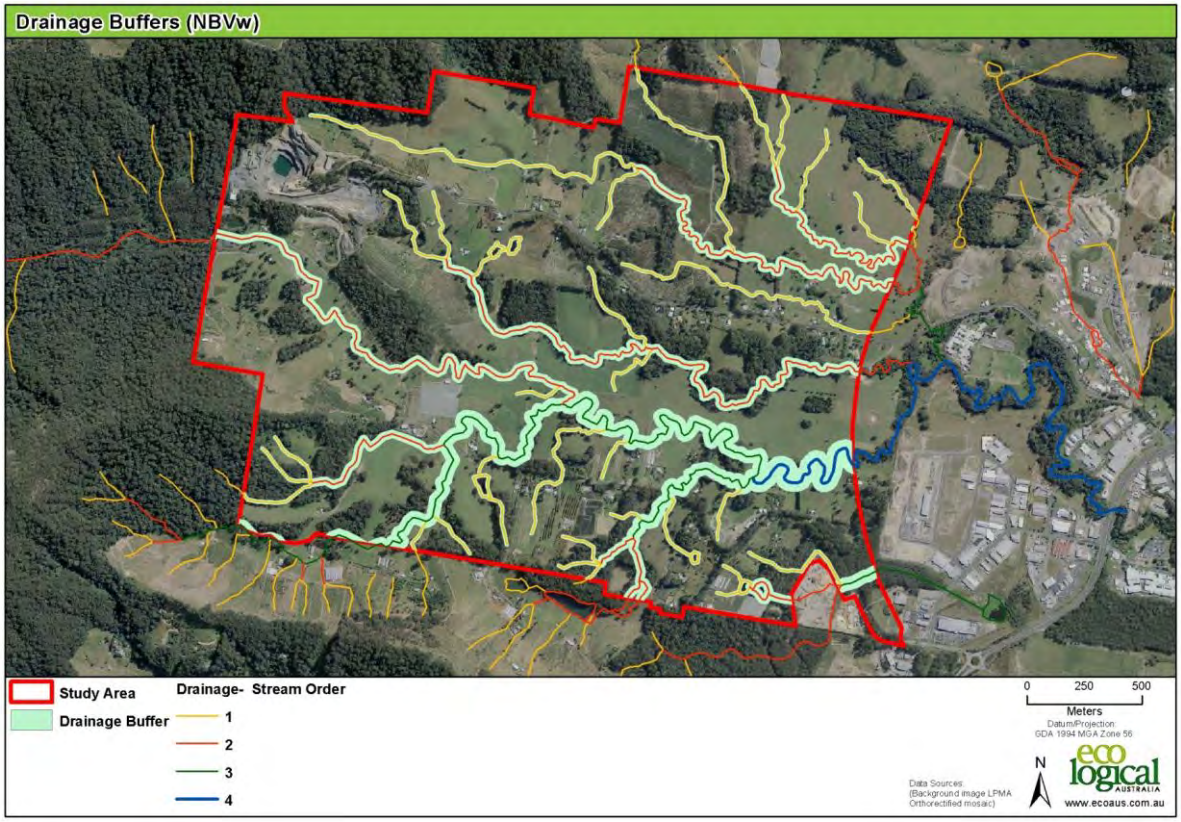
> *'where a watercourse does not exhibit the features of a defined channel with bed and banks, the Office of Water may determine that the watercourse is not waterfront land for the purposes of the WM Act'.*

Many of the 1st order streams within the study area that are contained within cleared landscapes do not display defined bed and channel definition as they have been cleared and grazed for many decades. Drainage lines of 1st order only that could not be defined under this principle were not retained in the buffered output.

Table: Stream Order and Buffer Distances

Watercourse type	VRZ width (each side of watercourse)	Total RC width
1st Order	10 Metres	20 m + channel width
2nd Order	20 Metres	40 m + channel width
3rd order	30 Metres	60 m + channel width
4th Order and greater (includes estuaries, wetlands and any parts of rivers influenced by tidal waters)	40 Metres	80 m + channel width

Illustration 4.1.2 Drainage Buffers



Conservation Linkages

The majority of corridors have been incorporated in the final constraints layer shown at **Illustration 4.1.3 Conservation Linkages and Drainage Buffers.** Riparian buffers have allowed for additional connectivity in some areas particularly in the north-east of the study area where originally no local corridor was proposed. Some adjustments were made to the corridor layer because of underlining existing land-use and infrastructure that does not make it appropriate for outright rezoning for environmental protection purposes. The riparian buffers in most instances mimic the corridors along the riparian zones.

Through this process some small areas of low value vegetation can be removed with a plan to consolidate existing high value vegetation areas by infill regeneration and connection through wildlife and riparian corridor construction. This not only creates the connectivity to existing isolated patches of habitat but maintains and improves on this existing vegetation as a key objective under the CKPoM.

The Table below shows the sum area of the environmental categories for the study area as displayed in the Conservation Linkages and Drainage Buffers illustration. All high value vegetation is retained with an additional 40 Ha of riparian vegetation proposed for rezoning to E3 as well as a further 35 Ha for off-stream corridor and infill regeneration of Koala habitat.

Table: Environmental Constraints Totals

Conservation Linkage Category	Area (ha)
Category 2 - High conservation lands	166
Category 3 - Drainage Revegetation Buffers	40
Category 3 - Environmental rehabilitation and restoration)	35

Utilising statutory requirements for re-establishing riparian zone (drainage line) vegetated buffers and wildlife corridor information, a framework of connective corridors has been created to link existing vegetated areas. This upholds objectives of the CKPoM and the Draft Biodiversity strategy to create important linkages in the landscape to maintain and improve functional connectivity.

It is believed that this process of improving connectivity of existing remnant vegetation with buffers around drainage lines creates the next phase of maintaining and improving habitat viability.

Environmental zones

NSW P&I Practice Note PN 09-002 sets out the characteristics of the environmental zones available under the NSW Standard Instrument LEP template. At this stage, Council has utilised only the E2 Environmental Conservation zone in the CHLEP 2013.

Koala habitat protection was the driver of Environmental Protection (7a) zones through LEP 2000 within the study area. With the transition to the recently gazetted CHLEP 2013 (SILEP), this intention is carried with the majority of 7a zones moved across to the E2 Environmental Conservation zone for a small net increase. Unfortunately, the E3 Environmental Management zone has not been currently utilised within the CHLEP 2013. It is understood that the E3 zone may be included in the CHLEP 2013

as part of a future LEP amendment, following Council's endorsement of further ecological studies within the LGA.
It is considered that these lands are transitional between existing land use and their potential as riparian and wildlife corridors as that intent is realised either through property development or incentive voluntary revegetation. Whilst some of these areas are degraded and in poor condition, they will consolidate through existing high value vegetation and provide areas of infill regeneration and reconnection through wildlife and riparian corridor improvements. This will create connectivity to existing patches of habitat but maintain and improve existing vegetation which is a key objective of the Koala Plan of Management. For these reasons, it is important to protect this land under a suitable environmental zone.

Whilst, the E3 Environmental Management zone is considered to be the most suitable zone for the areas identified as riparian buffers and wildlife corridor connections, (shown as "Category 3" in **Illustration 4.1.3 Conservation Linkages and Drainage Buffers**), this land will be rezoned E2 Environmental Conservation under this Planning Proposal. This will ensure that the land is suitably protected under an environmental zone in the short term and does not preclude this land from being rezoned to E3 in the future following the finalisation of Council's LGA wide environmental studies.

This recommendation is consistent with the intention of E3 zone to contain environmentally significant lands as well as a transitional or buffer areas to the E1, E2 zones and areas zoned for rural or residential development (DP&I LEP practice note 2009). As stated above, protection of the Category 3 land will be ensured under an E2 zone in the short term, with a view to rezoning this land to E3 in the longer term under a future Planning Proposal.

The final output as displayed in **Illustration 4.1.3 Conservation Linkages and Drainage Buffers** shows the key environmental constraints within the study area. The inverse of this layer is then used to determine the potential developable land for residential, industrial or rural residential land uses.

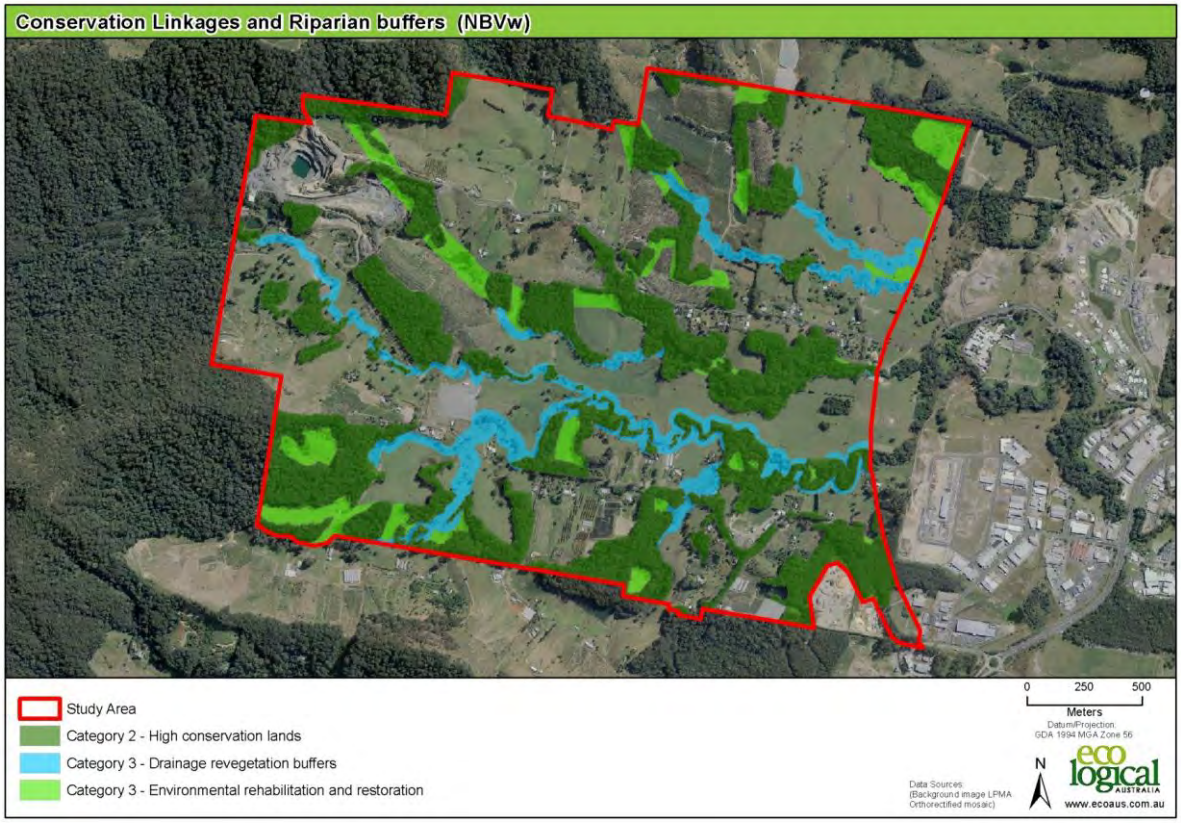
Recommendations
The Conservation Linkages and Drainage Buffers data shown in **Illustration 4.1.3** provides the layer of environmental protection zoned land to be implemented through this Planning Proposal. This layer combines land that has already been zoned for environmental protection purposes and increases habitat protection by zoning riparian corridors and land to be rehabilitated.

The key recommendations from this study are:

- Retain all high conservation habitats as E2 zone;
- Add riparian buffer areas to an appropriate environmental zone as a statutory component;
- Add corridor linkages and the environmental rehabilitation and restoration areas, to the environmental zone;
- Zone all Category 2 and Category 3 land E2 Environmental Conservation under this Planning Proposal.
- Category 3 land may be rezoned E3 Environmental Management following the finalisation of Council's LGA wide environmental studies under a future Planning Proposal.
- Council to liaise with the NSW Office of Water to confirm drainage line derivation particularly on fine scale 1st order streams that do not show bank definition;
- Council to negotiate with the Roads and Maritime Service on design and construction methods for the Coffs Harbour Pacific Highway bypass to establish habitat offsets.

- Bypass across Newport's Creek floodplain should not constrict wildlife movement, preferably bridges not embankment style highway construction to allow ease of movement for wildlife under the proposed highway.

Illustration 4.1.3 Conservation Linkages and Drainage Buffers



4.2. Acid Sulfate Soils

Acid Sulfate Soil Risk Mapping

Council's acid sulfate soils risk mapping indicates that part of the site is mapped as low risk Acid Sulfate Soils – refer to Figure 5 - Acid Sulfate Risk Mapping and Figure 6 - Potential Acid Sulfate Areas at the end of the Planning Proposal. Figure 3 shows a small section of the NBVw release area is considered to have a low risk of having acid sulphate soils present. This area is outside any potential residential areas, and partly covers the proposed industrial areas at the eastern end of the study area.

Figure indicates that the eastern portion of the site has Class 3, 4 and 5 mapping areas. These areas are defined as:

- Class 4 – Works beyond 2m below natural ground surface; works by which the water table may be lowered beyond 2m below natural ground level
- Class 5 – Works within 500m of the above Classes of land which are likely to lower the water level by 1m on the adjacent Class of land.

It is noted that it is unlikely that acid sulfate soils are present in the Class 5 lands. Rather, the Class 5 land is intended as a buffer and is included in the mapping to protect that land in the event of major works, particularly drainage works, which could conceivably impact on the water table in the adjacent Class 4 or higher lands. Where significant earthworks or drainage works are proposed within acid sulfate soils classified lands, Council requires an acid sulphate assessment, and where present, a management plan.

Limited Field Investigations

The location and number of sampling points was significantly constrained by access issues, however, two boreholes were excavated and three samples were collected from each, ranging from 0.5 to 2.0 metres deep and then tested by Coffs Harbour Laboratory. The borehole locations are shown on Figure . The full test results are contained in Appendix B – Engineering Issues Report. These results however did find mild acid sulfate, sufficient to require the preparation of an acid sulfate soil management plan for development involving excavation.

Some of the land identified for potential industrial development lies across an area identified as Class 4 under Council's acid sulfate soil mapping. This land is part of the lower floodplain of Newports Creek along the eastern portion of the study area. Class 4 lands may contain acid sulfate soils and, depending on the depth and extent of any proposed earthworks and drainage works, further investigation and possible management is required.

Due to flood constraints, any proposed development in these areas will generally involve filling the land. Filling the land is unlikely to expose any potential acid sulfate soils to oxidation. However, some shallow excavation of floodways and deeper excavation for service trenching will be required.

It is recommended that Council's existing policies of requiring acid sulfate assessment and, where present, management, be retained for the class 4 and 5 lands in NBVw.

As is generally found along the lower creek lines around Coffs Harbour, mild acid sulfate soils will be found in places. Management practices will be required such as treatment with lime. The investigations and management will add to the cost of development. However, as the extent of deep

excavation will be limited and the likelihood of high acid sulfate soils is low, it is not expected that managing acid sulfate soils will be a significant constraint. Testing and management of acid sulfate soils will not significantly impact on the viability of development.

4.3. Geotechnical Assessment

Investigations

Across the investigation area the topography is that of moderate to steep slopes falling to gentle limited floodplains adjacent several creek lines. The general profile of soils underlying the site is:

- Under the sloping terrain – residual soils, having weathered from the underlying rock which, according to the 1:250,000 Geological Series Mapping, Sheet SH 56 – 10 & 11, is siliceous argillite, slate, rare siliceous greywacke from the Brooklana Formation of the Carboniferous period. The slopes are dominated by residual soils, that is, soils that have formed in their current location by the weathering of the underlying rock. Some slopewash may be present in isolated areas below steep slopes. Slopewash is soil that has been washed down from up-slope and deposited.

- Under the flood plains, either residual soils as above, or alluvial soils, having formed through deposition from the creeks.

The natural residual soil on the slopes is cohesive (silty clay) in nature and is generally fairly shallow. Weathered rock can be expected within several metres depth. On the steeper slopes where erosion is typically acting faster, weathered rock can be at quite shallow depths. Topsoil on the slopes is typically 100-200mm in depth. Across the floodplain the soil profile is more variable and can be significantly deeper in alluvial areas.

Full details are contained in **Appendix B – Engineering Issues**.

Conclusions and Recommendations

The geotechnical conditions across the proposed development areas do not pose a major constraint. Slope, as discussed in section 4.5, will have the greatest effect of development. The residual soils will typically yield an M classification in accordance with AS2870 although this will give way to a P classification on the steeper slopes.

This investigation is general in nature and, apart from limited field work, relies on local experience in the design and construction of residential footings throughout the Coffs Harbour region over the Brooklana Formation. This investigation does not obviate the need for site specific investigations as part of individual development.

It is recommended that Council retain existing policies that require individual site classifications and the engineering design of slabs and footings, plus compaction control of subdivision earthworks. Notwithstanding the recommendations of section 4.5, not additional planning and policy requirements are recommended.

4.4. Bushfire Hazard Management

A Bushfire Assessment was prepared by EcoLogical Aust and is found at **Appendix C** of this Planning Proposal.

The aim of the Bushfire Hazard Assessment is to investigate the capability and general suitability of the site for future residential subdivision and other land uses with the appropriate bushfire protection measures as guided by the relevant legislation and policy into bushfire planning and design of new development in NSW. The findings and recommendations are to inform a Planning Proposal to rezone the site to permit residential and industrial land uses.

The objectives of this study are to:

1. Provide statements as to the capability of the site to achieve the required minimum bushfire protection measures for future development, namely subdivision and the construction of dwellings;
2. Satisfy the legislative requirements for assessment of rezoning bushfire prone land for residential purposes under the *Environmental Planning and Assessment Act 1979*;
3. Address bushfire management issues raised by the NBVw Structure Plan 2010;
4. Investigate the application of Asset Protection Zone (APZ) building setbacks to vegetation/bushland and report on the location and dimensions of any required APZ;
5. Provide guidance on the access and egress requirements for residential development in bushfire prone land; and
6. Provide guidance on other bushfire protection measures such as the provision of utilities.

An assessment was carried out of vegetation communities (bushfire fuels) and the topography (effective slope) that combine to create potential bushfire hazard that may affect bushfire behaviour at the site.

All current bushland areas contribute to the existing bushfire hazard, however this hazard will be potentially significantly increased through proposed connectivity between remnants and along drainage lines to achieve biodiversity and riparian environmental objectives. The increase in hazard is not significant enough to preclude development or pose a future hazard that cannot be addressed by typical bushfire protection planning precautions as outlined within Planning for Bushfire Protection (PfBP) 2006.

Vegetation Communities Influencing Bushfire

The 'predominant vegetation' influencing fire behaviour approaching future developable areas has been assessed strictly in accordance with the methodology specified within PfBP.

The bushland throughout and adjoining the site is predominantly Tall Open Forest of varying conditions with floristics, particularly within the understorey, changing from the wetter lowland areas such as along the drainage line to the higher slopes.

The PfBP predominant vegetation classification of all future vegetation is 'forest', with the exception of small remnants (less than 1 ha) and narrow corridors (less than 50 m in width) which are able to be classified as 'low hazard' due to the limited fire behaviour in small areas of vegetation.

The presence and potential for rainforest throughout the site has been carefully assessed. Although some gullies and riparian areas provide habitat for mesic communities, these areas are relatively small and maintain (or likely to present) a Eucalypt dominant overstorey such that they cannot be classified as 'rainforest' in accordance with PfBP methodology.

Slopes Influencing Bushfire

The 'effective slope' influencing fire behaviour approaching the developable area has been assessed strictly in accordance with the methodology specified within PfBP. This is conducted by measuring the worst-case scenario slope where the vegetation occurs over a 100 m transect measured outwards from the development boundary.

Bushfire Protection Measures

PfBP requires the assessment of a suite of bushfire protection measures that in total afford an adequate level of protection. This section demonstrates that the NBVw release area can accommodate the required bushfire protection measures in accordance with RFS requirements.

APZ Location and Dimension

Using the vegetation, (both current and proposed extent), and slope data discussed above, APZs suitable for residential subdivision around all significant environmental lands have been calculated. These have been mapped and identified in **Illustration 4.4.1 Bushfire APZ Buffers** and described in the table below.

Illustration 4.4.1 Bushfire APZ Buffers

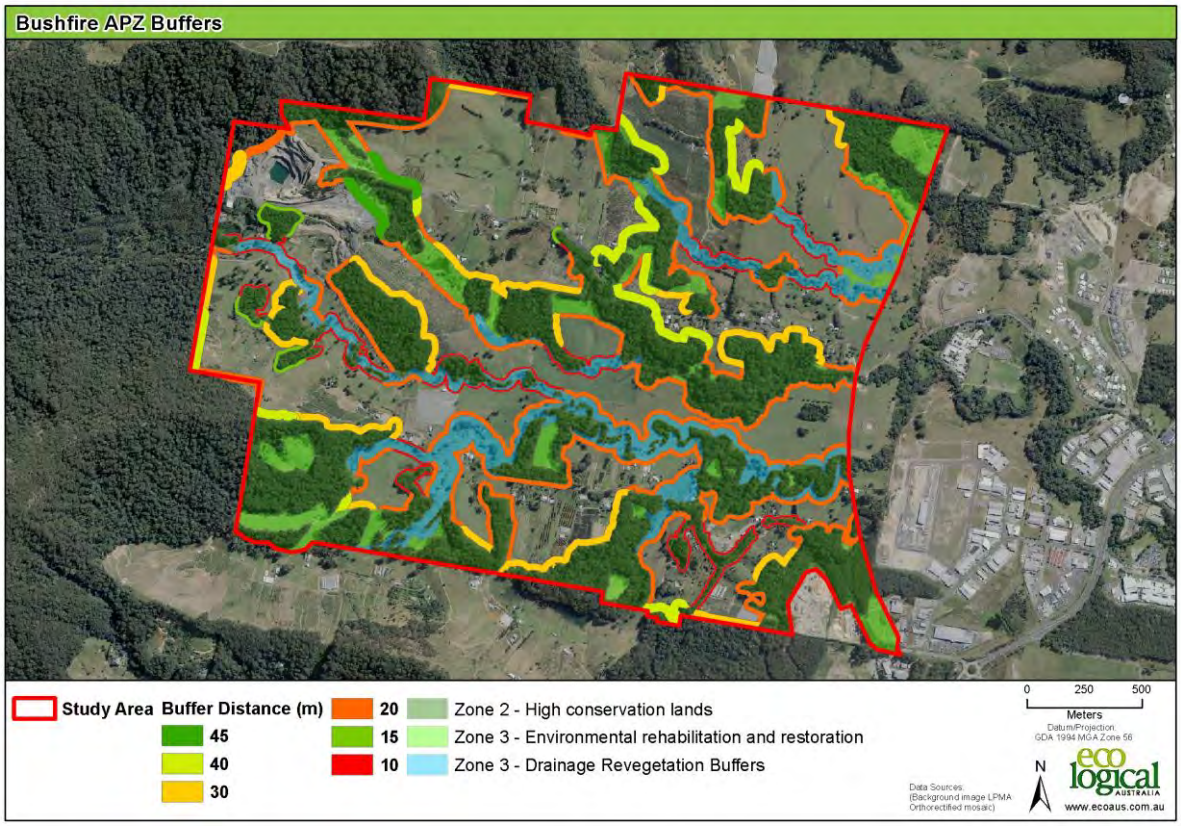


Table 1: Asset Protection Zone (APZ) calculation

Predominant Vegetation	Effective Slope	APZ width	APZ colour Illustration 4.4.1	SFPP APZ width	BAL-29 APZ
Forest	Upslope/Flat	20 m (10 m OPA)		60 m (20 m OPA)	21 m
Forest	>0-5° downslope	20 m (5 m OPA)		70 m (20 m OPA)	27 m
Forest	>5-10° downslope	30 m (15 m OPA)		85 m (25 m OPA)	33 m
Forest	>10-15° downslope	40 m 20 m OPA)		100 m (30 m OPA)	42 m
Forest	>15-18° downslope	45 m (20 m OPA)		100 m (25 m OPA)	52 m
Low hazard	Upslope/Flat	10 m		30 m	9 m
Low hazard	>0-5° downslope	10 m		40 m	11 m
Low hazard	>5-10° downslope	15 m		50 m	15 m
Low hazard	>10-15° downslope	15 m		60 m	19 m

An alternative APZ dimension for Special Fire Protection Purposes (SFPP) is also listed in the table above. These SFPP APZs are for schools, child care centres, accommodation, retirement villages and other uses listed under s100B (6) *Rural Fires Act 1997.*

It is recommended that development associated with employment lands, such as commercial and industrial development, be treated as residential development for the purpose of the rezoning analysis. Non-habitable development of this kind has the opportunity to have an APZ less than that required for residential subdivision. This flexibility relies on the known use of the building, its design and construction standard, and can be determined at the development application stage.

The NBVw Structure Plan recommends that '*placement of development should have regard to requirements for bushfire protection. Existing stands of vegetation that are of high scenic value should not require removal or modification to provide bushfire protection for urban development'*.

Areas to be rezoned for urban purposes under this Planning Proposal do not involve the removal or modification of existing significant vegetation for bushfire management purposes.

The Bushfire Assessment found that the site is capable of accommodating future subdivision and land development with the appropriate bushfire protection measures and provided a detailed assessment of bushfire management requirements for inclusion in the Coffs Harbour DCP 2013 Component E16 North Boambee Valley West (DCP NBVw).

4.5. Topography

The topography of the study area is that of moderately steep sided valleys and ridgelines with incised gullies draining to two main creek lines. These flow west to east within limited floodplains. The ground level within the study area varies from 5 to 170 m AHD, although not far beyond the study boundary the land continues to rise to ridgelines that in places exceed 300 m in elevation. Figure 8 - Topography, at the end of this report, provides contour mapping of the study area.

Within the study area the topographical characteristic of most importance to development potential is slope, and specifically, steep slopes. The steeper the slope, the greater the erosion potential and risk of instability (land slips, slumps & soil creep). Steep slopes also increase bush fire hazard. These issues can be managed to an extent although only at increasing costs. As slopes increase beyond about 25%, the costs of constructing roads, infrastructure, building footings and retaining structures increases significantly and is generally uneconomic by about 40%. Industrial developments generally require even gentler slopes due to their larger building footprints.

Conclusions and Recommendations

There are several options available to developers and Council to manage the risk posed by the steeper land. The following is recommended:

Class A Land: - (land slopes less than 15%)

No specific planning controls are warranted. Conventional engineering design and construction practices are acceptable.

Class B Land: (land slopes between 15% and 28%)

No specific planning controls are recommended. The risk can be managed through good hillside engineering practice at both the subdivision and individual development stages. As part of any development or construction application, council should review and be satisfied that such practice is implemented.

Class C Land, all zones other than R5: (land slopes between 28% and 40%)

Much of the class C land is relatively small in size and width. At subdivision stage it could be ameliorated through bulk earthworks to reduce gradients. Alternatively, the locating of roads and individual lots can be adjusted to accommodate the steeper land. The indicative road layout in Figure 9 - Slope Hazard Mapping – and Figure 20 - Slope Hazard Mapping – are examples. Residential lots containing Class C land can be expanded and adjusted to provide sufficient area of Class A or B land within the lot for dwelling construction.

No specific planning controls are recommended at subdivision stage other than to ensure good hillside engineering design and construction practice.

At the individual development stage, it is recommended that a stability assessment be undertaken for any significant building works on or immediately up/downslope (within 10m) of class C land.

Class C Land zoned R5 (land slopes between 28% and 40%).

Within the proposed R5 lands the extent of Class 'C' land is larger and it will not be economic to address through earthworks. It is recommend that:

- At subdivision stage, a stability assessment be undertaken for any road or services infrastructure proposed across or immediately up/downslope (within 10m) of class C land.

- At subdivision stage, lots be sized to ensure sufficient area for dwelling construction (say 750 m^2) is available within class A or B land.

- At the individual development stage, a stability assessment be undertaken for any significant building works on or immediately up/downslope (within 10m) of class C land.

Class D Land, all zoning. (land slopes greater than 40%).

There is very little class D land within the proposed areas. At both subdivision and individual development stage, a detailed slope assessment will be required for any works in or within 10 metres of class D land.

Full details are contained in **Appendix B – Engineering Issues**.

4.6. Flood Liable Land

A study of flood impacts was prepared by de Groot and Benson, Consulting Engineers using TUFLOW flood modelling to examine:

- The flood behaviour in the NBVw release area;
- Flood impact on development potential of the release area; and;
- How urban development can proceed without adverse impacts, both within and downstream of the NBVw release area.

Two previous studies were analysed:

1. Boambee Creek and Newports Creek Flood Study (WMA Water January 2011); and
2. North Boambee Valley Flood Study (Bewsher Consulting 1991).

The full report and detailed figures are found at **Appendix G.** This study considered the impact on flood behaviour of potential development in the North Boambee Valley. The valley is characterised by hilly terrain with two gentle sloping floodplains. Flood modelling has found that a considerable portion of these floodplains become inundated in the 0.2% AEP (500-year RAI) flood event. However, for much of the floodplain, this inundation is quite shallow, at typically 0.5 metres or less.

Once all other environmental constraints are accounted for, the floodplains have the potential to provide substantial developable area. Area that is quite flat and hence suitable for large industrial lots, which is in short supply in the region. The southern floodplain between Newports Creek and 'Trib A' is considered suitable for industrial zoning while the northern floodplain offers the potential for residential land. The southern industrial zone can also offer an alternative haul route for the quarry and improved flood access to the proposed residential land.

The study area was divided into 56 sub-catchments inclusive of land downstream from the NBVw release area. The entire catchment area is 1,208 ha, more than double the actual release area as shown below on **Illustration 5.6.1 'Catchments'**. The data was integrated with the recent WMA flood data as the WMA model has been calibrated, verified against historic events and adopted by Council.

The WBNM and TUFLOW models are sufficient to reasonably predict flood levels, to assess the impact of potential development and works to mitigate such impacts.

The study examined several development scenarios that maximise the developable land in the floodplain while providing compensatory works to mitigate adverse flood impacts. The works include the filling of the floodplain, excavation of floodways and compensatory flood storage in the form of detention basins. The works were sized for the present 0.2% AEP (500-yr ARI) design event. This higher than normal flood standard was adopted to allow for the likely effects of climate change and the possible current 'under' estimation of local rainfall intensities. This adoption of a conservative flood standard gives greater confidence in the results.
The results of the modelling found that:

- Flood mitigation works, in the form of filling, floodways and detention basins can yield substantial developable land in the floodplain with acceptably low flood risk and can mitigate any adverse impacts elsewhere;

- A large detention basin, Basin 1B (**Illustration 4.6.2**), is recommended for consideration. It can compensate for the filling of the proposed industrial land and the residential land and can provide significant flood mitigation benefits to flood affected properties downstream of the study area. In addition, it could compensate for the future Pacific Highway works.
- Two smaller detention basins are recommended, Basin 2C upstream of the proposed residential land and Basin 3 is upstream of the proposed industrial land. Both smaller basins can be sized to compensate for the residential and industrial development respectively. If the large detention basin is implemented, the two smaller basins will not be necessary.

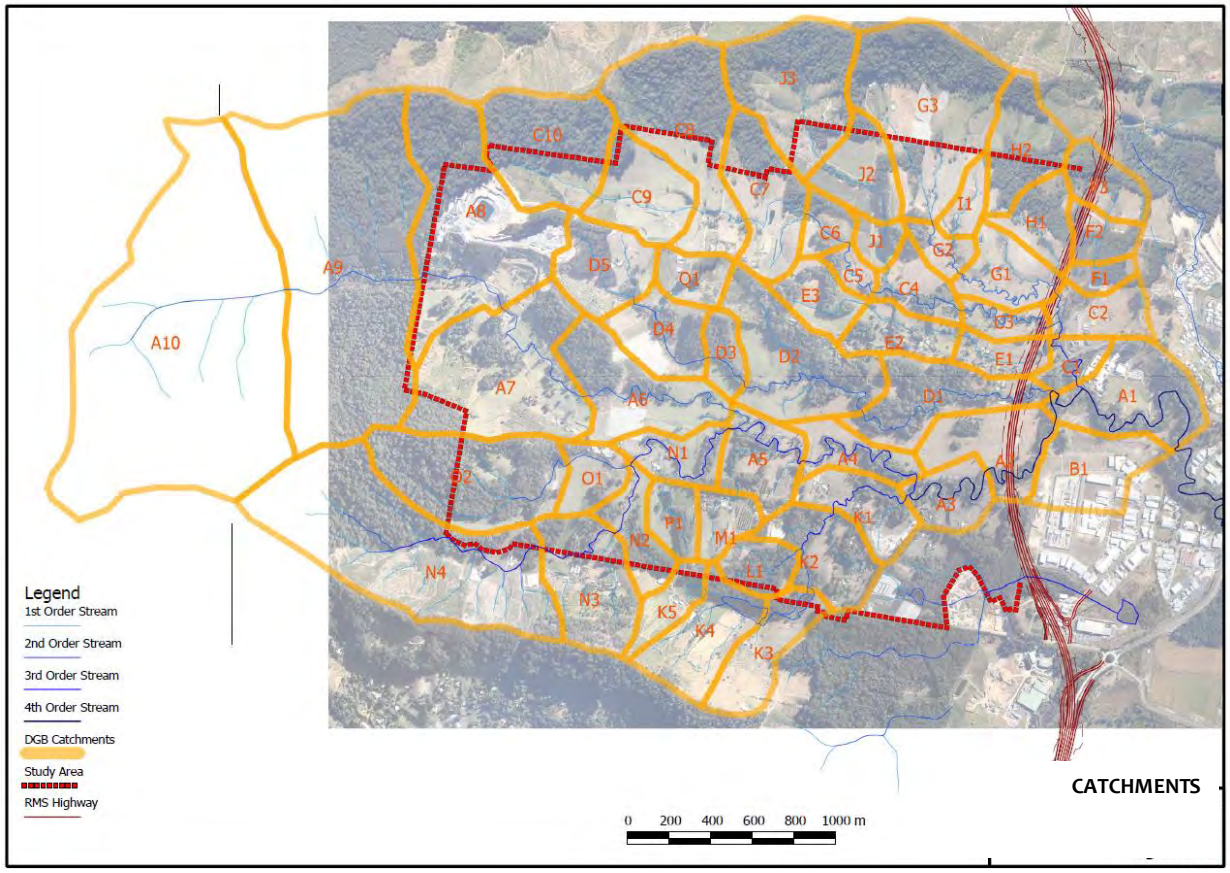
With regard to the funding of the detention basin the following is noted:

- To ensure no adverse impact of flooding downstream, the construction of the large detention basin should proceed early in the development of the valleys. Certainly before substantial filling of the floodplains has occurred. As such, it is unlikely that the basin can be constructed from received section 94 contributions. Forward funding with associated borrowing and interest costs will most likely be required.
- As the large basin provides substantially greater benefit than that required to compensate for the development, only a small portion of its cost can be recouped through section 94 contributions. Other sources of funding would need to be found.

The cost implications of various basin sizes and their possible implementation through Section 94 funding is discussed in **Appendix B** Engineering Issues and the draft North Boambee Valley West Release Area Developer Contributions Plan 2014. .

Should funding constraints preclude the construction of the large basin, then either of the smaller basins should proceed. A single basin at either site can provide the necessary flood compensation at a construction cost in the order of $1.1 to 1.2 million. Constructing smaller basins at both sites is likely to have higher construction costs, in the order of $2 million. Further detailed investigation is required at both sites to determine the most economical solution, but, to the current level of investigation, a single large basin offers the greatest economy by a small margin.

Illustration 4.6.1 Catchments

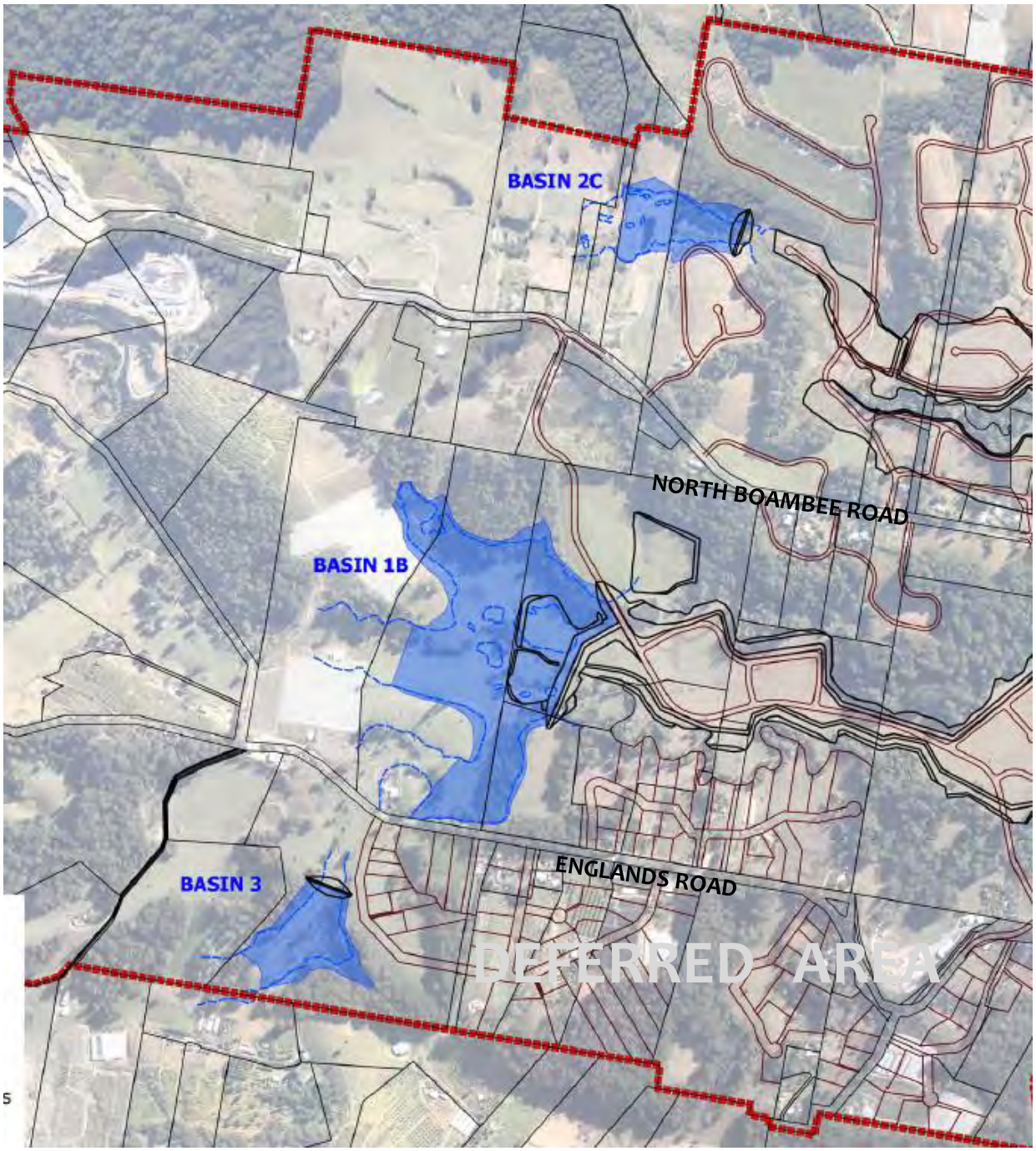


This study examined the impact of filling in the floodplain and has found that the provision of floodways and two up-stream detention basins can negate any adverse impact on flood behaviour, both within and downstream of the study area. Further, there is the scope to construct larger detention basins. Larger detention basins will not only reduce the floodplain filling required, but can also provide significant flood relieve to flood affected properties downstream of the study area.

Development in the floodplains for industrial land use will require significant filling and compensatory channel works. However, such is the potential demand for developable land, particularly relatively level land suitable for large lot industrial development, that such filling and compensatory channel works are expected to be economical.

Filling of this land will cause a loss in floodplain storage, which in turn will lead to increased flood flows downstream. TUFLOW modelling shows that the proposed floodplain filling with compensatory floodways will cause a small but significant increase in peak flows downstream.

Illustration 4.6.2 Detention Basin Options



Extract from NBVw Flood Study

This flood study has determined that, with appropriate flood abatement works, the land is suitable for development. Furthermore, it was found that the greatest benefit arising from the construction of the large detention basin (1B) is a significant benefit to areas downstream of the Study Area, including offsetting impacts of the Pacific Highway upgrade and lowering flood levels in the Isles Industrial area and around the Hospital campus.

4.7. Visual Analysis

A detailed Visual Analysis of the NBVw area was prepared by Jackie Amos Landscape Architect. The purpose of the visual analysis was to assess the site in context with its key scenic features, its surrounding land uses and the RMS preferred Pacific Highway bypass route. The full report is found at Appendix E and is summarised below.

Community consultation conducted for the NBVw Structure Plan indicated that the community are passionate about preserving the natural environment, the sense of place and the spectacular and varied views of the North Boambee Valley.

This visual analysis considered the existing character of the site and its surrounds. Whilst the site is predominantly rural, there are a variety of land uses in the surrounds. There is residential and industrial development immediately east of the site. There is rural agricultural land use to the south. Boambee State Forest is at the western extent of the site and the Roberts Hill ridgeline is to the north. Each of these land uses has its own visual character.

The scenic features to North Boambee Valley include the vegetated ridge and 'Big Boambee' peak of Boambee State Forest, the vegetated ridge associated with Roberts Hill, the 'Roberts Hill' peak and the areas of remnant vegetation scattered throughout the valley. A variety of landscape types collectively contribute to the overall visual character and scenic quality of the valley. These include bushland, pasture, residences, banana and blueberry plantations, other areas of agriculture, storage yards and the quarry. The collective visual impression of the study area is of an attractive rural, undulating landscape with pockets of bushland and rural homes, hobby farms and a limited number of enterprises. The valley is not pristine and reflects a variety of human endeavours over time. Many locations take in attractive views of the valley and the nearby vegetated ridges.

The assessment phase of the study utilised a series of viewpoint photographs to determine the likely visual impact of development on the study site. The assessment considered the character, content and visual quality of the view and identified any scenic features that may be visible from that viewpoint. A determination was made as to the visual sensitivity and the likely visual effect of development for each view. A rating system was adopted to combine these determinations and determine a visual impact for each viewpoint. This system allowed the views to be assessed and evaluated against each other to determine priorities for scenic protection.

A total of 35 views across the study site were assessed. It was found that development would be likely to have a very high visual impact upon 15 of those views, a high visual impact upon 9 of the assessed views, a medium visual impact upon 4 of the views and a low visual impact on 6 of the views. Interpreted as a plan, development was likely to have a very high visual impact over most of the eastern part of the site and this impact was only lessened where there were limited views, screens created by vegetation or existing areas of development.

The view assessment identified development in the valley would not affect the views currently available to the vegetated ridges of Boambee State Forest and the Roberts Hill ridge. It also identified that the retention of most of the E2 vegetation would be vital in retaining some scenic value and interrupting and screening views to future development.

Development to the east of the project site has established an urban character to the broader surrounds. These developed areas, however, are closer to the Coffs Harbour CBD and do not have

the undulating topography and close relationship to the ridges that NBVw has. It is, therefore, inappropriate that development similar to that which exists immediately to the east of the study site, occur at west North Boambee Valley. Development at NBVw must take on a site specific approach that retains the scenic amenity of the valley and respects the topography, vegetation, riparian areas and distinct rural character of the setting.

The final phase of the visual analysis considered strategies to mitigate the potential visual impacts associated with future development to the valley. A vision statement was evolved as a framework for these recommendations:

> *To guide future development to* NBVw *in a manner that is sensitive to the distinct rural and bushland character of the valley and that maintains the high scenic amenity of the valley and its views.* NBVw *should be a contemporary Coffs Harbour suburb that is integrated with the valley setting and that embraces its bushland as part of comprehensive network of 'green spaces' and recreational areas.*

A series of recommendations have been evolved to address specific issues of visual impact and to assist with the design of future development in NBVw:

- Ensure the long term retention of landmarks of high scenic value both within the site and beyond that contribute to the scenic value of NBVw and the surrounds.
- Protect and enhance remnant bushland areas in NBVw as a landscape feature with high scenic value.
- Establish a west North Boambee Valley suburb that has strong visual links to its context and landscape features.
- Design future development to reflect and respect the topography of the valley.
- Retain scattered trees and road side vegetation as landscape features to new development.
- Use locations unsuitable for development to add to bushland corridors and to provide recreational spaces.
- Create a contemporary Coffs Harbour suburb visually sympathetic to the setting that incorporates environmentally sustainable design principles and enhances the lifestyle of its future residents.
- Create a green suburb.
- Establish a new highway with a view to local landscape features.
- Establish a new Pacific Highway corridor that is integrated with the surrounds physically and visually.

It is intended that these strategies be included, and further developed, in future planning and the preparation of the draft Development Control Plan for NBVw.

4.8. Extractive Industries

The Holcim Quarry (hard rock quarry) is located at the western end of North Boambee Road. The NSW Department of Industry and Investment (I&I NSW) has identified this resource as regionally significant (Appendix 2 and 3 MNCRS) and limits westward expansion of the NBVw release area until an appropriate buffer has been identified around the resource.

The Planning Minister for NSW, through Ministerial 117(2) Direction 1.3 – Mining, Petroleum Production and Extractive Industries, requires that Councils consult with I&I NSW when preparing any proposals to rezone land that may restrict or prohibit the development potential of extractive resources.

I&I NSW recommend that NSW Councils adopt the following strategies regarding mineral resources in its planning:

1. Operating mines and quarries should be protected from sterilisation or hindrance by encroachment of incompatible adjacent development.
2. Known resources and areas of identified high mineral potential should not be unnecessarily sterilised by inappropriate zoning or development.
3. Access to land for mineral exploration and possible development should be maintained over as much of the planning area as possible.

A dataset of mineral and extractive resources sites has been generated for Local Government Areas (LGAs) to inform land use planning by state and local government agencies. Areas have been identified and notifications provided to local government authorities who must consult with the I&I NSW, Resources & Energy Division when considering land use changes which could restrict or prohibit mining or extraction on these sites. Major identified and potential resource areas, along with related transition areas are presented within mapped GIS data known as the NSW Minerals Audit.

The Holcim Quarry is identified in the NSW Minerals Audit as a large hard rock quarry, rock type Argilite, operating continuously with a 1 km buffer (transitional area) around the operational area of the quarry as shown in Figure 15 – Quarry Buffers.

The following advice from NSW I & I in relation to identification of mineral resources indicates that a buffer or "transitional" area of 1 km is appropriate for the Holcim Quarry in the absence of any other technical data:

> *For operating and proposed quarries and mines, an adjacent area ('transition area') where development may conflict with current or future mining or quarrying operations is also generally identified. These transition areas are indicative of the areas that may be subject to significant impacts from mining or quarrying operations. They are based upon criteria previously developed by the (then) Environmental Protection Authority as a guide to transition area requirements, where data on operational impacts needed to determine a site specific transition area is not available.*
>
> *Transition area widths are 1,000 m for sites where blasting is, or would be used, and 500 m for sites where blasting is not required. These distances may be reduced to take account of factors such as existing land uses (e.g. national parks) and the physical characteristics of individual sites.*

The identification of resources and transition areas by NSW Trade & Investment does not alter the existing zoning of the land in question, or the range of uses permitted under current zoning. Nor does it negate the existing rights of landowners. The purpose of the advice is simply to identify areas where proposed developments and land use changes may impact upon mineral and extractive operations or resources. These areas must be taken into consideration by council when preparing LEPs or assessing development applications.

The location of the 1km and 750 m quarry buffer is shown at Figure 12 (at the end of the Planning Proposal). The location of the mapped Mineral Resources quarry buffer has been adjusted to reflect a distance of 1km from the operational boundary of the quarry works – both present and as proposed under a State Signification Development Application currently under assessment.

Part of the NBVw release area is suitable for industrial purposes and will be rezoned IN1 General Industrial. NSW I & I will consider a lesser buffer distance for industrial zones. There is a small area of land to be zoned for industrial purposes in the western section of the release area located between 750 m and 1,000 m of the quarry area. This land is additionally buffered by existing forested land protected under an environmental zone and additional land that will be rezoned from rural to environmental protection.

The remaining land located within the 1 km "transitional" buffer area will be zoned RU2 Rural Landscape and E2 Environmental Conservation. The RU2 zoned land is a direct conversion of the land zoned 1A Rural Agriculture under the former LEP 2000. Additional areas of key habitat/vegetation restoration areas are to be rezoned E2 Environmental Management as discussed in the Flora and Fauna Assessment (Section 4.1).

Extractive industries are permissible with consent in the RU2 zone. Extensive agriculture is permitted without consent in the E2 zone, therefore cl. 7 of the Mining SEPP permits Extractive industries with consent in the E2 zone. Council may amend this in the final drafting of the comprehensive LEP if it is their intention to prohibit extractive industries from the E2 zone.

Holcim (Australia) Pty Ltd currently has an application for State Significant Development lodged with NSW Planning and Infrastructure. Holcim seek to increase extraction from the quarry to meet the demand for road base for the Pacific Highway upgrade. Additional material will be sourced through deepening the existing quarry by benching 15 m deeper, otherwise there are no large-scale changes to the approved quarry operations. The existing and proposed operation area of the quarry are shown at **Illustration 4.8.1**. The development involves:

- Increasing the quantity of saleable material from 300,000 tonnes to 400,000 tonnes of quarry material a year for up to 25 years;
- expanding existing quarry pits to access up to 7 million tonnes of quarry material;
- amending the overburden emplacement, site infrastructure and mobile plant to accommodate expansion south of the existing quarry on Holcim owned, previously disturbed land;
- no change to the number of blasts per year (currently 31 blasts per yield with blast yield limited to 10,000 tonnes of fragmented rock per blast.
- no change to processing rate or product stockpiles;
- removal of the load capacity of trucks (currently 27 tonne capacity haul trucks), otherwise no change to the number of loads carted per day along North Boambee Road;
- receipt of concrete for recycling; and

- rehabilitating the site.

The Director Generals Requirements for the quarry expansion were issued in January 2012. The EIS must address the quarry expansions impact on land use including agriculture, forestry, conservation, recreational use and potential urban expansion. This will include detailed assessments of air quality, noise, vibration and blasting, hazards and traffic and transport. Until the EIS is completed, residential land use within 1 km of the quarry, and industrial land use within 750 m of the quarry cannot be further considered. Holcim personnel advised that the environmental assessment for the quarry expansion is under preparation.

Illustration 4.8.1 Holcim Proposed Quarry Expansion

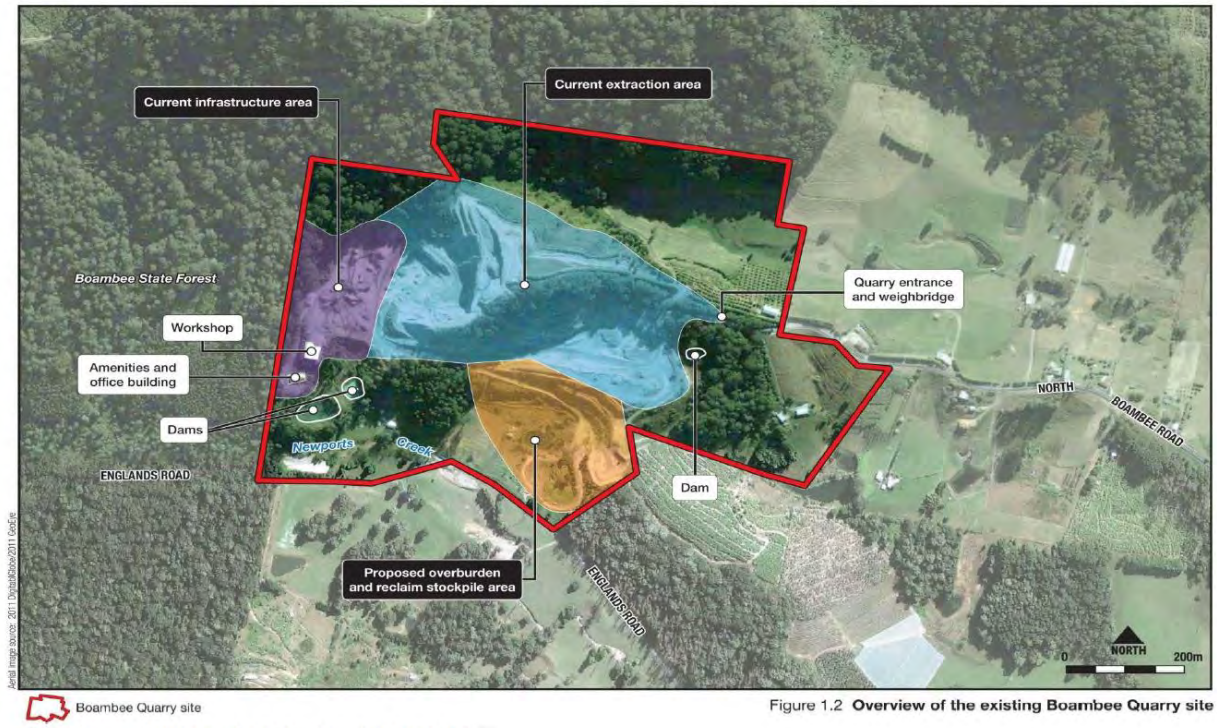


Figure 2 Overview of existing Boambee Quarry site

Source: Parsons Brinkerhof, Request DGRs, November 2011

A new road link (haul road) from the quarry to the Pacific Highway interchange is identified in the DCP NBVw Masterplan. Cost estimates for this new road are included in the draft NBVw Release Area Developer Contributions Plan. A contribution nexus between the rezoned industrial land and the existing quarry will be prepared to ensure that the cost to provide the road infrastructure are appropriately annexed to existing and future road users.

4.9. Archaeology

Tim Hill of Heritage Management and Planning prepared an assessment of Aboriginal and European heritage for the NBVw land release area. The full report is found at Appendix F.

European Heritage

North Boambee Valley has a relatively long history of forestry and horticulture. A landowner indicated that the only historical remnants of the early forest industry were cuttings associated with a tramway which came out of (now) Boambee State Forest to a mill/siding roughly parallel to Englands road through Carsons Road then down to Boambee Creek. The tramway was then linked via another line to Coffs Harbour Jetty. It is understood that all the old line had been re-used or deteriorated and is no longer visible. The sheds currently below the residence are located on the site of the old mill/siding. This tramway is thought to have operated immediately prior to World War One, between 1907 and 1914.

The second major phase of development within the valley was the selection of farms post World War One and subsequent land clearing. There was a major phase of land clearing between the 1920's and 1930's- A landowner indicated that during the 1950's most of the valley was completely cleared of forest. Ringbarking was the basic method of land clearing during this period. Several 'Springboard Notch Stumps' -the notch marks being indicative signs of early forestry- are still present within the valley- several being recorded within regrowth forests.

It is unlikely that the items of historic heritage (the springboard notched stumps and tramway cuttings) are of significance sufficient for registration as items under the Heritage Act. It is likely that similar stumps are located through the wider region. However measures to preserve- or at least further investigate- the values of the tramway could be considered during future planning.

Aboriginal Heritage

The archaeological survey was completed using pedestrian transects across the valley totalling more than 11km. No archaeological sites or sites of significance were identified during the field survey. The effectiveness of the study was constrained by the extent of land clearing, vegetation and grass cover limiting ground visibility and the restrictions in access imposed by private landowners. Given the relative distance to the coast and estuaries, it is unlikely that sub-surface middens or burials would be present across the North Boambee Valley.

The survey / assessment did not identify any sites- or potential sites- which would preclude development of residential or industrial development within the North Boambee Valley.

Recommendations

- There is an overall low likelihood of future land use having an impact on significant Aboriginal or European heritage items due to the relatively low intensity of use by both Aboriginal people- with a preference for coastal and estuarine resources- and the extent of land clearing and disturbance during the early-mid 1900's.
- Sub-surface archaeological survey techniques (test-pitting) should be adopted as an appropriate survey methodology for future land clearing proposals due to the extent of vegetation cover. Specifically this methodology should be applied for all ground clearing

proposals along ridgelines within more mature forests where historic forest clearing has not significantly disturbed the soil structure.

- Future ground disturbing works within the southern area of the Valley should take into consideration potential heritage values of the Old Tramway. The tramway is not registered as a heritage item- however its heritage values may change within the future depending on research and conservation projects relating to forest heritage.

4.10. Contaminated Lands

Prior to European settlement, the site would have been heavily vegetated in native forest with only rare impact from fire. Clearing and agriculture commenced in the 19th century, expanding roughly to its current extents by the mid-20th. Significant areas of land were cultivated. Most notably bananas were cultivated over the east, north and west facing slopes. The flatter floodplains were also cleared and mainly used for stock grazing. In addition to clearing and agriculture, development of roads, dwellings, storage sheds, yards and small on-stream dams have occurred over the years.

Council's mapping identifies areas that have been subject to cultivation in the past, as shown on Figure 9. Possible soil contamination exists through these areas and through areas of current cultivation due to the use of pesticides and herbicides. The use of arsenic in pesticides and herbicides during the 1940s to 1960s is considered a definite possibility, if not likely, source of soil contamination. As such a preliminary investigation was undertaken.

Pesticide and herbicide practices in areas of present and past banana cultivation was identified as the most likely source of any wide spread soil contamination. A soil sampling regime was prepared. It was beyond the scope of this investigation to undertake the sampling and testing in full accordance with Ref 10 which requires a 25 x 25 m grid. This would have resulted in approximately 1,000 sampling points and excessive laboratory costs.

It is noted that access to some properties was denied by the land owners as shown on Figure 11 - Banana Cultivation Area (at the end of this Planning Proposal). However, most of the banana lands were available for testing.

The soil investigation levels (SILs) for urban development sites in NSW found in "Contaminated Sites, Guidelines for the NSW Site Auditor Scheme (2nd Edition)" were adopted for this assessment as the concentrations defining site contamination.

For all parcels, except C19 (refer Figure 12 - Banana Cultivation Testing), the anticipated source of contamination is that of widespread application of pesticides/herbicides to the land. In these circumstances no reduction to the SILs to account for the composite nature of the sample is appropriate, as per method 2 section 6 of "Contaminated Sites, Sampling Design Guidelines".

For parcel C19, where hot spots may be present, the SILs were divided by the number of sampling points as per method 1 from Ref 11.

The full laboratory test results can be found in **APPENDIX B – Engineering Issues**.

Conclusions and Recommendations

This preliminary investigation has concentrated on possible soil contamination from pesticide and herbicide use within past and present areas of cultivation. 32 parcels of present and ex banana land were tested as was one packing shed site. It has found:

- In many locations the arsenic concentration is well above what can be expected for the naturally occurring or background levels for arsenic, which is typically less than about 10 mg/kg. This signifies that arsenic has been applied to the land. In 7 of 32 locations arsenic was above the soil investigation levels (SIL) of 100 mg/kg that defines contamination. The

highest concentration was 160 mg/kg. In an 8th parcel the concentration was right on the limit and in a 9th it was only fractionally below (99 vs 100 ppm). The location of the arsenic contaminated areas is shown at **Illustration 4.10.1: Banana Cultivation Areas**.

- Eight parcels had low concentrations, consistent with background levels. This suggests that arsenic may not have been used over these parcels. Note, most of these were in areas under current bananas but are not shown on Council's banana lands mapping. This implies recent cultivation only, well after the use of arsenic.
- The remaining 15 parcels had elevated arsenic levels, but below the SIL.
- The 95% upper confidence level (UCL) average arsenic concentration for the 32 parcels was 75.6 mg/kg. If the 8 parcels where no arsenic use is suspected are excluded, the 95% UCL average increases to 93.4 mg/kg.
- The concentrations of lead were all comfortably below the SIL.
- Traces of Dieldrin, DDE, DDD & DDT were also found in 17 of 32 parcels although all were well below their SILs. The greatest, being Dieldrin at C7, was just 2.2% of its SIL. All other organochlorines tested for were not found within the detection limits of the laboratory equipment.
- No organophosphates tested for were found in any parcel within the detection limits of the laboratory equipment.
- The testing around the packing shed (C19) found only low concentrations of arsenic, lead, DDE & DDT. All well below their SILs.

Illustration 4.10.1 Banana Cultivation Testing

It can be concluded that arsenic contamination is present across past banana land in the North Boambee Valley. This finding is entirely consistent with past banana land across the Coffs Harbour region.

Council's existing land contamination policies should be applied to any proposed development within the North Boambee Valley. This assessment has not been prepared in sufficient detail, in terms of sampling density, to satisfy Council's policy requirements. All proposed development within present and past cultivated areas should be subject to soil contamination assessments and where contamination is identified a remediation plan be prepared for Council's consideration.

As has been found in other areas, it is anticipated that the arsenic contamination can be readily remediated, generally through on-site vertical mixing. The cost of further investigation, and remediation if required, will fall to the developer. While an additional burden, it is not expected to significantly constrain the land's development potential.

4.11. Noise Assessment

SLR Consulting Pty Ltd prepared a road traffic noise impact assessment to determine the impact of road traffic noise from the RMS Preferred Pacific Highway Bypass Route to the NBVw land release area. The full report is found at Appendix D. The study established existing and likely future noise contours across the study area, and identified and recommended ameliorative measures to mitigate noise impacts over the study area.

Internal and external noise level design goals were established for the study area based on the following guidelines and Australian Standards:

- Road Noise Policy (RNP);
- Environmental Noise Control Manual (ENCM);
- Industrial Noise Policy (INP);
- Development Near Rail Corridors and Busy Roads – Interim Guideline;
- AS 2107-2000 Acoustics: Recommended Design Sound Levels and Reverberation Times for Building Interiors; and
- AS 3671-1989 Acoustics: Road Traffic Noise Intrusion – Building Siting and Construction.

Noise monitoring was undertaken at four locations within the study area between 7June and 15 June 2012 using environmental noise loggers. The purpose of the noise monitoring was to measure the ambient noise environment and to determine the character and duration of background noise, particularly traffic noise.

Operator attended noise measurements indicate that intermittent road traffic noise, particularly passing quarry trucks and schools buses were the main contributors to ambient noise sources with the 'distant hum of the Pacific Highway' recorded at quite low levels about 2km west along the North Boambee Road. The ambient noise environment is typical of a suburban location.

Road traffic volume information was provided by Council and was also sourced from the RMS's *Coffs Harbour Highway Planning Southern and Northern Sections Coffs Harbour City Council Preferred Corridor Feasibility Assessment* June 2004 and RMS's *Coffs Harbour Bypass Concept Design Report September 2008.* Traffic volumes were modelled for the years 2012 and 2022.

The table below presents the most relevant Road Noise Policy (RNP) criteria for residential land uses affected by a freeway, arterial or sub-arterial roads. This is particularly relevant to the NBVw residential rezoning area off North Boambee Road adjacent to the Pacific Highway bypass corridor. Noise levels provided are external noise levels and refer only to road traffic noise; they do not include ambient noise from other sources.

Table: Road Traffic Noise Assessment Criteria for Residential Land Uses

Road category	Type of project/land use	Assessment criteria – dB(A)	
		Day (7am – 10 pm)	Night (10pm – 7 am)
Freeway/ arterial/ sub-arterial roads	1. Existing residences affected by noise from new freeway/arterial/sub-arterial road corridors	LAeq, (15 hour) 55 (external)	LAeq, (9 hour) 50 (external)
	2. Existing residences affected by noise from redevelopment of existing freeway/arterial/sub-arterial Roads 3. Existing residences affected by additional traffic on existing freeways/arterial/sub- arterial roads generated by land use developments	LAeq, (15 hour) 60 (external)	LAeq, (9 hour) 55 (external)
Local roads	4. Existing residences affected by noise from new local road corridors 5. Existing residences affected by noise from redevelopment of existing local roads 6. Existing residences affected by additional traffic on existing local roads generated by land use developments	LAeq, (1 hour) 55 (external)	LAeq, (1 hour) 50 (external)

Note: Land use developers must meet internal noise goals in the Infrastructure SEPP (Department of Planning NSW 2007) for sensitive developments near busy roads (see Appendix C10 of the RNP for details).

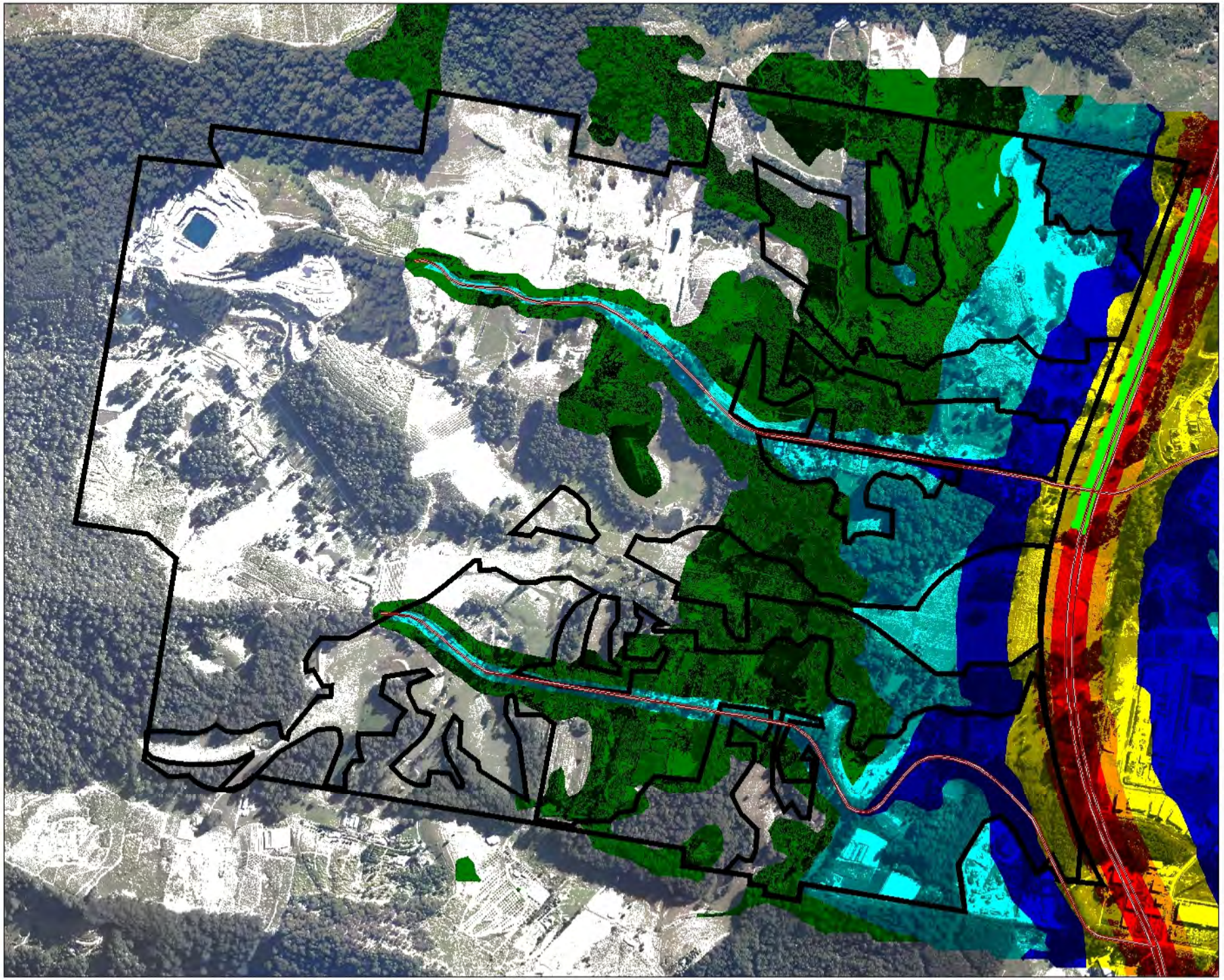
The RNP recommends that external noise levels do not exceed 50 dB(A) at night within the NBVw residential area. By way of comparison, the NSW Government *Development Near Rail Corridors and Busy Roads – Interim Guideline* provides internal noise guidelines for residential receivers located in the vicinity of a rail corridor or busy roads (as defined in clauses 87 and 102 of the State Environmental Planning Policy (Infrastructure) 2007 (SEPP)). This guideline recommends that LAeq levels of 35 dB(A) in sleeping areas and 40 dB(A) in other habitable at night rooms are not exceeded.

Noise level predictions were presented as noise contour plots for day and night-time periods for external areas at first and second storey. Noise level predictions are for external areas measured at first and second storeys.

Noise level predictions will be higher than the 'post-development' scenario as future buildings constructed adjacent to the highway corridors will provide some acoustic shielding to dwellings located further away from the highway corridor. The 'plot' showing the predicted noise contour for the site at night time 2022 with a 3m noise wall is shown at **Illustration 4.11.1 2022 Noise Contour**.

Appendix E4 - Night time 2022 noise contour LAeq (9 hour) - With Mitigation

PLANNING PROPOSAL - **ILLUSTRATION 4.11.1**



LEGEND

Legend

- Study Area
- Road Emission line
- 3m Noise Wall

LAeq dBA Noise Level

- = 45.0
- = 50.0
- = 55.0
- = 60.0
- = 65.0
- = 70.0

0 50 100 200 300 400 m

N

NOTES

NOTES:
Calculation Parameters
1. Calculation Height 4.5m
2. 2.5dBA Facade Correction
3. 3m high noise wall

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Project Name:
North Boambee Valley (West) Release Area
Prepared For:
de Groot & Benson Pty Ltd
Project No:
630.10324.00000

Scale 1:15000	Date: 20/07/2012
Drafted: Tristan Robertson	Approved: John Cotterill

Assessment of Impacts

Road traffic noise modelling of the release area of both pre and post Pacific Highway deviation scenarios was carried out. Currently, noise from the existing Pacific Highway corridor has very little impact on the release area. However, an assessment was made of predicted noise impacts to the residential area of NBVw assuming that the highway bypass is constructed by 2022. Modelling results indicated:

- road traffic noise levels are predicted to exceed external noise criteria (of 50 dB(A)) by up to approximately 15 Db(A) immediately adjacent to the proposed highway bypass corridor;
- external road traffic noise goals are predicted to be exceeded throughout the northern area of the site where residential zoning is proposed;
- external road traffic noise goals are predicted to be exceeded at the majority of areas within approximately 350m of the highway bypass;
- external noise goals are predicted to be achieved at distances greater than approximately 450 m from the highway bypass.

The potential benefit of construction of 3m high noise barriers adjacent to the proposed Coffs Bypass was investigated. It is predicted that noise barriers will reduce road traffic noise level immediately adjacent to the proposed Coffs Bypass in the proposed residential development area by approximately 5 dB(A).

However, these noise levels will still exceed the relevant external noise criteria of 50 dBA by up to approximately 10 dB(A). Therefore special construction methods will be required in these areas to reduce internal traffic noise levels to below recommended values. Additionally, the following design and construction measures are suggested:

- locate dwellings on each allotment as far as possible from the noise source;
- minimise the size and number of windows facing the noise source;
- locate the noise insensitive areas such as the kitchen, storage areas, and laundry towards the noise source;
- use construction techniques that focus on sealing gaps around windows, doors and ceiling spaces etc;
- use thick or laminated glass on windows toward the noise source;
- use solid core doors and appropriate door seals; and
- replace traditional roof design with eaves by a flat roof with parapets (recommended for apartment buildings).

The '*Australian Standard AS 3671-1989 Acoustics: Road traffic noise intrusion – Building siting and Construction*' provides residential construction categories for achieving acceptable internal noise levels. Category 1 is aimed at achieving an approximate 10 dB(A) traffic noise reduction, Category 2 up to 25 dB(A) reduction and Category 3 up to 35 dB(A) reduction.

These recommendations will be included in the draft NBVw DCP to guide future residential construction with the release area.

4.12. Water Services

A reticulated water supply system is proposed for Zones R2, R3 and IN1. Zone R5, being a large lot residential area is not proposed for reticulation in accordance with Council's policies.

The Coffs Harbour Water Supply Strategy Study, 1999 (CHWSS) developed a water supply strategy for the City. This study is the most current city wide strategy. In preparing the strategy, this study included various growth areas across the city. In this Study, the current study area was modelled. The expected levels of development within the Study Area was 1,930 dwellings or 5,900 persons with a peak day demand of 4.4ML/day.

Using the 1999 study as the basis the projected water demands for the study area are shown in Tables 4.12.1 below:

Table: Peak Day Demands (ML/d)

Development Type	Rate	Peak Day Demands (ML/d)
Residential Developments (zones R2 and R3) (823 tenements)	2300 L/d/tenement	1.89 ML/d
Industrial Development (37 ha)	20,000 L/d/ha	0.74 ML/d
Total		**2.63 ML/d**

The peak water demands of 2.63 ML/d is less than the 4.4ML/d assumed in the CHWSS. As such the existing water supply infrastructure from Karangi Dam to the Roberts Hill Reservoir has the capacity to supply the proposed development.

Council has set RL 55 m AHD as the maximum area that it expects to be able to reliably service in the future. The area below RL 55 is shown on Figure 13 - Water Supply Concept Plan. As can be seen, the entire area proposed for residential development in the R2 and R3 zones is below RL 55

Because of changed road patterns in the area, the actual routes of mains shown in the CHWSS are no achievable.

A revised concept has been prepared in this is shown on Figure 10 - Water Supply Limits.

4.13. Sewer Services

Current Strategy Study

The Coffs Harbour Sewerage Strategy Study, 1998 (CHSSS) developed a sewerage strategy for the City. This study is the most current city wide strategy. The strategy made reference to the North Boambee Valley area.

At the time, it estimated that under ultimate development scenario, the area would have a potential sewage loading on the system of 2253 equivalent tenements (ET's) for the North Boambee Valley area.

However, the strategy was silent on how these loads would be transferred to the Coffs Harbour Water Reclamation Plant (WRP). It was suggested that the area would have its own dedicated pumping station and a new rising main running from the station to the Coffs Harbour WRP.

Whilst the strategy study did not address the transport system from the study area to the WRP, it is noted that the WRP has a staging strategy that can accommodate the additional loads resulting from the Study Area.

Estimated Sewerage Loads – Study Area

Based on the areas proposed for zoning, the total additional load on the sewerage system is likely to be:

Table : Sewerage Loads – Study Area (ET)

Development Type	Rate	No of Equivalent Tenements (ET's)
Residential Developments (zones R2 and R3) - (890 tenements)	1 ET/tenement	890 ET
Industrial Development (37 ha) (28.3 ha in the central area and 8.7ha in the southern area)	10 ET/ha	370 ET
Total		**1,260 ET**

Based on the above, we estimate that the design flow rates from the Study area would be of the order of:

- Average Dry Weather Flow (0.007 L/s/ET) 8.35 L/s
- Peak Wet Weather Flow (assuming 0.58 L/s/Et storm allowance) 87.9 L/s

Preliminary discussions have been held with Coffs Harbour City Council on how the loads from NBVw would be transferred to the Coffs Harbour WRP. Council have suggested the following strategy:

- The areas draining to North Boambee Road of 1,173ET (890ET + 283ET) – this area would be pumped to the proposed pumping station to be located at the intersection of North Boambee Road and The Lakes Way. This station is being designed for approximately 1,100 ET

and has additional capacity to take part of the Study Area. Council suggest that it will have approximately 600ET spare capacity.

- The areas draining from the Industrial area (87 ET) - these areas would be pumped to the new South Coffs pumping station (located near the intersection of Stadium Drive and the Pacific Highway. Council suggest that this station has around 400 ET of spare capacity.

It is noted that the estimated loads from the NBVw area exceed the spare capacity of the two pumping stations. However, the rate of development within the area is likely to be of the order of 10 to 15 years and Council have indicated that they will be updating their sewerage strategy in the future. This means that the NBVw can be fully incorporated into the overall sewerage strategy for the City with appropriately staged works.

Study Area – Sewerage System

A concept for sewering the study area has been developed. This is shown on Figure 14 - Sewerage Concepts - Residential / Industrial Developments

The key features:

Northern Residential Areas:
The entire area north of North Boambee Road can drain by gravity to a proposed main transfer pumping station (PS1). There is a small area to the south of North Boambee Road, that cannot drain to this station and will require its own pumping station (PS2).

Central Industrial Area:
Similarly to the northern residential area, the central industrial area will be served by a gravity sewerage system draining to PS1.

Southern Industrial Area:
The eastern part of the southern industrial area is of sufficient elevation to drain by gravity to the existing Isles Industrial system. This would involve a gravity sewer main laid across the Pacific Highway bypass corridor.

The western section of this industrial area will require its own pumping station (PS3).

Additionally, the sewerage strategy has considered the "Potential Rural Residential Investigation Area" to the south of Englands Road. Although not part of this Planning Proposal, it is recommended that, future strategic planning investigations include consideration of the use of Pressure Sewage Technology.

This technology basically proposes that each dwelling within the (potential) rural residential area has its own pressure sewage pumping station located near the dwelling. All power charges for operating the station would be borne by the dwelling owner. The pressure sewerage system would pump all sewage from the rural residential area to PS3.

In 2011, Council introduced a policy allowing the use of pressure sewerage systems where such use can be justified. In the case of the potential (future) rural residential investigation area within the study area:

- The topography is such that a conventional gravity system would be uneconomic and there would be numerous small conventional stations required.
- The laying of 150mm gravity mains and manholes would be uneconomic given the average distance between allotments would be 40m to 50m.
- The pressure system would require pressure mains varying in size from 50mm to 150mm in diameter and can be laid to follow the lie of the land.
- The running costs of the stations would be borne by the property owners and so would not be a burden to Council.
- Finally, as the system is a pressure system, there is not the same issue of stormwater inflows during wet weather. Peak flows and total volumes of sewage to be treated is less than that derived from a conventional system.

Sewage Pumping Station 1:
This pumping station would be located in the RE1 zoned land on the north side of North Boambee Road. The station would have an ultimate capacity of approximately 1100ET. The rising main would run along North Boambee Road to the existing pumping station at the corner of The Lakes Way and North Boambee Road.

Sewage Pumping Station 2:
This is a small pumping station would be located in the R2 zoned land on the south side of North Boambee Road. The rising main from this station will run up to North Boambee Road and connect to the gravity system draining to PS1.

Sewage Pumping Station 3:
This station would pump to a rising main running along Englands Road to the recently constructed sewage pumping station on Stadium Drive.

4.14. Road Network

In developing a strategy for the Valley, the following objectives were adopted:

- The residential zoned areas should be separated as much as possible from the IN1 areas and the Quarry.
- As much as possible, the rural character of Englands Road should be maintained.
- A link between Englands Road and North Boambee Road should be provided.

At present, the two main roads serving the study area are Englands Road and North Boambee Road.

- Englands Road is essentially a rural class road west of the Coffs Harbour Waste Management facility.

North Boambee Road, within the study area is essentially rural class road. Between the Study area and the Pacific Highway, the road formation varies, with sections of Kerb and guttering (eg near Bishop Druitt College) and other sections, of rural character

The RMS provided the concept plans for the proposed Pacific Highway bypass of Coffs Harbour. The relationship of the bypass with the Study Area is summarised below:

- The bypass forms the eastern boundary of the Study Area. The height of the bypass above the surrounding lands varies for the length of the Study Area, however, the bypass is expected to be typically constructed on a filled embankment which could vary in height up to around 6m above the existing landform.
- An interchange with the local Coffs Harbour road network is proposed around the current intersection of Englands Road and the Pacific Highway. There will be the ability to enter and exit the highway bypass in this area.
- The highway bypass is proposed to bridge over North Boambee Road. There will be no connections from North Boambee Road to the bypass.
- No other roads are proposed to cross the bypass route other than Englands Road and North Boambee Road.

Traffic Generation from the Study Area

The average daily traffic generation from the Study Area after full development is summarised below in Table 8.1

Table 4.14.1 – Study Area Traffic Generation

Development Type	**Traffic Generating parameter**	**AADT (veh/day)**
Residential Developments (zones R2 and R3) - (890 tenements)	890 ET @ 9 vpd / ET	8,010 veh/day
Industrial Development (37 ha) – 28.3 ha in the central area and 8.7 ha in the southern area	5 veh/day per 100 m² GFA. GFA averages approx. 35% of site area	6,500 veh / day
Total	**1,473 ET**	**14,510 veh / day**

In terms of assignment to the two main roads leaving the Study Area, our expectation is as follows:

- North Boambee Road (east of the Study Area) – 8,200 veh /day
- Englands Road (from the offtake of the Industrial Area) – 6,500 veh/day

Under Clause 2.9 of Section 041 Geometric Road Layout of Council's AUS-SPEC guidelines, both road would be classed as Local Sub-Arterial Roads as their daily traffic is above 6,000 veh/day.

Study Area Road Network

In accordance with the objectives nominated in above, the following road network system was developed:

a) The two main roads accessing the Study Area will remain as North Boambee Road and Englands Road.
b) North Boambee Road will essentially handle all the residential traffic from the residential and recreational areas. North Boambee Road would need to be upgraded to a Local Sub-Arterial Class Road with a carriageway width of 13 m.
c) Englands Road, east of the Industrial Area offtake, will handle all the existing traffic from the Englands Road rural area, the IN1 areas and the Quarry. It would need to be upgraded to a Local Sub-Arterial Class Road with a carriageway width of 13 m.
d) Englands Road west of the industrial area offtake point would be a rural residential class road with 6m sealed carriageway and 1 m shoulders.
e) All road in the Industrial area would have a 13 m carriageway width
f) We have identified several Collector Class roads in the R2 and R3 areas. These are shown on Figure 16– Section 94 Contributions – Designated Works. These roads would have carriageway widths between 8m and 11m.
g) The remaining roads in the R2 and R3 areas would be Local class roads with widths varying from 5.5 m to 8 m.
h) A link road from the western end of the Industrial area, generally running along a ridge line up to North Boambee Road. This road would then form the main travel route for all traffic from the Quarry. It would have an 11m carriageway width.
i) A further link road is proposed from the Industrial Area adjacent to the Highway Bypass corridor connecting to North Boambee Road.

External Impacts

The major external impacts of the proposed development are on the intersection of North Boambee Road and the Pacific Highway and Englands Road and the Pacific Highway.

North Boambee Road Intersection:
RMS noted that they have allowed for 800 future residential lots from the Study area. This equates to approximately an additional 8,000 vehicles / day. This compares to the additional 8,230 vehicles per day estimated in this study. Given the likely time frame for development of the area and the eventual construction of the Coffs Harbour bypass, it is considered that this intersection should be able to handle the increased traffic from the study area.

Englands Intersection:
RMS noted that they had no information as to the capacity of this intersection. In the Appendix B - Engineering Issues some preliminary modelling of this intersection was undertaken.

The results indicate that the roundabout performs satisfactorily with the NBV study area traffic, and that through and right turn movements from Englands Road are just acceptable.

As such no specific works are proposed for this roundabout.

Proposed Footpath and Cycleway Routes

All roads in residential areas will require footpaths as part of Council's normal subdivision requirements. There is an opportunity to link these with the surrounding vegetation communities by running the paths adjacent to the bushland.

A series of cycle ways are proposed that link the various residential areas. A concept plan of pathways and cycleways is shown on Figure , Figure and Figure .

4.15. Provision of Services

Telecommunications

Telstra advised that they maintain existing networks throughout the study area, and that this network is currently not sufficient to meet the likely demand arising from the rezoning. Telstra has no objection to the change of zoning of land within the study area. Telstra further advised that:

> *To accommodate the proposed development, the telecommunications network would require upgrading. It is envisages that due to its size and timing National Broadband Network (NBN) will be likely to deliver the future infrastructure to this development but this will have to be confirmed with NBN.*
>
> *Any infrastructure and services provided would be determined closer to the time of development commencement, and be dependent upon any changes to the government policies on the provision of infrastructure in new developments.*
>
> *Telstra will work with Government, NBN Co and stakeholders on the implementation of the current policy on Greenfields estates.*
>
> *Telstra has existing aerial cables, direct buried cables, as well as cables in conduits in the proposed rezoning area. Some of these feed through the proposed rezoning area to customers outside the proposed rezoning area. Telstra will require the protection of / relocation of its telecommunication infrastructure that may be impacted by activities on this site.*

National Broadband Network

Telecommunications are provided to new developments in accordance with the Australian Government's Department of Broadband, Communications and the Digital Economy policy for the provision of the National Broadband Network (NBN) in new developments. Their policy was updated in June 2011 and provides that:

- *NBN Co Limited would be the wholesale provider of last resort in new developments within or adjacent to its long term fibre footprint and meet the cost of doing so*
- *developers—and on their properties, property owners—would be responsible for trenching and ducting*
- *Telstra would not have infrastructure responsibilities but would be retail provider of last resort*
- *developers could use any fibre provider they want, providing they met NBN specifications and open access requirements.*

From 1 January 2011, NBN Co is responsible for the installation of fibre at the development stage for all premises in NBN Co's fibre footprint in:

- *new developments of 100 or more premises, whether broadacre or infill, which receive Stage 5 (civil works) planning approval after 1 January 2011*
- *developments, irrespective of size or type, in areas where NBN Co has already rolled out fibre and the fibre is ready and capable of connection*

- *developments in areas where NBN Co has publicly identified the area as a rollout region—this is on the basis rollout regions will be announced 12 months prior to the ready-for-service date.*

NBN has commenced on the 'roll-out' of fibre in the Coffs Harbour region with completion expect to be in late 2013.

In any event, neither NBN Co nor Telstra will provide any firm servicing commitment at rezoning stage, however, as the NBN network is already under construction in the Coffs Harbour area it is highly unlikely that Telstra will provide copper infrastructure as an interim measure. Rather, if the NBN network cannot service the NBVw release area by the time civil works have been approved, Telstra would provide a high quality wireless service as an interim measure.

It will be the responsibility of developers within the NBVw release area to ensure that pit and pipe—including trenching and ducting, design and third-party certification for development approval purposes—are installed and are fibre-ready at their cost. Ownership of the pit and pipe infrastructure will transfer to the NBN Co in exchange for the provision of fibre within that pit and pipe.

The Commonwealth Government has introduced legislation, via the *Fibre Deployment Bill* and the *Telecommunications Legislation Amendment (Fibre Deployment) Act 2011*, that controls the obligations and responsibilities of providers and developers in the installation of fibre-ready pit and pipe.

Electricity

Essential Energy advised that a suitable electrical supply could be provided to the NBVw release area. At present Essential Energy have no plans to upgrade the two existing 66kV feeders that traverse the release area. Essential Energy has electrical assets including 3 phase 11kV mains within the release area. These mains could be extended or redirected into or around the release area with transformers positioned according to electrical load requirements.

Essential Energy advised that all costs associated with the provision of a suitable high voltage and low voltage electrical supply to the area would be the responsibility of individual developers and that they are not the only company accredited and authorised to undertake power supply connection work.

Detailed arrangement for the provision of electrical services to future development in the NBVw release area would be made when the design for the civil works are carried out. For now, it is sufficient to know that there is adequate electrical infrastructure in the area to supply new development.

4.16. Infrastructure Costs and Staging

Infrastructure Costing

Figure 16– Section 94 Contributions – Designated Works shows the main infrastructure to be included in the draft NBVw Release Area Developer Contributions Plan. The costing of these items is included in Table 9.1 of the Engineering Issues Report in **Appendix B**. The general classifications of costings (analysed in **Appendix B**) are:

1. Flood Mitigation Works
2. Traffic Management
3. Open Space and Recreation
4. Urban Planning

In summary, the costs are:

Table 4.16.1 - Schedule of Works, Commencement, Staging and Expenditures

Future Works	Commencement /Staging	Capital Cost$
Open Space & Recreation (OS&R)		
Neighbourhood Park	As demand dictates	600,000
Survey & Design (15%)	Upfront	90,000
Contingency (15%)	In Parallel	103,500
Total OS & R		**793,500**
Transport and Traffic Management		
Link Road 1	As demand dictates	1,168,690
Cycleways	Conjunctional	700,000
Bus Shelters	Conjunctional	100,000
Nth Boambee Rd Upgrade	As demand dictates	3,058,000
Englands Road Upgrade	Industrial Start	960,000
Link Road 2	Industrial Start	1,712,550
Link Road 3	Industrial Start	601,600
Survey & Design (15%)	Upfront	1,245,126
Contingency (15%)	In Parallel	1,431,895
Total - T&TM Works		**10,977,861**
Stormwater Management / Flood Mitigation Works		
Detention Basins - NBV		
Detention Basins - NBV (Either Basins 2 and 3 or contribution to Basin 1 - Refer Flood Study) including Detailed Flood Planning Study and Land Acquisitions for Easements and Dam Wall	Required for any Industrial Development	3,830,000
Survey & Design (15%)	In Parallel	574,500
Contingency (15%)	In Parallel	660,675
Sub-Total – SM Works		5,065,175
Interest (7% over 20 years)		4,359,685
Total – SM / FM Works		**9,424,860**
Urban Planning		
Planning Proposal Costs & CHCC internal costs	Upfront	**250,000**
TOTAL – ALL WORKS		**$21,446,221**

Table 4.16.2 – Contribution Rates

Service / Facility	Net Cost to be Levied	Per Person	Per Small Dwelling 1.9 per/lot	Per Large Dwelling / lot 2.7 per/lot	Per SEPP Seniors Living Dwelling (self-care) 1.5 per/lot	Per 1,000 m² of Industrial Lot area
	$	$	$	$	$	$
Open Space	793,500	330.63	628.20	892.70	332.13	-
Transport and Traffic Management	6,267,948	2611.65	4962.135	7051.455	2613.15	-
	4,709,912	-	-	-	-	16241.08
	10,977,861					
Stormwater Management (See Note 6)	6,974,396	2906.00	5521.4	7846.2	2907.5	-
	2,450,463	-	-	-	-	8449.87
	9,424,859					
Urban Planning	188,559	78.57	149.283	212.139	80.07	-
	61,441	-	-	-	-	211.86
	250,000					
Total	**21,446,220**	**5,926.85**	**11,261.02**	**16,002.50**	**5,932.85**	**24,902.82**

Staging

To enable orderly development of the Study Area, development needs to be staged. The Study Area is divided into three main planning areas enabling logical staging of the development areas. Those areas are shown in **Illustration 7.1** as:

- AREA A Residential
- AREA B Industrial
- AREA C Remains as presently zoned for rural and environmental protection purposes. (Potential future Rural Residential Investigation Area)
- AREA D Quarry Buffer – to remain as presently zoned

In determining suggested staging, consideration needs to be given to the provision of infrastructure. To this end, one of the main determinants of this are the upgrading requirements of North Boambee Road or Englands Road, and the construction of the main transfer sewerage pumping stations PS1 and PS3 and the provision of water reticulation mains. In addition, staging of the industrial areas depends on the completion of the Detention Basins

We would envisage the following likely development staging:

Area A Residential development off North Boambee Road Stage

- The construction of sewerage pumping station PS1 and associated rising main as a minimum
- The construction of water supply works along North Boambee Road to bring reticulated water to the Study Area.

- Following the provision of this infrastructure, it is possible to proceed with the staged construction of the residential areas. These areas are typically developed in stages of about 20 to 50 lots at a time.
- The required upgrading works in North Boambee Road could be deferred till the completion of several of these smaller residential stages.

Area B Industrial development off Englands Road Stage

- The construction of sewerage pumping station PS1 and PS3 and their and its associated rising main as a minimum
- The construction of water supply works along North Boambee Road to bring reticulated water to the Study Area.
- The construction of Detention Basins. This will allow the filling of the flood plain to be undertaken.
- The upgrading of Englands Road.
- Following the provision of this infrastructure, it is possible to proceed with the staged construction of the industrial areas. These areas are typically developed in stages of 10 to 15 lots at a time.

Area C (Potential) Rural Residential Investigation Area off Englands Road Stage

- No works costed.

Area D Quarry Buffer

- No works costed.

4.17. Economic Impact – Affordability and Staging

The proposed flood mitigation works for NBVw are a key component for future development within the proposed industrial areas. Therefore the following staging feasibility has been prepared to clarify the logical progressing of major works in the study area. To achieve the industrial area the following infrastructure is required:-

1. Completion of a detailed flood study of optimising the size of the detention basin plus determining staging options.
2. Provision of the detention basins as determined by the flood study.
3. Provision of new haul road for vehicles from Holcim Quarry at the western end of the study area. This work is dependent on the progression of the State Significant Development Application No. SSD-5037 to expand the quarry operations.
4. Filling of land to the 1 in 100 year flood event and provision of compensatory perimeter floodways.
5. Upgrading of Englands Road in the south east section of the study area.
6. Provision of one bridge crossing to Newports Creek.
7. Construction of link road to the north to North Boambee Road.
8. Construction of sewerage pumping station PS1 on North Boambee Road and associated rising main.

The entire proposed industrial area comprises some 10 separate properties including the land required for the detention basins and will create some 37 ha of land suitable for industrial development. The detention pond and the majority of the industrial land is contained within four land titles.

The initial step to achieve industrial development is the construction of the detention basin. The land required for the basin wall and surrounds must be purchased and easements created over the likely extra flooded area and the detention basin constructed to the size necessary for the entire industrial area. It may be possible to reduce the size of the detention basin to only accommodate each landowner as they proceed with development (This would be determined by Step 1 above). This process would involve the gradual expansion of the detention basin as each landowner proposes development with the cost borne by that landowner. However, this process is both expensive and inefficient. The preferred approach is for Council to forward fund the construction and/or obtain Government subsidy for flood relief works via State flood mitigation funding. It is noted that the proposed residential area will also contribute to the construction of the basin, providing a source of partial funding.

Additionally, the flood study has highlighted benefits of the proposed detention basin for the Pacific Highway bypass and as such, there may be a nexus for partial funding for the basin from the RMS.

Each landowner will be required to fill their land, construct compensatory perimeter floodways and provide roads and services for the industrial lots to be created. The haul route from the Holcim Quarry will be constructed at the landowners cost as the collector road component through each land holding. Additionally, as discussed in **Section 4.8**, Holcim Quarry has made a State Significant Development application with the Minister to expand the existing quarry. At this stage, Holcim have not progressed this application beyond seeking Director General's Requirements for the preparation of the EIS. It may be feasible for Holcim to enter into a Voluntary Planning Agreement with Council to construct the western-most portion of the haul road, including the intersection with North

Boambee Valley as off-site works in lieu of road upgrading to North Boambee Road that may be required as part of the proposed quarry expansion.

The bridge construction over Newports Creek and its tributary and the upgrading of Englands Road in the south east together with the link to North Boambee Road to the north will be funded from S94 contributions. On this basis, the industrial area will be created as a logical progression from the east to the west and respond to market demand. The first tributary crossing is contained within a larger property holding with extensive industrial area available (Property 1 – **Illustration 4.17.1**). It is anticipated that in the development of this parcel it will be economically feasible to fund the tributary crossing and upgrading of Englands Road with funds being offset and recouped from future S94 contributions.

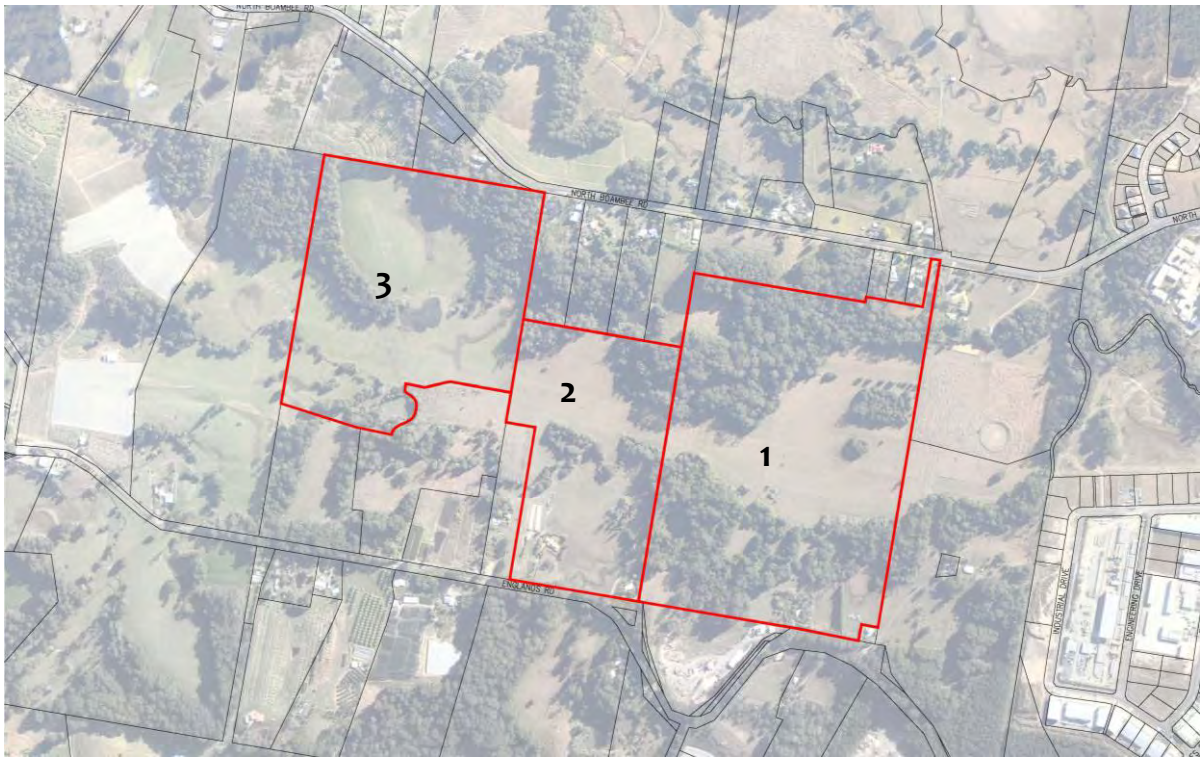
The next logical progression is the large land holding to the west (Property 2 – **Illustration 4.17.1**). that also benefits from significant industrial potential. Development of this property would incur contributions to the S94 levees for the creek crossing, Englands Road upgrading and link road to the north.

The next property to the west (Property 3 – **Illustration 4.17.1**) contains the third largest holding of industrial land in the study area. Development of this property would include the construction of the Newports Creek crossing, however, it is anticipated that, by this stage, S94 contributions will have been collected from the development of properties to the east.

The other remaining properties containing some industrial land are all small holdings that can be developed in their own time once roads are provided to their property boundaries.

In summary, the industrial area will develop from east to west over three main land holdings. It is anticipated that the detention basin will be forward funded, however, provided the land area is purchased, it is possible to construct the basin incrementally as demand dictates. A plan showing the anticipated progressive development is shown below.

Illustration 4.17.1 Industrial Land Holdings



4.18. Statutory Planning Considerations

Coffs Harbour Local Environmental Plan 2013 (CHLEP 2013)

The CHLEP 2013 came into force on 27 September 2013, after the studies and report for this Planning Proposal commenced and is the current local planning instrument for the site. The majority of the site is zoned RU2 Rural Landscape and E2 Environmental Conservation. The objectives of RU2 Zone 1A are:

- *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*
- *To maintain the rural landscape character of the land.*
- *To provide for a range of compatible land uses, including extensive agriculture.*
- *To minimise the fragmentation and alienation of resource lands.*

Development within the study area for urban development is not consistent with these objectives nor is it permissible under the provisions of CHLEP 2013. Accordingly the study area requires rezoning to enable it to be developed for urban purposes. The purpose of this Planning Proposal is to assess the impacts of rezoning the land and to determine the most appropriate zoning pattern for the site based on the findings of the Structure Plan and site assessments carried out to inform this Planning Proposal.

Coffs Harbour City Koala Plan of Management

The Koala Plan of Management was prepared in accordance with State Environmental Planning Policy No. 44 - Koala Habitat Protection. It was prepared as a joint initiative by the NSW National Parks and Wildlife Service and Coffs Harbour City Council. The plan aims to identify and provide management strategies for the community of koalas present in the Coffs Harbour LGA.
The Plan makes provision for the following actions:

- koala habitat will be protected through land use zoning, and development controls and standards, in the LEP, and through Council's Open Space Management Plans;
- the LEP 2000 will guide development adjacent to koala habitats, in koala habitat link areas and areas of scattered habitat remnants;
- within the LGA, measures will be taken to reduce the threat to koalas from traffic at identified —black spots, to reduce risks from domestic dogs on koalas, and koala habitat values will be considered in fire management strategies;
- koala health and welfare issues in the LGA will continue to be managed by the Wildlife Information and Rescue Service (WIRES);
- a number of public education and research initiatives are recommended, and
- a Koala Advisory Committee to guide implementation of the Plan will be established.

Parts of the site contain primary and secondary koala habitat. The Plan also identifies locally significant habitat linkages that extend throughout the site. The impact of the development on the koala population, and strategies for the Planning Proposal, DCP and Masterplan for Koala habitat management are addressed in Section 4 of this report and within the comprehensive ecological report attached at **Appendix A.**

Development Control Plans

A locality based DCP and Masterplan will be prepared for the NBVw release area based on the findings of this study. The following components of the Coffs Harbour Development Control Plan 2013 will also apply to the NBVw release area:

Component A1:	Administration
Component A2:	Notification and Public Participation
Component B1:	Subdivision Requirements
Component B4:	Industrial Development Requirements
Component B5:	Rural Development Requirements
Component B6:	Post European Heritage Requirements
Component B7:	Biodiversity Requirements
Component C1:	Design Requirements
Component C2:	Access, Parking and Servicing Requirements
Component C3:	Landscaping Requirements
Component C4:	Signage Requirements
Component C5:	Sex Services Premises
Component C6:	Minor Earthworks Requirements
Component C7:	Waste Management Requirements
Component C8:	Integrated (Natural) Water Cycle Management
Component D1:	Erosion and Sediment Control Requirements
Component D2:	Contaminated Land Management
Component D3:	Flooding and Coastal Hazards

5. OBJECTIVES AND INTENDED OUTCOMES

The objectives of the subject Planning Proposal for the NBVw release area are to inform an amendment to the Coffs Harbour Local Environmental Plan (CHLEP) 2013.

This Planning Proposal will amend the current LEP to enable development in the NBVw release area that will:

- Amend the extent of existing environmental protection zoned land to improve habitat corridor/linkages and conserve important vegetation;
- Identify and zone land for flood mitigation purposes under an environmental protection zone;
- Zone land for low density residential land use;
- Zone a small area of land for medium density residential land use;
- Zone land for public recreation purposes including interconnected areas of passive recreation along ridges, gullies and riparian areas;
- Zone land for industrial purposes;
- Identify land for a neighbourhood shopping precinct to service the future residential and industrial areas; and
- Identify a new road primarily as a 'haul route' from the hard rock quarry to the Pacific Highway interchange.

DCP 2013 (Component E16) NBVw and Masterplan provides additional controls that will guide the development of an environmentally sustainable mixed use neighbourhood with strong links to its landscape features.

The planning intention for land identified in the Flora and Fauna Assessment as Category 3 land – drainage revegetation buffers and environmental rehabilitation and restoration areas are compatible with the objectives of the E3 Environmental Management zone as set out in the Department of Planning's Practice Note PN 09-002. Council's planners advise that the E3 zone cannot be used until shire-wide criteria for environmental zones and overlays are determined. As such, land identified as Category 3 will be dealt with as follows:

1. Category 3 land located within the north eastern residential area (Area A – Section 7.1) will be zoned E2 Environmental Conservation. Land use constraints arising from the implementation of additional areas of E2 zoned land in this area will be offset by increased land uses available under the proposed R2 residential rezoning.
2. Category 3 land located within and adjacent to the proposed industrial land (Area C) will be zoned E2 Environmental Conservation.
3. The remaining Category 3 land within the western section area of the site, generally comprising land within the quarry buffer and the southern 'rural residential' area will remain as currently zoned.

It is noted that the land use schedule of the E2 Environmental Conservation has been expanded in the CHLEP 2013 to include additional land uses (to the mandatory uses listed in the SILEP) as

permitted with Consent. Permitted land uses include dwelling houses, however more intensive forms of residential accommodation are prohibited. The objectives of the R2 zone are:

- *To protect, manage and restore areas of high ecological, scientific, cultural or aesthetic values.*
- *To prevent development that could destroy, damage or otherwise have an adverse effect on those values.*

Considering the way in which the E2 zone has been applied to the Coffs Harbour LGA, the E2 zone is a suitable zone for the areas identified for environmental rehabilitation and restoration and for drainage revegetation buffers.

The NBVw study also includes recommendations for land in the southern part of the study area to be rezoned for rural residential land use, rather than urban land use. This area was not identified in the adopted Rural Residential Strategy 2009, therefore, Council's planning staff request that any recommendations for "new" rural residential areas must be deferred until rural residential land release areas identified in the 2009 strategy have been progressed.

6. EXPLANATION OF THE PROVISIONS

The subject site-specific Planning Proposal and subsequent draft LEP amendment will be based on the Standard Instrument LEP and will amend the Coffs Harbour LEP 2013 under a separate LEP amendment.

This section sets out the proposed draft LEP amendment controls. More detailed controls are provided in the draft NBVw DCP and Masterplan.

6.1. LEP Provisions and Maps

Land within the NBVw release area will be rezoned as shown on the 'Amendment to Land Zoning Map LZN_006A' at **Illustration 6.1**. Where there is more than one zone option available under the SILEP, the zone has been chosen in consideration of how and where Council has applied the particular SILEP zone in other areas of the LGA.

Currently the site is predominantly zoned RU2 Rural Landscape and E2 Environmental Conservation and will require zone amendments to enable the integrated development of the release area for residential, industrial, recreation and business purposes as detailed in the draft NBVw DCP and Masterplan.

New zones to be implemented under this LEP amendment will rezone land are shown on **Appendix H**. The draft LEP amendment instrument is also provided at **Appendix H**. The maps pertaining to the Coffs Harbour LEP 2013 that will be amended by this Planning Proposal are shown in **Appendix H.** They are the Land Zoning Map, Lot Size Map, Height of Buildings Map and the Terrestrial Biodiversity Map, Drinking Water Catchment Map, Riparian Lands and Watercourses Map.

7. JUSTIFICATION

The section of the Planning Proposal sets out the 'case' for changing the zones of the land affected by the proposed LEP.

As discussed in Part 3 *Background,* this Planning Proposal provides the specific detailed environmental studies necessary to progress the strategic land use recommendations of the NBVw Structure Plan (July 2009) into a draft LEP.

Council resolved to adopt the NBVw Structure Plan and prepare specific detailed environmental studies (LES or equivalent) on 9 July 2009, prior to the implementation of the new procedures for preparing LEPs in NSW. For this reason, the necessary detailed environmental studies have been prepared prior to the gateway determination. This Planning Proposal will be made under the new 'gateway determination' plan making provisions as Council did not make a resolution under section 54 of the EP&A Act nor has a section 65 certificate been issued by the Minister.

Since the NBVw Structure Plan was adopted by Council in 2009, the Coffs Harbour LEP 2013 has been prepared, exhibited and endorsed by Council and was gazetted on 27 September 2013. The findings of this study differ from the Structure Plan in two key areas, firstly the land in the southern area off Englands Road is not suitable for industrial development and is considered to be more suitable for rural residential use. Secondly, a haul road linking the hard rock quarry with the Pacific Highway corridor has been identified.

All of the rezoning recommendations made in this study cannot be progressed simultaneously as one draft LEP due to 'timing' constraints concerning how and where environmental zones may be allocated and the priority of rural residential land release areas. This is further explained in the following sections. Briefly, the only additional E2 zoned land will occur in the residential area and the industrial area. Additional environmental rezoning recommendations made in the study will progress as future Planning Proposals.

7.1. Need for a Planning Proposal

This section describes the reasons for the Planning Proposal. The following questions are set out in the Department of Planning's *A Guide to Preparing Planning Proposals* and address the need for the Planning Proposal, its strategic planning context, the environmental, social and economic impacts and the implications for State and Commonwealth government agencies.

Is the Planning Proposal a result of any strategic study or report?

This Planning Proposal was initiated by resolution of Council on 9 July 2009 following the adoption of the North Boambee Valley (West) Structure Plan. The Structure Plan set out the strategic framework for future growth within the study area and was publicly exhibited from 11 December 2008 to 30 January 2009 with 31 submissions received.

Many of the issues raised in submissions to the Structure Plan have been addressed and resolved in the detailed site assessments and zone structure set out in this Planning Proposal. Further details are provided in the NBVw DCP and Masterplan controls.

The Planning Proposal builds on the recommendations set out in the Structure Plan and has refined and amended certain aspects of that plan. The key differences between the Structure Plan and the Planning Proposal are listed below:

- **Haulage route**

  New rural / industrial specification road link identified between the hard rock quarry in the west to the Pacific Highway interchange.
- **Recreation area**

  2.26 ha of RE1 Public Recreation zoned land is identified adjacent to the residential precinct off North Boambee Road instead of 'pocket' parks.
- **Industrial Land / Large Lot Residential Land**

  Most of the land along Englands Road with the exception of the land impacted by the quarry buffer and land to be zoned industrial will remain under its present rural and environmental protection zones.

The study area has been divided into four distinct rezoning areas as shown at **Illustration 7.1:**

Area A – north-eastern residential area

Area B – industrial area

Area C – to remain as currently zoned (potential rural residential investigation area)

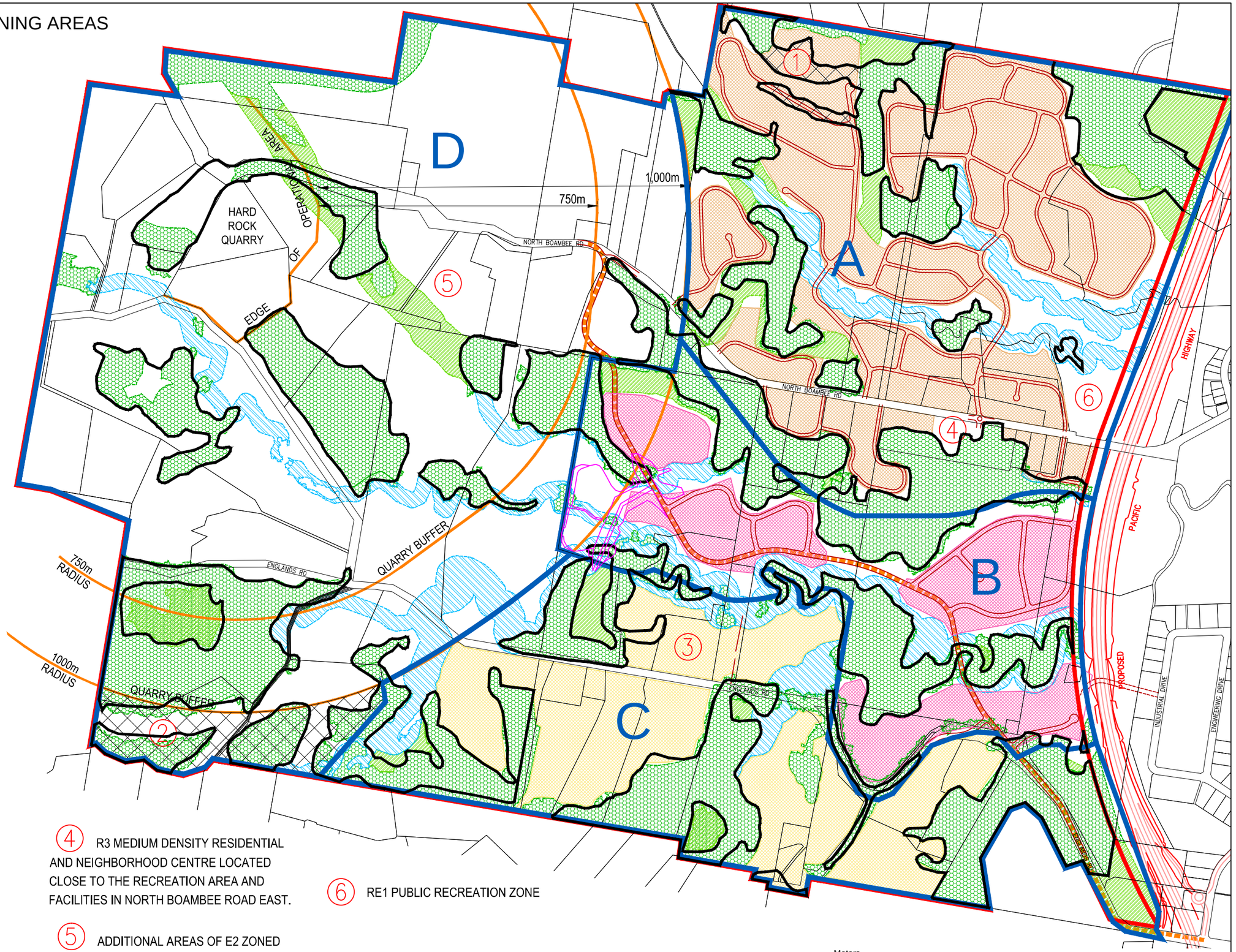
Area D – quarry buffer and surrounding rural land

ILLUSTRATION 7.1 - PLANNING AREAS

LEGEND

NORTH

- RESIDENTIAL
- INDUSTRIAL
- RURAL/RESIDENTIAL
- HIGH CONSERVATION LANDS
- ENVIRONMENTAL REHABILITATION & RESTORATION
- EXISTING 7A ZONE
- DRAINAGE REVEGETATION BUFFERS
- PLANNING AREAS
  - A - RESIDENTIAL
  - B - INDUSTRIAL
  - C - RURAL/ ENVIRONMENTAL
  - D - QUARRY BUFFER
- PROPOSED HAUL ROUTE



Meters

250 0 250 500

1:10000

NOTES

1. DEGRADED DRAINAGE LINES & BANANA LAND TO BE REZONED FROM ENVIRONMENTAL TO RESIDENTIAL OFFSET BY ADDITIONAL E2 ZONED REHABILITATION/RESTORATION LAND.

2. THIS LAND IS CLEAR OF QUARRY BUFFER, HOWEVER IS STEEP LAND & GENERALLY UNSUITABLE FOR RURAL/RESIDENTIAL LAND USE.

3. AREA C - RURAL / ENVIRONMENTAL ZONE (AS CURRENTLY ZONED).

4. R3 MEDIUM DENSITY RESIDENTIAL AND NEIGHBORHOOD CENTRE LOCATED CLOSE TO THE RECREATION AREA AND FACILITIES IN NORTH BOAMBEE ROAD EAST.

5. ADDITIONAL AREAS OF E2 ZONED LAND IMPORTANT FOR REHABILITATION AND HABITAT CORRIDORS (DEFERRED).

6. RE1 PUBLIC RECREATION ZONE

The following section summarises the reasons for the allocation of zone amendments within each of the four separate 'Planning Areas' within the NBVw release area.

As stated earlier, not all of the zone recommendations within this report are able to be progressed by Council at this stage. No rural residential zoned land will be rezoned until Council complete rezonings of higher priority rural residential areas identified in the Rural Residential Strategy 2009. Environmental zones are limited to the use of the E2 Environmental Conservation zone until Council completes their own vegetation mapping project and finalises the criteria for additional environmental zones and overlays. The only addition E2 zoned land is located within the residential and industrial areas.

Area A

Residential

87.6 ha of land in the northern area of the study area off North Boambee Road is suitable for residential development. The desired future character of this area is of environmentally sensitive housing clustered to maximise the conservation of areas of high environmental value including remnant bushland, riparian corridors and steep land. This area is considered suitable for the R2 Low Density Residential zone with a 400 m^2 MLS.

Council has applied the R2 zone to other areas in the LGA with similar low density characteristics and is the most restrictive residential zone in terms of other permitted uses. The R2 zone is a "closed zone" and, as such, permitted uses are limited to those listed in the zone schedules. Any other development is prohibited.

Attached dwellings, Boarding houses, Dual occupancies, Exhibition homes and villages, Semi-detached dwellings and Senior's housing are among the land uses permitted with consent in the R2 zone, providing for a range of residential housing forms.

Part of Area A should be zoned R3 Medium Density Residential to enable increased densities in the vicinity of the community area and the recreation zoned land. The R3 zone is the conversion zone for the 2B Medium Density Residential zone under the former CHCLEP 2000.

The proposed R2 and R3 zoned land will be identified on the lot size map as 'F' with a minimum lot size (MLS) of 400 m^2. In other R3 zoned areas within the Coffs Harbour urban area, Council has applied a 1,200 m^2 MLS for R3 zoned land to deter Torrens title subdivision of land and to facilitate strata or community title. This is not considered necessary for the R3 zoned land in the NBVw study area and would prevent the development of 'multi dwelling housing' using Torrens title.

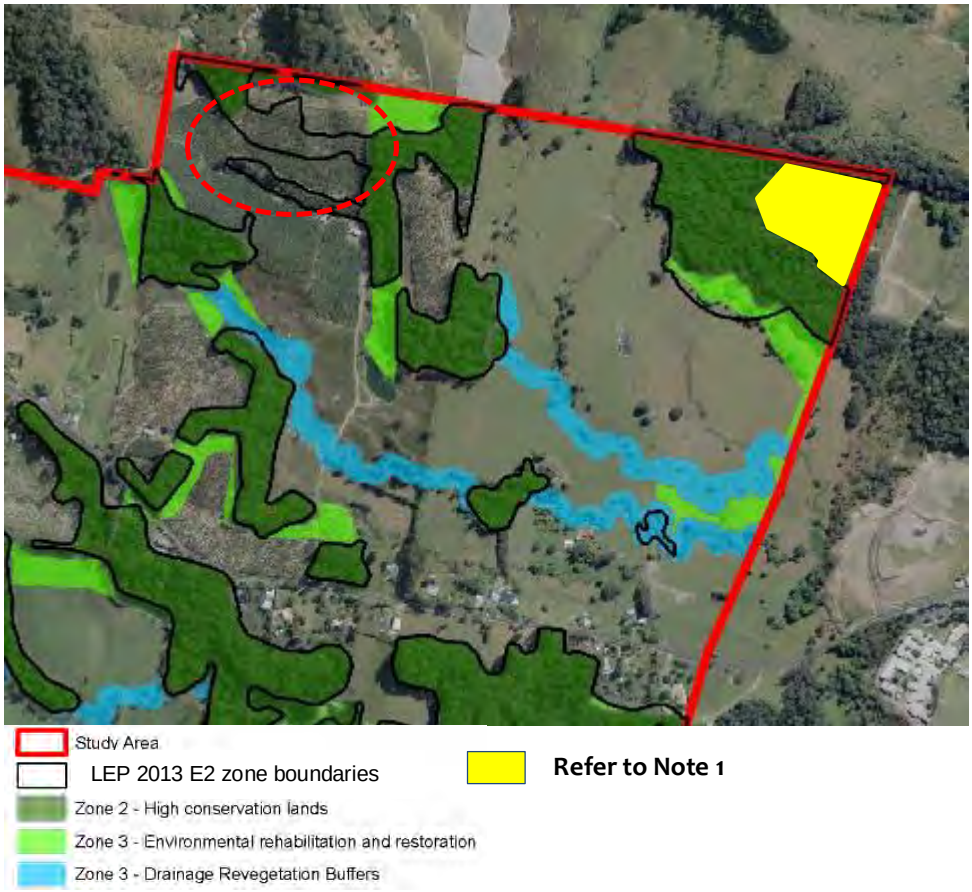
Land on the southern side of North Boambee Road adjacent to the medium density residential area and nearby the recreation fields was identified in the Structure Plan as suitable for neighbourhood scale retail and community uses. Neighbourhood shops, child-care centres and community facilities are permitted in the R3 zone and the ISEPP provides for schools and health services facilities in the R3 zone. This means that it is not necessary to zone this area for business purposes to achieve these outcomes. Instead, the land is identified in the DCP Masterplan for neighbourhood scale commercial purposes. This is considered to be an appropriate approach to provide for 'preferred' business and community land uses, without unnecessarily sterilising the land from alternative land uses under a "B" zoning. The location of the land is shown at Note 4 in **Illustration 7.1.**

Environmental

It is recommended that an area of E2 zoned land, shown in the aerial photo below, be rezoned for residential purposes. Part of this area is vegetation in poor condition located along a degraded drainage line and the rest is banana cultivation. The 'loss' of this small area of E2 zoned land is more than offset by the extent of rehabilitation areas and drainage lines that will be protected under an environmental zone.

As discussed earlier in Section 5, the additional areas of 'E' zoned land fit the characteristics of the E3 Environmental Management zone as set out in Practice Note 09-002, however Council have requested that the E3 not be implemented until Council finalise their shire-wide criteria for the use of that zone. As such, this land is required to be zoned E2 Environmental Conservation.

Illustration 7.2 Area 'A' Existing E2 boundaries



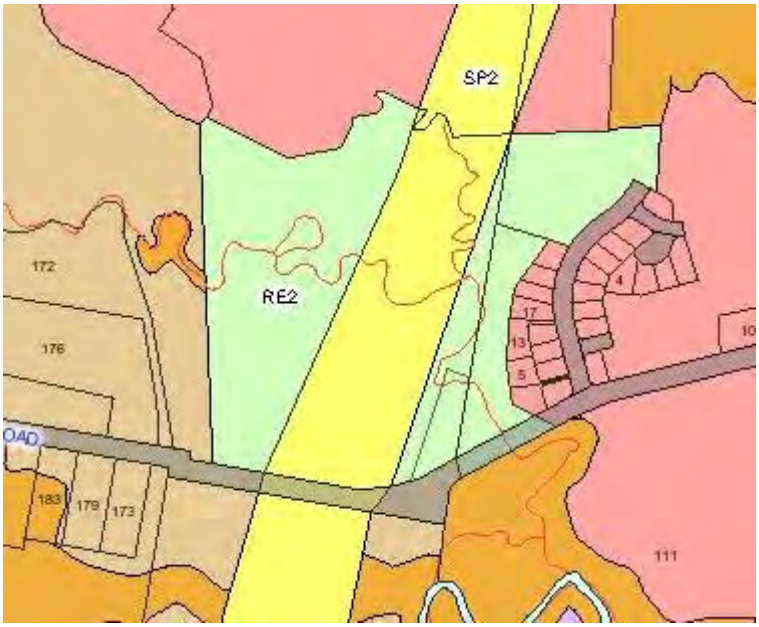
Map showing existing E2 (LEP 2013) zone boundaries. This map illustrates additional 'E' zoned land shaded light green and shows an area (circled) that should no longer be protected under an 'E' zone.

Drainage buffers (light blue) and rehabilitation areas (light green) will also be protected using an 'E' zone.

Note 1: This land is currently zoned R2 Residential Low Density (CHLEP 2013). This land is identified in this study for environmental rehabilitation and restoration, however, as this land is spatially isolated from surrounding developable areas by environmental zoned land and the Pacific Highway corridor, it is recommended that this land remain under its present R2 zone with a MLS of 10 ha to restrict inappropriate development until further assessments are finalised.

Recreation

2.26 hectares of land located on the northern side of North Boambee Road adjacent to the proposed Pacific Highway corridor is to be zoned RE1 Public Recreation. Most of this land is presently zoned RE2 Private Recreation as a conversion zone from the 6C Open Spaces – Private Recreation zone in the former LEP 2000. The land will be spatially severed by the Pacific Highway bypass corridor as shown in the image below. This land is flood prone land. This land is located in close proximity to the proposed neighbourhood centre off North Boambee Road. This land is of a sufficient size to accommodate a range of structured and passive recreational activities. As such, the best option for this land is for rezoning to public rather than private recreation.



Extract from LEP 2013 showing existing RE2 Private Recreation zoned land.

AREA B

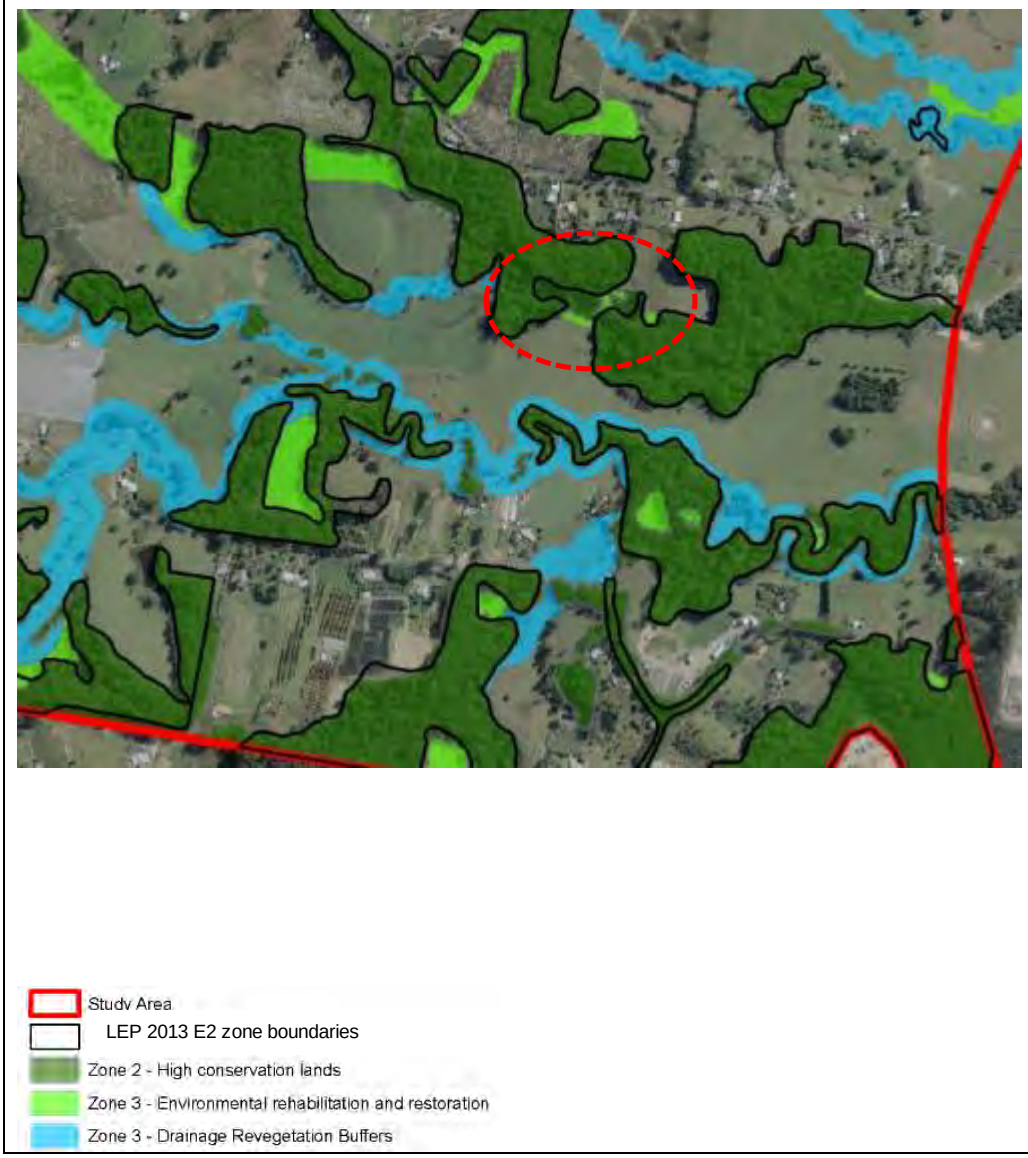
IN1 General Industrial

37 ha of land is suitable for industrial development. Council has converted existing 4A Industrial zoned land to IN1 General Industrial Zone, IN3 Heavy Industrial Zone or IN4 Working Waterfront Zone. IN1 provides the most flexibility and is considered the most suitable zone under the SILEP.

Environmental

Additional pockets of environmental zoned land have been identified within Area B as shown in the aerial photograph below. These additional areas will improve habitat linkages and will also provide additional protection for drainage revegetation buffers.

Illustration 7.3 Area 'B' Existing E2 boundaries



Map showing existing E2 (LEP 2013) zone boundaries. This map illustrates additional 'E' zoned land shaded light green and shows an area (circled) provided increased habitat connectivity under an 'E' zone.

Drainage buffers (light blue) and rehabilitation areas (light green) will also be protected using an 'E' zone.

AREA C

Industrial or Residential?

The proposed rezoning deviates from the recommendations of the NBVw Structure Plan regarding the land adjacent to Englands Road in the southern portion of the study area. Presently, most of Englands Road from Carsons Road heading west is steep to undulating land, is fragmented into small rural holdings and is rural in character.

Assuming that the proposed quarry haul road and flood mitigation infrastructure results in increased opportunities for industrial re-development within the mid sections of the study area, it is considered to be inappropriate to rezone the constrained land along Englands Road for industrial purposes when that land is more suitable for residential purposes. This land shares many attributes of rural residential land in that:

- it is already fragmented land
- it is rural in character
- the land is steep to undulating
- it is a quiet, low traffic area
- it is highly scenic
- there are significant areas of high quality vegetation; and
- some of the existing farmland is used for small agricultural pursuits such as nurseries, horticulture and small rural enterprises.

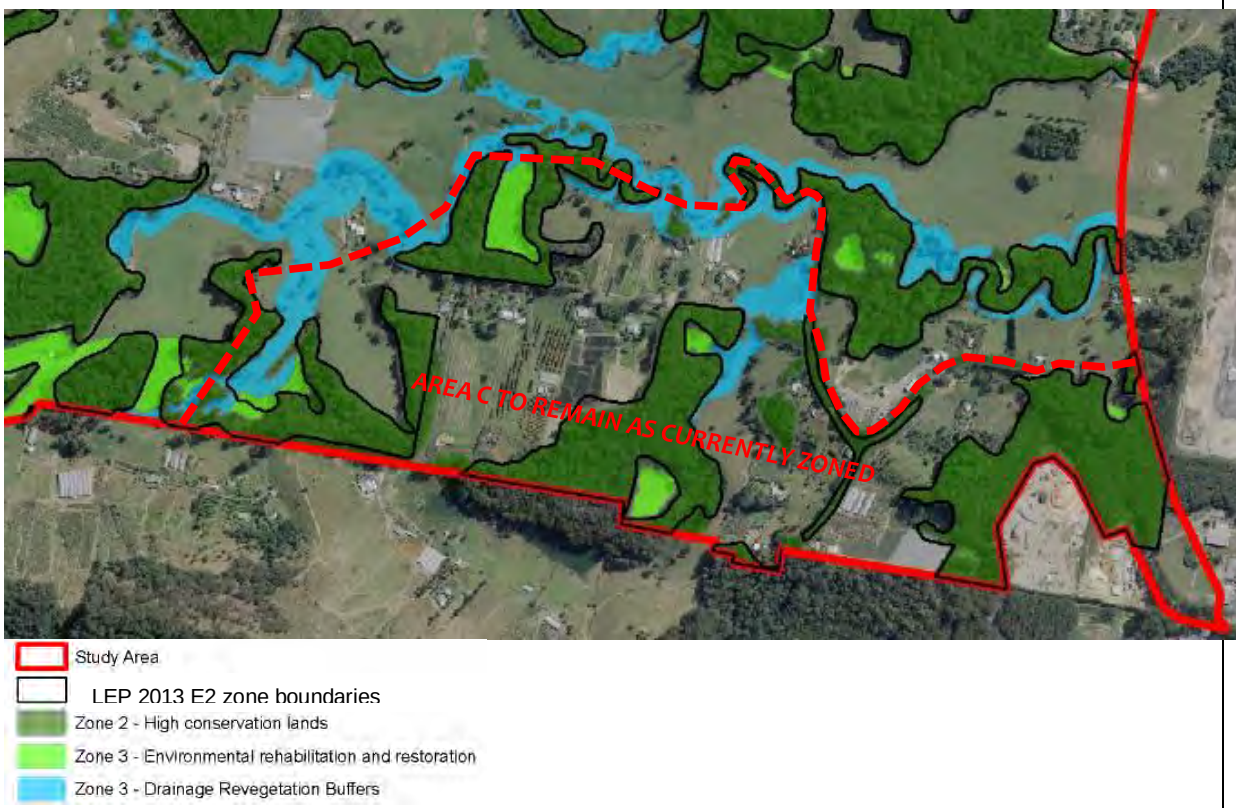
It is therefore suggested that the desired future character of Area C is of rural character housing clustered within the less constrained areas leaving small market gardens, plant nurseries, greenhouses and rural enterprises to co-exist with residential land uses. It is considered that this land is suitable for further investigation under a future strategic planning exercise. Council have requested that this recommendation be 'advisory only' at this stage as there are other rural residential candidate areas in the LGA already identified in the Rural Residential Strategy 2009 that should be released as a higher priority than land within the NBVw study area.

Consequently, the recommended rezoning of Area C for rural residential purposes will not be part of the subject Planning Proposal and the land will remain under its present rural and environmental protection zoning.

Environmental

Additional areas of environmental zoned land comprising drainage revegetation buffers and rehabilitation and restoration areas have been identified in Area C. As discussed above, rezoning of land for rural residential land uses is not a Council priority at this stage, therefore rezoning within Area C will be with-held from the subject Planning Proposal. Consequently, the rezoning of additional environmental zoned land would be part of a future investigation for rural residential and environmental zone amendments in Area C.

Illustration 7.2 Area 'C' Existing E2 boundaries



This map illustrates areas of existing E2 zoned land within Area C. All of the land south of the red broken line should retain its existing rural and environmental zones. Drainage buffers (light blue) and rehabilitation areas (light green) should be protected using an 'E' zone under a separate Planning Proposal.

AREA D

Quarry buffer and surrounding rural land

The balance of the NBVw release area should retain their current rural and environmental zones as most of the land is affected by the quarry buffer. Council has converted land zoned 1A Rural Agriculture to the RU2 Rural Landscape Zone under the CHLEP 2013. This is the most appropriate zone for land within the hard rock quarry buffer that cannot be rezoned until proposed quarry expansion plans are assessed and the extent and impact of the works are known.

It is recommended that the area of E2 zoned land covering the operational area of the quarry is rezoned rural (RU2) offset by an additional section of environmental rehabilitation and restoration land (shown light green in **Illustration 7.4**) to be rezoned E2 to improve the east/west habitat corridor linkages as part of a future Planning Proposal.

The southern portion of Area D should remain as it is currently zoned.

ALL AREAS

As discussed in Section 4.1 of this report, an additional 77 ha of land is recommended for rezoning for environmental protection within the study area. Of this, 35 ha of drainage revegetation buffers and 28 ha of habitat connection (rehabilitation and restoration) land will be zoned for environmental protection as part of this Planning Proposal (excluding Area C). As discussed earlier, not all of the environmental recommendations will progress to rezoning within this planning proposal. At this stage, only land within Area A Residential and Area B Industrial will be rezoned for environmental protection purposes. Land within Area C and Area D will be further investigated either as part of Council's LGA wide environmental studies.

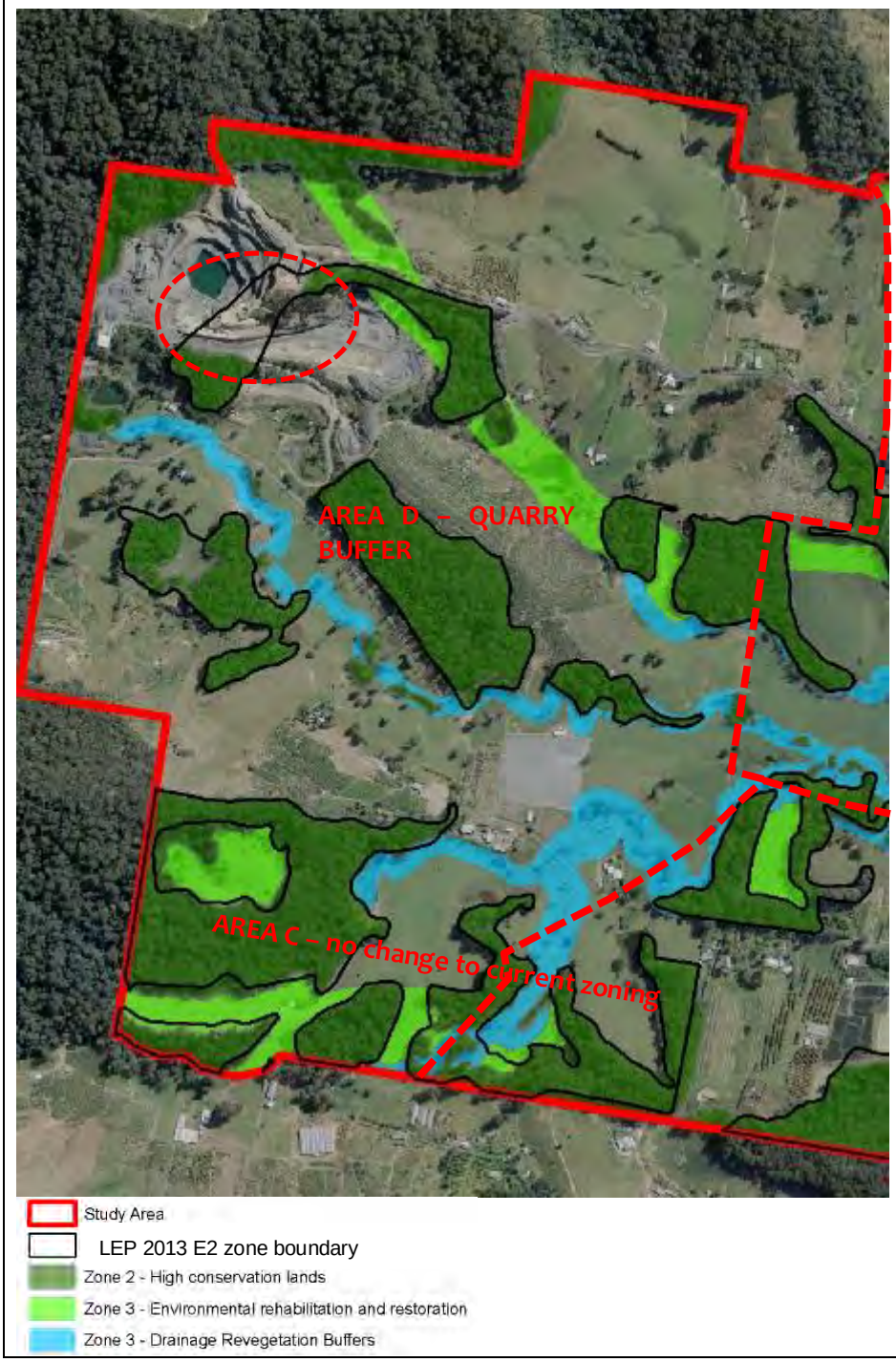
Notwithstanding this, the overall intention of environmental protection of the high conservation lands, environmental rehabilitation and restoration and drainage revegetation buffers is best illustrated in **Illustration 7.4 Significant Environmental Land**.

This illustration shows clearly the location of existing E2 zoned land with the additional land identified in this study for environmental protection shown shaded green and blue. As previously discussed, the preferred approach for this land is to zone the high conservation lands as E2 and the rehabilitation and restoration and drainage buffers as E3. However, the E3 zone will not be implemented into the CHLEP 2013 until Council finalise their LGA-wide environmental studies and resolve their criteria for use of the "E" zones under the SILEP.

In this regard, Council has requested that some of the environmental recommendations made in this study be deferred pending finalisation of planning criteria for environmental zones and overlays. It is highly possible within the framework of the Standard Instrument LEP to protect valuable environmental land using alternative methods such as biodiversity overlays and specific clauses.

Overall, this Planning Proposal meets the core objectives of the NBVw Structure Plan, however, site investigations have resulted in some variations to the Structure Plan as detailed above.

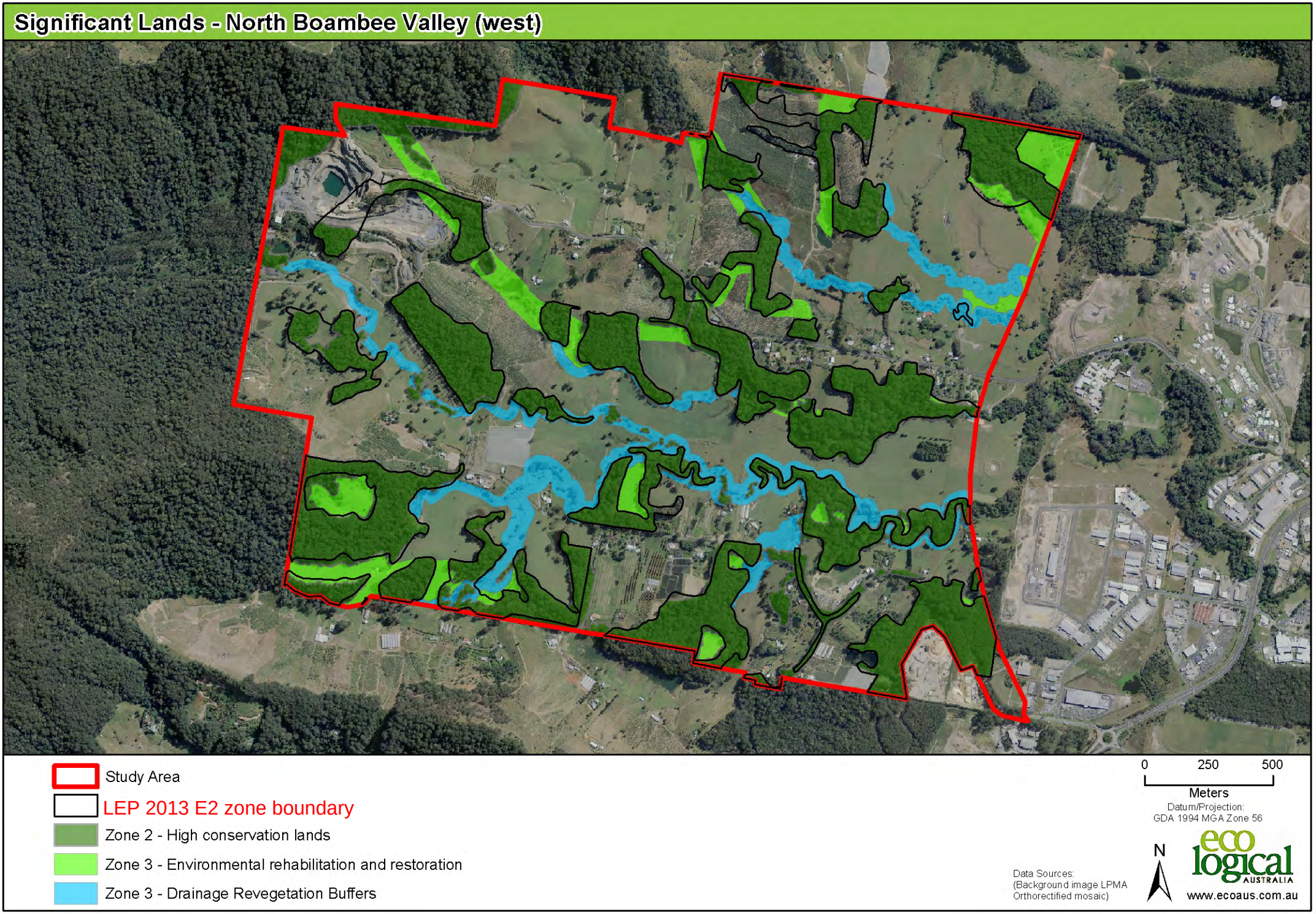
Illustration 7.4 Area 'D' Existing E2 boundaries



This map illustrates an area of existing E2 zone over the operational area of the quarry (circled). This area should be zoned RU2.

Additional 'E' zoned land shaded light green and shows linkages that will increase habitat connectivity. These area should be zoned E2.

Drainage buffers (light blue) and rehabilitation areas (light green) will also be protected using an 'E' zone.


Significant Lands - North Boambee Valley (west)
Study Area
LEP 2013 E2 zone boundary
Zone 2 - High conservation lands
Zone 3 - Environmental rehabilitation and restoration
Zone 3 - Drainage Revegetation Buffers
0
250
500
Meters
Datum/Projection:
GDA 1994 MGA Zone 56
N
Data Sources:
(Background image LPMA
Orthorectified mosaic)
eco logical AUSTRALIA
www.ecoaus.com.au

Is the Planning Proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

The Planning Proposal is the only means of enabling the substantial amendments to the Coffs Harbour LEP 2013, to enable development to proceed within the NBVw urban release area to ensure that land is available to provide for the growth of the Coffs Harbour City. Land rezoned as a result of this Planning Proposal will deliver essential residential, industrial, community and recreation land resources. Growth cannot proceed in this NBVw area under its present land zonings.

The timing of the Planning Proposal is essential to meet the need for urban land identified in the Our Living City Settlement Strategy. The NBVw study area was identified for Short Term release between 2006 and 2011. The recommendations of this study will be progressed over more than one Planning Proposal as Council resolves criteria for the use of environmental zones and overlays and pending the revision of the Rural Residential Strategy 2009.

Is there a net community benefit?

The NBVw Structure Plan was prepared following consultation with the community and stakeholders in the form of a community consultation workshop and a public workshop. As a result, a vision statement for NBVw was prepared as follows:

> *North Boambee Valley (West) is a designated growth area. It will retain is bushland character and protect and promote the attributes of the natural environmental, which will provide both a visual backdrop and usable open space to its residents.*
>
> *The new housing will accommodate different household types and age groups and North Boambee Valley (West) will provide many opportunities for new light industry and employment.*

The NBVw Structure Plan was exhibited from 11 December 2008 to 30 January 2009 with 31 submissions received.

The Planning Proposal will facilitate the growth and development of Coffs Harbour by providing land for residential and employment purposes. The Planning Proposal will result in the protection of an additional 77 ha of environmental value land (inclusive of deferred land) and will result in buffers and protection of riparian corridors. The Planning Proposal will result in the zoning of 2 ha of land for public recreation purposes.

A quarry haul route is identified in the DCP Masterplan that will remove a significant amount of heavy traffic from the residential areas of North Boambee Road and Englands Road.

The Net Community Benefit Test (adapted from the draft Centres Policy) is based on planning principles for the location of retail and commercial land. The Planning Proposal identifies 8,532 m^2 of land for neighbourhood scale commercial development under a B1 Neighbourhood Centre zone. The Planning Proposal does not aim to create a new 'centre'; rather it will rezone land for residential and industrial purposes that will support the existing centres of Coffs Harbour, Toormina and Sawtell.

8. RELATIONSHIP TO STRATEGIC PLANNING FRAMEWORK

The Department of planning has a strategic planning framework relating to the preparation of Planning Proposals

This section details how this framework has been complied with.

8.1. Regional or Sub-Regional Strategies

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

NSW State Plan

The NSW Government has prepared a State Plan for a new direction for NSW. The purpose of the State Plan is to deliver better results for the NSW community from government services. The State Plan focuses on five areas of activity of the NSW government:

- rights, respect and responsibility – the justice system and services to promote community involvement and citizenship;
- delivering better services – key services to the whole population including health, education and transport;
- fairness and opportunity – services that promote social justice and reduce disadvantage;
- growing prosperity across NSW – activities that promote productivity and economic growth, particularly in rural and regional NSW; and
- environment for living, planning for housing and jobs, environmental protection, arts and recreation.

There are a number of goals within the State Plan that are generally relevant to this Planning Proposal and to future development and conservation of the site. A priority of the plan is to improve urban environments through improving housing ability by ensuring a supply of land and a mix of housing that's meets demand.

The Planning Proposal will result in new residential land that will contribute to the mix and affordability of housing in Coffs Harbour.

Mid North Coast Regional Strategy 2009

The primary purpose of the Regional Strategy is to ensure that adequate land is available and appropriately located to accommodate the projected housing and employment needs of the Region's population over the next 25 years.

The Strategy sets the policy to govern where and how growth can occur. While it is clear that expected growth can be accommodated in the Region, the Strategy places limits on growth in some areas where the value of environmental/cultural assets and natural resources is high.

The draft strategy outlines a range of actions that will guide strategic planning decisions. Relevant aims of the Strategy to the NBVw release area are:

- *protect high value environments, including significant coastal lakes, estuaries, aquifers, threatened species, vegetation communities and habitat corridors by ensuring that new urban development avoids these important areas and their catchments;*
- *cater for a housing demand of up to 59,600 new dwellings by 2031 to accommodate the forecast population increase of 94,000 and any anticipated growth beyond this figure arising from increased development pressures in the southern part of the Region;*
- *ensure that new housing meets the needs of smaller households and an ageing population by encouraging a shift in dwelling mix and type so that 60 % of new housing will be in greenfield locations and 40 % in existing urban areas;*
- *ensure an adequate supply of land exists to support economic growth and the capacity for an additional 48,500 jobs in the Region by protecting existing commercial and employment areas and securing sufficient land to support new employment opportunities;*
- *encourage the growth and redevelopment of the Region's four major regional centres and six major towns through urban design and renewal strategies as a means of protecting sensitive coastal and natural environments and strengthening the economic and administrative functions of these centres as well as meeting increased housing density targets;*
- *limit development in places constrained by coastal processes, flooding, wetlands, important farmland and landscapes of high scenic and conservation value;*
- *protect the cultural and Aboriginal heritage values and visual character of rural and coastal towns and villages and surrounding landscapes; and*
- *where development or rezoning increases the need for State infrastructure, the Minister for Planning may require a contribution to the infrastructure having regard to the NSW Government State Infrastructure Strategy and equity considerations.*

The North Boambee Valley (west) release area is identified in Growth Map 3 as a 'Proposed Future Urban Release Area'. The southern area is identified as 'Proposed Employment Lands' and the north west corner is shown hatched as 'Sites with significant issues: process underway to determine development potential'.

The 'hatched' land is listed as North Boambee Valley in Appendix 2 of the MNCRS. Issues/considerations are as follows:

> *Westward expansion can only occur once a series of constraints on urban development have been resolved. These include:*
>
> - *Avoidance of conflict with Boambee hard rock quarry through the identification of an appropriate buffer.*
> - *Identification and protection of horticultural land, including appropriate buffer.*
> - *Identification and protection of land with high biodiversity values.*

The Planning Proposal is consistent with the aims and specific objectives of the MNCRS as follows:

1. A 1 km buffer from the quarry has been shown in the rezoning map. The land within the quarry buffer is to be deferred from this rezoning process. Further investigations as to the suitability of land within the 1km buffer should be deferred until Council and NSW Planning

and Infrastructure consider a proposal to expand the quarry. An EIS is being prepared by Holcim Pty Ltd to support the quarry expansion.

2. The identification and protection of horticultural land resources for primary industries was considered earlier in Council's 1996 Urban Development Strategy and 1999 Rural Residential Strategy. Both of these Strategies were approved by NSW Planning allowing Council to include the NBV release area in the OLCSS for urban investigation. Consequently, while lands in the release area contain small pockets of Regionally Significant Farmland, Council can continue to plan for the future urban uses of these lands.
3. Additional land will be zoned for environmental protection purposes as a result of the findings of the ecological assessment prepared for this Planning Proposal.

Additionally, the Planning Proposal rezones 37 ha of land for industrial purposes that will increase land available for employment purposes. A proposed new road is identified within the Master Plan that connects the existing hard rock quarry with the existing industrial area, reducing haulage through residential areas.

8.2. CHCC's Community Strategic plan

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

Local Growth Management Strategy for Coffs Harbour City to 2031

Our Living City Settlement Strategy 2008

The Our Living City Settlement Strategy (OLCSS) 2008 is the urban lands component of the Local Growth Management Strategy for Coffs Harbour City.

The OLCSS 2008 was endorsed by Council on 5 July 2007 pursuant to the requirements of the deemed State Environmental Planning Policy (SEPP) - North Coast Regional Environmental Plan. The OLCSS Interim 2008 supersedes the Coffs Harbour Urban Development Strategy 1996 and will guide future development within the Coffs Harbour LGA to 2031.

The OLCSS provides a framework for economically, environmentally and socially sustainable growth and expansion of the Coffs Harbour LGA until 2031. The OLCSS identifies that the LGA will experience considerable population growth by 2031.

The NBVw release area was identified as a special investigation area requiring additional studies to be completed prior to the investigation of these lands to determine whether there is any need to supply additional employment generating (industrial) land uses in these locations. The priority program for release of the area is identified as "1" – Short Term 2006-2011.

Map 7B of OLCSS identifies approximately 84.9 ha of residential land (849 possible dwellings) and 73.5 ha of industrial land in the NBVw release area.

This Planning Proposal seeks to rezone 87.6 ha of residential land (890 possible dwellings) and 37 ha of industrial land. An additional 49.2 ha of land (125 possible dwellings) is considered to be suitable for rural residential development in the future, however, this land will remaining as currently zoned

and will not progress as part of the subject Planning Proposal. The main reasons for the difference between the estimates of the OLCSS and the actual rezoned areas are that it has been found that:

1. the upper reaches of Englands Road are not suitable for industrial development; and
2. land constraints and maintaining a 'bushland character' reduce the realistic yield from the residential zoned land, for example:
    a. Zone R3 – 12 dwellings per ha
    b. Zone R2 – 10 dwellings per ha

The need to preserve good agricultural land resources for primary industries was considered earlier in Council's 1996 Urban Development Strategy and 1999 Rural Residential Strategy. Both of these Strategies were approved by NSW Planning allowing Council to include the NBVw release area in the OLCSS for urban investigation. Consequently, while lands in the release area contain small pockets of Regionally Significant Farmland, Council can continue to plan for the future urban and rural residential uses of these lands.

The OLSCC recommends that Council *'Prepare a GIS layer to itemise all identified extractive resources and implement site specific, performance based, buffer controls to protect these resources. Identify and protect extractive industries and their haulage routes from residential development pressures'.*

A 1 km buffer has been provided around the "Holcim" quarry located at the end of North Boambee Road. The 1 km buffer is based on mapping provided in the Minerals Resource Audit prepared by NSW Trade and Investment showing a 1 km transition area around the resource as it is used for blasting. The buffer area will be set aside as a deferred area under this Planning Proposal.

The proposed rezoning is therefore considered to be consistent with the aims and objectives of and the strategic actions contained within the OLCSS 2008.

Coffs Harbour Industrial Lands Strategy

The Coffs Harbour City Industrial Lands Strategy (ILS) provides Council and the community with a strategic planning framework to guide the future development of industrial lands within the Coffs Harbour Local Government Area. The Strategy forms the Industrial Component of the Coffs Harbour City Local Growth Management Strategy. The main objectives of the Strategy are to:

- *assist Council in preparing its new Local Environmental Plan (LEP) in accordance with the Standard Instrument (Local Environmental Plans) Order 2006 and the Standard Instrument—Principal Local Environmental Plan;*
- *establish the existing supply of, and future demand for industrial lands;*
- *provide a strategic framework for the provision of future industrial lands;*
- *provide a recommended zoning scheme for existing and future industrial lands; and*
- *assess the current and future employment opportunities and economic impacts of industrial lands within the LGA.*

The ILS identified that the consolidation of existing and future industrial areas will reduce 'fragmentation' of industrial land. The ILS found that:

Currently there are a number of "pockets" of industrial development with no one major industrial area. This has led to confusion about the role and function of particular industrial areas. The approach taken by this Industrial Lands Strategy seeks to rectify this issue by consolidating future major industrial areas to two key locations within the Coffs Harbour LGA which are identified in the Mid North Coast Regional Strategy and the Coffs Harbour Our Living City Strategy. These areas are the North Boambee Valley urban release area and an area south of Woolgoolga, west of the existing industrial estate.

The ILS considered the NBVw Structure Plan in terms of its potential future industrial land use. The ILS also assessed the type of industrial land uses that should be catered for in the Coffs Harbour LGA. In this regard there are generally two broad categories of industrial activities:

1. *Industry that focuses on servicing local and subregional communities and businesses - for example automotive services, storage services, construction material and human services.*
2. *Those operations with markets extending beyond the immediate locality or region. Businesses in this category may be more capital intensive or combine commercial, research and manufacturing operations, or be involved in significant value adding. Large scale storage/logistics centres and traditional heavy industry fall into this category. The businesses in this category rely on inter-regional sales and are grouped together with the exporting industry sector. These regionally/export focussed industries generally require larger sites located in close proximity to major transport corridors.*

The ILS determined that about 65% of industrial land in the LGA is utilised by local or service focussed industry and that 35% of the industrial land stock is being utilised for regionally or export focused industry. Stakeholder analysis for the ILS found that there is an insufficient supply of large lots to encourage larger industry into the Coffs Harbour LGA and that Council's Economic Development Unit is actively trying to attract larger industrial uses and larger employers into the LGA.

This is particularly relevant to the land within the NBVw release area identified for industrial zoning, as there is an opportunity in this process to allocate industrial land for 'opportunistic' or larger scale industrial development in the draft NBVw DCP and Masterplan.

Site assessments and constraints analysis carried out for this Planning Proposal have led to a reduction in the quantity (area) and location of land to be zoned for industrial purposes in comparison to the area of land identified in the Structure Plan. This differs from the Structure Plan in that, the land to be rezoned industrial is located in the eastern portion of the site with access off the proposed haulage road and most of the land off Englands Road will be zoned large lot residential rather than industrial. The Englands Road area was found to be generally unsuitable for large industrial lots due to the lack of level areas and would result in 'pockets' of industrial development between vegetation corridors.

The ILS, through stakeholder analysis, found that the demand for industrial land originated from mainly from Sydney and the most common enquiry was for land parcels sized around 2,000 m^2 with prices around \$180/m^2. Flat, flood-free, basic rectangular blocks are the most desirable, and local agents suggest that B-Double access is frequently sought (particularly by transport and logistics companies). The industrial zoned land in the release area is well located in terms of heavy transport access to the Pacific Highway and can be filled to provide large, level, flood free industrial lots.

Coffs Harbour Business Lands Strategy.

The Coffs Harbour City Business Lands Strategy (BLS) provides Council and the community with a strategic planning framework to guide the future development of commercial lands within the Coffs Harbour Local Government Area (LGA). The Strategy forms the Business Lands component of the Coffs Harbour City Local Growth Management Strategy (LGMS). The main objectives of the Strategy are:

- Provide a current situational analysis and overview of employment land stock in Coffs Harbour City LGA;
- Provide an understanding of key issues for employment land is Coffs Harbour City through consultation with key stakeholders;
- Identify the critical land characteristics required by various industry sectors;
- Outline demand forecasts for employment land in Coffs Harbour City LGA;
- Provide recommendations for short-term zoning and spatial prioritisation of land to accommodate future employment lands; and
- Develop strategies and actions to ensure a range of developable employment land is available to meet projected demand.

One of the recommended actions of the BLS is to 'Discourage Retail Activity outside Established Business Centres' because:

> *Out of centre retail activity can threaten the viability of centres and promote poor sustainability and place making outcomes. Retail activity should be strongly discouraged from areas that are outside of the centres particularly where located in B5 zones. In general industrial areas, retail should be prohibited.*

The BLS provides strategies for LEP preparation including a proposed hierarchy for out of town centres. To ensure that the appropriate scale of retail activity occurs within the NBVw release area, the BLS recommends that North Boambee Valley business lands are zoned 'neighbourhood centre'.

A review of the BLS was prepared in October 2011 to:

- *identify whether the existing hierarchy, which protects the Coffs Harbour City Centre CBD as the primary retail and commercial centre of the LGA, is appropriate for future growth of Coffs Harbour as a regional city*
- *recommend modifications to the existing Business Centres Hierarchy as appropriate*
- *analyse how the new Standard Instrument business zones should best be applied to the recommended Business Centres Hierarchy for various business zone locations throughout the LGA*
- *provide recommendations as to resultant zoning and built form controls for all B6 Enterprise Corridor zones within both the City Centre Plan area and the wider LGA.*

The review did not include land at North Boambee Valley, therefore, the recommendations of the BLS remain as adopted by Council. A small area of land located along North Boambee Road nearby the proposed playing fields will be identified on the Master Plan as suitable for neighbourhood scale business/commercial land uses. Neighbourhood shops, Child care centres and Community facilities

are permissible with consent in the R2 and R3 Residential Zones, therefore these uses do not require a business (B) zoning.

Coffs Harbour Rural Residential Strategy 2009

The Rural Residential Strategy was adopted at Council's meeting of 26 November 2009 with Bonville is the priority release area. The Department of Planning endorsed the Strategy on 3 May 2010

The NBVw release area is not identified as a rural residential candidate area. It is not specifically mentioned in the Rural Residential Strategy because it is an urban release area. The reason for this is explained in the Rural Residential Strategy:

> *Areas identified for future urban purposes within the candidate areas have been excluded from further consideration for rural residential purposes. This is on the basis that an urban purpose is a more valuable resource than rural residential development; it is likely that the areas identified in the Settlement Strategy for future urban purposes, will be consistent with the growth areas eventually included in the Draft Mid North Coast Regional Strategy.*

The NBVw release area is identified in the MNCRS as a 'Proposed Future Urban Release Area' and is identified in the OLCSS as a special investigation area. Map 7B of the OLCSS identifies approximately 84.9 ha of residential land (849 possible dwellings) and 73.5 ha of industrial land in the NBVw release area.

Site investigations carried out for this Planning Proposal have determined that:

- Area A (refer to **Illustration 7.1**) – 80.9 ha of land in the northern area of the site off North Boambee Road is suitable for residential development;
- Area B – 37 ha of land is suitable for industrial development.
- Area C – this land will remain as currently zoned for rural and environmental protection purposes.
- Area D – this land is within the buffer to the quarry and will remain as currently zoned for rural and environmental protection purposes.

Site constraints, mainly pertaining to slope, visual assessment, ecological values and the character of the land along the western reaches of Englands Road, have resulted in Area C remaining as a rural 'character' area. Additionally, the identification of a haul route separate from Englands Road, will mean there is no potential for quarry haulage along Englands Road and the quite rural character of the south western area of the site will be maintained.

Area C is located within the area identified in the MNCRS and the OLCSS for urban purposes, and may be further investigated by Council under future strategic updates of the Settlement Strategies. At this stage, the land will remain under its present rural and environmental protection zonings.

Coffs Harbour 2030 Plan

The Coffs Harbour 2030 Plan was adopted in December 2009 as a Community Strategic Plan for the whole local government area. It is driven by the Community Vision 2030, the guiding document upon which all future planning decisions on economic growth, transport, housing, lifestyle and the environment will be based. It was adopted by Council in March 2009. In all, five key thematic standards were distilled from the consultation process and form the basis of the Vision. These were that by 2030:

- We are a prosperous and learning community.
- Our built environment connects us and supports us in living sustainably.
- We are moving around easily, safely and sustainably.
- Our communities are healthy, informed and engaged.
- Our natural environment is protected and conserved for future generations.

The NBVw release area is not specifically mentioned in the 2030 Plan. However, the Planning Proposal is consistent with the following strategies which seek to design the built environment for sustainable living:

- *Provide infrastructure that supports sustainable living and incorporates resilience to climatic events.*

The draft NBVw DCP and Masterplan includes flood mitigation measures that will provide resilience to climatic events within the study area and beyond the catchment area.

- *Create balanced pedestrian friendly communities with a mix of residential, business and services.*

The draft NBVw DCP and Masterplan includes pedestrian and cycle connections from the residential areas to the employment lands with provision to extend the connections east towards Bishop Druitt School and the North Boambee Valley (east). This also meets the strategy to '*Ensure planning requirements include cycle ways and footpaths in all new developments*' that aims to increase cycling and walking from place to place.

- *Create housing choices in accessible locations close to town centres.*

NBVw is about 4.5 kms from the CBD. The Planning Proposal will improve housing choice by increasing the amount and type of residential land available for housing. The Planning Proposal also includes employment land and land for recreation/open space that is accessible to the proposed residential areas.

Plan 2030 aims to improve road safety by developing '*alternative travel routes for trucks in local neighbourhoods*'. The proposed haul route from the hard rock quarry to the Pacific Highway interchange will significantly reduce trucks in residential area and improve safety and amenity.

The 2030 Plan also seeks to create urban spaces with a strong sense of community identity and place through the following strategies:

- *Protect and expand public spaces and facilities and ensure they are accessible and safe for all.*
- *Develop safe and interactive play spaces for our children within each community.*
- *Create safe connections to spaces and facilities used by children.*

Over 2 ha of land will be zoned RE1 Public Recreation for the purpose of passive recreation. This land links with the small neighbourhood centre and environmental protection zoned land surrounding the creeks in the northern residential precinct. The recreations zoned land will connect with the recreation zoned land on the eastern side of the highway bypass corridor and further to Bishop Druitt School via pedestrian/cycleway along North Boambee Road. Once the proposed haulage route is constructed, there will be fewer heavy trucks using North Boambee Road improve pedestrian/cycleway safety and amenity along the road corridor.

Overall, the Planning Proposal is consistent with Plan 2030 in that the rezoning and subsequent DCP/Masterplan seeks to create a sustainable community with excellent passive connections to work and recreation areas. The Planning Proposal maintains and improves the natural amenity of the area through increased environment protection zones and improved biodiversity connectivity.

North Boambee Valley (West) Structure Plan

The NBVw Structure Plan was adopted in 2010 following an extensive consultation process. The Structure Plan provides the broad zone and land use structure for the NBVw release area. Site assessments prepared for this Planning Proposal have built upon the work already carried out in the Structure Plan.

8.3. State Environmental Planning Policies

Is the planning proposal consistent with applicable state environmental planning policies?

Key issues relevant to the Planning Proposal	Comments
SEPP (Affordable Rental Housing) 2009	
Permissibility of group homes; development standards for various forms of affordable housing.	The SEPP will operate where certain forms of housing are permissible within residential and other zones. The draft LEP is consistent with this SEPP.
SEPP (Exempt and Complying Development Codes) 2008	
Streamlines assessment processes for development that complies with specified development standards.	No additional exempt or complying uses have been included in the draft Plan.
SEPP (Rural Lands) 2008	
The aim of this policy is to facilitate the orderly and economic use and development of rural lands for rural and related purposes. *The Rural Planning Principles are as follows:* *(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,*	The draft LEP is consistent with the Rural Planning Principles of the SEPP in that: • The draft LEP area is excluded from Regionally Significant Farmland considerations being recognised as a future residential growth area in the Mid North Coast Regional Strategy. Lands within the buffer to the quarry at the western end of the area will be retained for agricultural production with a 40ha minimum lot size. • Services to Areas 'C' and 'D' will remain unchanged. • The draft LEP is consistent with the Mid North Coast Regional Strategy principles. • The existing extractive industry is protected within a 1km radius buffer to residential land uses and a 750 m buffer to industrial land uses. • The proposed haul route will mitigate land use conflict between the quarry uses and increasing residential land uses, particularly along North Boambee Road.

Key issues relevant to the Planning Proposal	Comments
(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.*	
SEPP (Infrastructure) 2007	
Provides a consistent planning regime for infrastructure and the provision of services across NSW.	The draft LEP is either consistent with the SEPP or has no clauses with material effect on the SEPP.
SEPP (Temporary Structures) 2007	
Provides for the erection of temporary structures while protecting public safety and local amenity.	The draft LEP is either consistent with the SEPP or has no clauses with material effect on the SEPP.
SEPP (Mining, Petroleum Production and Extractive Industries) 2007	
Provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State. *The SEPP requires a compatibility test to be undertaken by council planners when assessing any proposed development in the vicinity of existing mines, quarries and petroleum production facilities or resources identified as being of state or regional significance.*	An existing quarry is established at the western end of the draft LEP area. A 1km buffer to future residential areas is maintained from the existing quarry operation area. Further expansion of the quarry operation in the future is likely to be to the west and north. In any event, expansion will be subject to a separate development consent process. Potential impacts will be assessed and minimised on its merits at the relevant time.
SEPP (Building Sustainability Index: BASIX) 2004	
the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX.	The draft LEP is either consistent with the SEPP or has no clauses with material effect on the SEPP.
SEPP (Housing for Seniors or People with a Disability) 2004	
The SEPP intends to encourage the development of high quality accommodation for an ageing population and for people who have disabilities while providing housing that is in keeping with the local neighbourhood.	The draft LEP is consistent with the SEPP. Seniors housing is permissible with consent in the R2 Low Density Residential Zone and R3 Medium Density Residential Zone.

Key issues relevant to the Planning Proposal	Comments
SEPP No. 71 – Coastal Protection	
Encourages a strategic approach to coastal management and identifies considerations for certain coastal development	The draft LEP area is generally outside of the coastal zone under the Coastal Protection Act 1979 to which the policy applies. A narrow strip of land along part of the western side of the identified Pacific Highway realignment corridor is within the coastal zone. This land is partly within zone E2 and partly within an industrial zone. The considerations under the policy are included in a clause under the draft LEP to be addressed as part of any development proposal. The draft LEP is consistent.
SEPP No. 65 - Design Quality of Residential Flat Development	
Raises the design quality of residential flat development across the state through the application of a series of design principles.	The draft LEP is either consistent with the SEPP or has no clauses with material effect on the SEPP.
SEPP No. 64 - Advertising and Signage	
Aims to ensure that outdoor advertising is compatible with the desired amenity and visual character of an area, provides effective communication in suitable locations and is of high quality design and finish.	The draft LEP is either consistent with the SEPP or has no clauses with material effect on the SEPP. Advertising structures are controlled by Councils Advertising Development Control Plan.
SEPP No. 62 – Sustainable Aquaculture	
Encourages the sustainable expansion of the industry in NSW	The draft LEP is generally consistent with the SEPP.
SEPP No. 60 - Exempt and Complying Development	
Provides a more efficient and effective approval process for certain classes of development. It applies to areas of the State where there are no such provisions in the council's local plans	The draft LEP refers to the provisions of the CODES SEPP. SEPP 60 will have no effect upon commencement of the draft LEP.
SEPP No. 55 - Remediation of Land	
Introduces state-wide planning controls for the remediation of contaminated land.	A broad soil sampling, testing and analysis has been undertaken and previous banana cultivation areas mapped. Soil sampling for potential acid sulfate soils has also been undertaken. The assessment found that minor isolated contamination arising from previous banana cultivation is present. Further investigation of each development site will

Key issues relevant to the Planning Proposal	Comments
	occur as part of the Development Application process. Contamination risks are considered minimal and manageable with recognised remediation procedures available.
SEPP No. 44 - Koala Habitat Protection	
Encourages the conservation and management of natural vegetation areas that provide habitat for koalas to ensure permanent free-living populations will be maintained over their present range.	The draft LEP is consistent with the SEPP in that koala habitat has been previously mapped and included within an Environmental Protection zone and is continued in the draft Plan within an E2 zone. In addition vegetation corridors to improve habitat links are added. The Council has an adopted Koala Plan of Management for the City.
SEPP No. 36 – Manufactured Home Estates	
Helps establish well-designed and properly serviced manufactured home estates (MHEs) in suitable locations.	The draft LEP is either consistent with the SEPP or has no clauses with material effect on the SEPP.
SEPP No. 21 - Caravan Parks	
Ensures that where caravan parks or camping grounds are permitted under an environmental planning instrument, movable dwellings, as defined in the Local Government Act 1993, are also permitted	The draft LEP is either consistent with the SEPP or has no clauses with material effect on the SEPP.
SEPP No. 33 - Hazardous and Offensive Development	
Provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future.	The draft LEP is either consistent with the SEPP or has no clauses with material effect on the SEPP.
SEPP No. 32 – Urban Consolidation (Redevelopment of Urban Land)	
States the Government's intention to ensure that urban consolidation objectives are met in all urban areas throughout the State.	The draft LEP is either consistent with the SEPP or has no clauses with material effect on the SEPP. The draft LEP area provides for new residential living opportunities and does not contain existing urban areas.
SEPP No 30—Intensive Agriculture	
Requires development consent for cattle feedlots having a capacity of 50 or more cattle or piggeries having a capacity of 200 or more pigs. The policy sets out information and public notification requirements to ensure there are	The draft LEP is either consistent with the SEPP or has no clauses with material effect on the SEPP.

Key issues relevant to the Planning Proposal	Comments
effective planning control over this export-driven rural industry.	
SEPP No. 22 - Shops and Commercial Premises	
Permits within a business zone, a change of use from one kind of shop to another or one kind of commercial premises to another, even if the change of use is prohibited under an environmental planning instrument.	The draft LEP is either consistent with the SEPP or has no clauses with material effect on the SEPP.
SEPP No. 6 - Number of Storeys in a Building	
Sets out a method for determining the number of storeys in a building.	The draft LEP is either consistent with the SEPP or has no clauses with material effect on the SEPP.
SEPP No. 4 – Development without Consent and Miscellaneous Complying Development	
This policy allows relatively simple or minor changes of land or building use and certain types of development without the need for a DA.	The draft LEP is either consistent with the SEPP or has no clauses with material effect on the SEPP. Clauses 6 to 10 do not apply to Coffs Harbour
SEPP No. 1 – Development Standards	
Makes development standards more flexible.	This SEPP does not apply to new LEPs.

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

When preparing a draft LEP, Council is required to consider the directions of the NSW Government as issued under section 117 of the Environmental Planning and Assessment Act (EP&A Act). The following section addresses consistency with these directions.

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EMPLOYMENT AND RESOURCES
Direction 1.1 Business and Industrial Zones

A draft LEP shall:

(a) give effect to the objectives of this direction. The objectives of this direction are to:

(a) encourage employment growth in suitable locations,
(b) protect employment land in business and industrial zones, and
(c) support the viability of identified strategic centres.

Consistent. The draft LEP provides employment land in suitable locations whilst not competing with the town centre with an appropriate Industrial zone. The industrial area is a geographic extension of existing industrial land to the east although separated by the Pacific Highway realignment corridor.

(b) retain the areas and locations of existing business and industrial zones,

Consistent. No existing business or industrial zones exist in the draft LEP area.

(c) not reduce the total potential floor space area for employment uses and related public services in business zones,

Consistent. There is currently no business zone within the draft LEP area.

(d) not reduce the total potential floor space area for industrial uses in industrial zones, and

Consistent. There is currently a shortage of industrial zoned land throughout the City. Additional industrial land in the draft LEP area was identified in a previous Structure Plan for the area and in Councils Industrial Lands Strategy as well as the Mid North Coast Regional Plan. There is no existing industrial land zone within the draft LEP area.

Direction 1.2 Rural Zones

A draft LEP shall:

(a) not rezone land from a rural zone to a residential, business, industrial, village or tourist zone.

(b) not contain provisions that will increase the permissible density of land within a rural zone (other than land within an existing town or village).

The draft LEP is inconsistent with this direction, however, those inconsistencies are supported by an endorsed Structure Plan and in particular the Mid North Coast Regional Plan. The large lot residential area was previously identified for industrial development however topographic and ecological constraints prohibit the practical use of this area for industry.

A general Rural zone (RU2) with a 40 ha minimum lot size is retained within the 1 km buffer to the existing quarry at the western end of the draft LEP area. Additional large lot residential areas are identified along Englands Road in recognition of existing small area agriculture production enterprises and to encourage expansion of market garden and small area crop production. The large lot residential areas will increase the current permissible densities in recognition of existing agricultural practices, topography and ecological values.

The remaining area outside identified ecological value areas are to be residential and employment lands.

Direction 1.3 Mining, Petroleum Production and Extractive Industries

This direction applies when a council prepares a draft LEP that would have the effect of:

(a) prohibiting the mining of coal or other minerals, production of petroleum, or winning or obtaining of extractive materials, or

(b) restricting the potential development of resources of coal, other minerals, petroleum or extractive materials which are of State or regional significance by permitting a land use that is likely to be incompatible with such development.

The draft LEP is inconsistent with this direction. The area identified for future residential and employment development has been recognised for development that would be likely to be incompatible with mining and extractive industries etc. in a previous Structure Plan for the area and

the Mid North Coast Regional Strategy. In this regard the inconsistency has been previously recognised and supported.

Direction 1.4 Oyster Aquaculture
There are no potential or existing oyster cultivation areas within the draft LEP area or within any drainage area downstream of this area likely to be affected by future development.

Direction 1.5 Rural Lands

This direction applies when:

(a) *a council prepares a draft LEP that affects land within an existing or proposed rural or environment protection zone (including the alteration of any existing rural or environment protection zone boundary) or*

(b) *a council prepares a draft LEP that changes the existing minimum lot size on land within a rural or environment protection zone.*

This direction applies as the draft LEP includes changes in existing rural zone boundaries and minimum lot sizes of rural zoned land.

Rural land zonings have been removed where residential and industrial development is proposed. Both the industrial and residential lands are identified for this area in the existing Structure Plan for the area and the Mid North Coast regional Strategy. The configuration of the areas for these uses has been amended as a result of more detailed investigation however the broad principles have been maintained.

An area generally along Englands Road was previously identified for industrial lands. Further investigation has found the area is generally unsuitable for industrial development due to the topography, ecological values and economic viability. The area is now identified for large lot residential with a minimum lot size of 2000 m^2 that recognises the topography and ecological values together with existing small area agriculture and horticulture uses in the area. Essentially the area will be retained for rural residential development to encourage market gardens and other small area crop production. The result will protect existing agricultural uses and encourage extended agricultural production. The area was not identified to protect agricultural values under the NBVw Structure Plan or the Mid North Coast regional Strategy.

ENVIRONMENT AND HERITAGE
Direction 2.1 Environment Protection Zones

The direction requires that *a draft LEP shall include provisions that facilitate the protection and conservation of environmentally sensitive areas.*

A draft LEP that applies to land within an environment protection zone or land otherwise identified for environment protection purposes in a LEP shall not reduce the environmental protection standards that apply to the land (including by modifying development standards that apply to the land).

The draft LEP is consistent with this direction in that all of the existing environmental protection zoned land is generally zoned E2 in the draft Plan. Additional areas to protect riparian corridors and to connect habitat areas are added to the E2 zone.

All environmental values have been reassessed and refined and expanded as necessary. The vegetation mapping has been ground-truthed and is refined to more accurately represent land with vegetation attributes that should be protected under the E2 zone.

This approach meets the intent of this direction by protecting land under the E2 zone without unnecessarily zoning land for environmental protection purposes that may not actually have significant environmental value.

Direction 2.2 Coastal Protection

A narrow strip of land along part of the western side of the Pacific Highway realignment corridor is identified as being within the coastal zone under the Coastal Protection Act 1979. Development within this area will be subject to the considerations under State Environmental Planning Policy 71 – Coastal Protection. The location of the land on the western side of an elevated highway corridor will ensure there will be no visual impacts on the coastal area and the area will not be affected by ocean impacts.

All stormwater drainage from the draft LEP area is to be detained in identified detention basins to ensure all runoff will have a nil or beneficial impact downstream.

Direction 2.3 Heritage Conservation

There are no heritage items currently identified in the draft LEP area. Further assessment has been undertaken and no new items have been identified.

Direction 2.4 Recreation Vehicle Areas

The draft LEP is consistent with this direction in that there are no clauses or provisions that enable land to be developed for the purpose of a recreation vehicle area (within the meaning of the *Recreation Vehicles Act 1983*).

HOUSING, INFRASTRUCTURE AND URBAN DEVELOPMENT

Direction 3.1 Residential Zones

This direction applies when a council prepares a draft LEP that affects land within:

(a) an existing or proposed residential zone (including the alteration of any existing residential zone boundary),

(b) any other zone in which significant residential development is permitted or proposed to be permitted.

This direction aims to encourage variety in housing and to make efficient use of infrastructure and minimise impacts. The draft LEP has identified all sensitive areas and ecological values and then provided development opportunities that respects and protects these values while ensuring that the resultant development potential is economically viable.

This direction requires that *a draft LEP shall include provisions that encourage the provision of housing that will:*

(a) broaden the choice of building types and locations available in the housing market, and

Consistent. The proposed mix of low and medium density zoned land with varying minimum lot sizes will provide choice for housing.

(b) make more efficient use of existing infrastructure and services, and

The identified industrial and residential areas aim to make more efficient use of road infrastructure and sewerage services by encouraging a density that ensures the extension of services is economically viable while recognising topographic constraints, ecological values and protecting and encouraging existing area agriculture production along Englands road.

(c) reduce the consumption of land for housing and associated urban development on the urban fringe, and

The draft LEP will maximise urban development within the environmental constraints to reduce pressure for premature urban expansion on the urban fringe.

(d) be of good design.

Design principles are identified in the Development Control Plan for the area that reflect the required balance between protecting environmental values and encouraging economically viable development.

A draft LEP shall, in relation to land to which this direction applies:

- *(a) contain a requirement that residential development is not permitted until land is adequately serviced (or arrangements satisfactory to the council, or other appropriate authority, have been made to service it), and*
- *(b) not contain provisions which will reduce the permissible residential density of land.*

The draft LEP includes appropriate servicing requirements and will increase or maintain existing permissible residential density of land.

Direction 3.2 Caravan Parks and Manufactured Home Estates

This direction applies and requires that:

In identifying suitable zones, locations and provisions for caravan parks in a draft LEP, council shall:

- *(a) retain provisions that permit development for the purposes of a caravan park to be carried out on land, and*
- *(b) retain the zonings of existing caravan parks, or in the case of a new principal LEP zone the land in accordance with an appropriate zone under the Standard Instrument (Local Environmental Plans) Order 2006 that would facilitate the retention of the existing caravan park.*

There are no existing caravan parks in the draft LEP area. Existing provisions to permit caravan parks are to be retained except within the buffer area to the quarry as the buffer is an existing exclusion area for additional residential style development. Caravan parks are not currently permitted in industrial areas or business zones and are not permitted under the draft LEP.

Direction 3.3 Home Occupations

This direction applies. The draft LEP is consistent with this direction – home occupations are permitted without consent in all zones except the industrial zone as residential accommodation is not permitted in this zone.

Direction 3.4 Integrating Land Use and Transport

The objective of this direction is to ensure that urban structures, building forms, land use locations, development designs, subdivision and street layouts achieve the following planning objectives:

(a) improving access to housing, jobs and services by walking, cycling and public transport, and

(b) increasing the choice of available transport and reducing dependence on cars, and

(c) reducing travel demand including the number of trips generated by development and the distances travelled, especially by car, and

(d) supporting the efficient and viable operation of public transport services, and

(e) providing for the efficient movement of freight.

This direction applies when a council prepares a draft LEP that creates, alters or removes a zone or a provision relating to urban land, including land zoned for residential, business, industrial, village or tourist purposes.

This direction applies as the draft LEP will provide residential, industrial and business zones. The draft LEP is generally consistent with the objectives of this direction.

The draft LEP will generally separate industrial and residential traffic with a new haul route to the existing quarry to service the quarry and new industrial area. Pedestrian, cycleway and public transport routes are identified in the Development Control Plan to support the draft LEP.

Direction 3.5 Development Near Licensed Aerodromes

This direction applies when a council prepares a draft LEP that creates, alters or removes a zone or a provision relating to land in the vicinity of a licensed aerodrome.

This direction does not apply.

HAZARD AND RISK

Direction 4.1 Acid Sulfate Soils

Consistent broad sampling has been undertaken to identify areas likely to contain acid sulfate soils. These areas are mapped as part of the draft LEP. Guidelines are available for the management of acid sulfate soils within the mapped areas.

Direction 4.2 Mine Subsidence and Unstable Land

There are no known areas of mine subsidence or unstable land in the draft LEP area. Broad assessment has been undertaken to identify steep lands that may require construction management to avoid any instability.

Direction 4.3 Flood Prone Land

This direction applies when a council prepares a draft LEP that creates, removes or alters a zone or a provision that affects flood prone land.

Part of the study area is flood prone land therefore this direction applies. The model *Flood Planning* clause is included in LEP 2013.

The Planning Proposal is supported by a comprehensive flood study (**Appendix G**) that provides for the filling of land to above the 0.2% AEP flood level (500-year ARI) for industrial and residential development areas. The flood study provides for compensatory floodways to be constructed adjacent to the filled land to locally offset the loss of floodway conveyance caused by the filling. for Additionally, the construction of detention basins upstream of the filled and developed land will offset the loss of floodplain storage as well as potentially reduce flood impacts further downstream that are an existing concern for Council.

This Direction has the objective to ensure that development of flood prone land is consistent with the NSW Governments *Flood Prone Land Policy* and the principles of the *Floodplain Development Manual 2005*. The objective aims to ensure that LEP amendments impacting flood prone land address the flood hazard and consider potential flood impacts both on and off the land.

The Direction includes a requirement that a Planning Proposal must not rezone land within the flood planning area from a Rural zone to a Residential or an Industrial Zone. However, point (9) of the Direction permits a Planning Proposal to be inconsistent with this Direction where the Director-General is satisfied that the Planning Proposal is in accordance with a flood plain risk management plan prepared in accordance with the principles and guidelines of the Floodplain Development Manual 2005 or the inconsistency is of minor significance.

The Floodplain Development Manual provides for the development of sustainable strategies for managing human occupation and use of the floodplain having regard to risk management principles. The Manual recognises that flood prone land is a valuable resource that should not be sterilised by unnecessarily precluding its development. The primary objective is to reduce the impact of flooding and flood liability on individual owners and occupiers of flood prone property.

The flood impacts have been assessed using TUFLOW flood modelling and a floodplain risk management strategy determined to allow filling of land compensated by creek widening and the construction of detention basins. The strategy provides for effective floodplain risk management in accordance with the principles and guidelines of the Manual. In this regard the rezoning of land within the floodplain for industrial and residential use is reasonable as it satisfies the guidelines in the Floodplain Development Manual and satisfies the requirements of the Section 117 Direction.

Direction 4.4 Planning for Bushfire Protection

This direction applies when a council prepares a draft LEP that affects, or is in proximity to land mapped as bushfire prone land.

Areas of the draft LEP are mapped as Bush Fire Prone Land.

In the preparation of a draft LEP a Council shall consult with the Commissioner of the NSW Rural Fire Service under section 62 of the EP&A Act, and take into account any comments so made,

Consistent. Consultation will be undertaken as part of the LEP preparation process.

A draft LEP shall:

(a) have regard to Planning for Bushfire Protection 2006,

Consistent. Asset Protection Zones are identified in the Development Control Plan.

(b) introduce controls that avoid placing inappropriate developments in hazardous areas, and ensure that bushfire hazard reduction is not prohibited within the APZ.

Future subdivision and development in bushfire prone land in the draft LEP area will be referred to the RFS as required under s100B of the Rural Fires Act 1997 and s79BA of the *EP&A Act 1979*. The draft LEP allows bush fire hazard reduction work authorised by the *Rural Fires Act 1997* to be carried out on any land without development consent.

The draft LEP is consistent with this direction.

REGIONAL PLANNING

Direction 5.1 Implementation of Regional Strategies

The draft LEP is consistent with the Mid North Coast Regional Strategy in that industrial and residential areas have been identified for this area.

Direction 5.2 Sydney Drinking Water Catchments

Does not apply.

Direction 5.3 Farmland of State and Regional Significance on the NSW Far North Coast

This area is excluded as it is an identified growth area in the Mid North Coast Regional Plan.

Direction 5.4 Commercial and Retail Development along the Pacific Highway, North Coast

Consistent. No commercial or retail development is proposed along the Pacific Highway realignment route.

Direction 5.5 Development in the vicinity of Ellalong, Paxton and Millfield (Cessnock LGA)

Does not apply

Direction 5.6 Second Sydney Airport Badgerys Creek

Does not apply.

Direction 6.1 Approval and Referral Requirements

This direction aims to minimise concurrence and referral application to Ministers and public authorities and not classify designated development unless significant impact is likely

Consistent. Draft LEP includes standard referral and development classification provisions under standard LEP template.

Direction 6.2 Reserving Land for Public Purposes

This direction requires land to be reserved for public purposes in accordance with the latest directions of the relevant authority.

Consistent. Draft LEP includes 2.26 hectares of land to be zoned RE1 Public Recreation in accordance with the directions of the relevant public authority, in this case, Council.

Direction 6.3 Site Specific Provisions
This direction discourages unnecessarily restrictive site controls.

Consistent. Draft LEP does not require any site specific provisions.

Direction 7.1 Implementation of Metropolitan Strategy
Does not apply.

8.4. Section C – Environmental, Social and Economic Impact

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?

Part 5A of the EP&A Act requires consideration of the likely impacts of the draft LEP on threatened species, populations or ecological communities, or their habitats. There are a number of threatened species known to occur in the study area including one Endangered Ecological Community (EEC).

Preliminary lists of species likely to occur within the subject site were obtained by conducting searches of the Office of Environment and Heritage's (OEH) Atlas of NSW Wildlife (Wildlife Atlas), for species listed under the NSW Threatened Species and Conservation Act 1995 (TSC Act), and the Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) Protected Matters Search Tool (PMST) for Matters of National Environmental Significance and species listed under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Flora, fauna habitat and limited fauna assessments were conducted over two field survey periods.

From the field survey effort for this study two flora species listed under the NSW TSC act were located. They are:

- •Slender Marsdenia (*Marsdenia longiloba)* (TSC E and EPBC V) and
- •Rusty Plum (*Niemeyera whitei*) (TSC V)

Eight threatened species listed as Vulnerable under the *Threatened Species Conservation Act 1995* were recorded during the field surveys; they are:

Birds

- Spotted Harrier (Circus assimilis);
- Square-tailed Kite (Lophoictinia isura) and
- Black Bittern (Ixobrychus flavicollis)

Mammals

- Koala (*Phascolarctos cinereus*)
- Little Bentwing (*Miniopterus australis*)
- Eastern Bentwing (*Miniopterus schreibersii oceanensis*)
- Large-footed Myotis (*Myotis macropus*)
- East coast freetail-bat (*Mormopterus norfolkensis*)

The Swamp Forest EEC is present in the study area. Koala evidence was found in a number of patches north of the North Boambee Road and a single site south of this road. Koala evidence was determined also from the Swamp Forest Community in the south east corner of the study area.

All native vegetation within the study area contains high ecological status regardless of previous disturbance regimes associated with a long history of utilisation by the forestry and agricultural sectors. All forested landscapes within the study area contain Primary or Secondary Koala habitat as well as providing a range of resources for a number of known threatened plant and animal species and the potential for providing habitat for many more.

The majority of existing habitat corridors currently zoned E2 Environmental Conservation under the CHLEP 2013. In additional to this, riparian buffers have been identified and mapped providing additional connectivity in some areas particularly in the north-east of the study area where originally no local corridor was proposed.

Through this process some small areas of low value vegetation have been identified and are not recommended for an environmental protection zone. This action is offset by the consolidation of existing high value vegetation areas by infill regeneration and connection through wildlife and riparian corridor construction. This not only creates the connectivity to existing isolated patches of habitat but maintains and improves on this existing vegetation as a key objective of this Planning Proposal and of CKPoM.

The draft LEP zonings recommended in this Planning Proposal improve on existing habitat corridors and linkages and will not adversely impact on critical habitat or threatened species, populations or ecological communities, or their habitats. Therefore this proposal does not trigger the need for consultation under section 34A of the EP&A Act with the Director General of the Department of Environment and Climate Change or the Director General of the Department of Primary Industries (for impacts to fish or marine vegetation).

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

The following is a summary of the other likely environmental effects or constraints on the site.

Flooding

This planning proposal will result in the rezoning of land for residential and industrial purposes within areas identified as flood prone land. Development in these areas will require significant filling. Compensatory works include the construction of detention basin(s) and construction of floodways adjacent to the main tributaries.

Depending on the detention basin option, the proposed flood mitigation measures may benefit areas downstream of the Study Area – including offsetting impacts of the Pacific Highway upgrade and lowering flood levels in the Isles Industrial area and around the Base Hospital.

Traffic and Road Noise

Road traffic noise modelling of the release area of both pre and post Pacific Highway deviation scenarios was carried out. Currently, noise from the existing Pacific Highway corridor has very little impact on the release area. Predicted noise impacts to the residential area of NBVw from the highway bypass indicates that noise levels will exceed the relevant external noise criteria of 50 dBA by up to approximately 10 dBA, even with the 3m high noise barrier.

Therefore special construction methods will be required adjacent to the highway bypass corridor (Refer to Figure 2 – Concept Master Plan – Sheet 1 of 3) to reduce internal traffic noise levels to below recommended values. The '*Australian Standard AS 3671-1989 Acoustics: Road traffic noise intrusion – Building siting and Construction*' provides residential construction categories for achieving acceptable internal noise levels.

Bushfire

APZs for residential and industrial land have been identified within the sites. Where feasible, the road network adjoins these APZs. Areas that will be rezoned for urban purposes under this Planning Proposal do not rely on the removal or modification of existing significant vegetation for bushfire management purposes.

Site Contamination

Arsenic contamination is present across former banana land consistent with similar banana land across the Coffs Harbour region. Council's existing land contamination policies should be applied to any proposed development within the release area. All proposed development within present and past cultivated areas should be subject to soil contamination assessments and where contamination is identified a remediation plan prepared. As has been found in other areas, it is anticipated that the arsenic contamination can be readily remediated, generally through on-site vertical mixing. The cost of further investigation, and remediation if required, will fall to the developer. While an additional burden, it is not expected to significantly constrain the land's development potential.

Acid Sulfate Soils

Class 4 Acid Sulfate Soils are present with the eastern portion of the site in the vicinity of Newports Creek. Due to flood constraints, any proposed development in these areas will require filling which is unlikely to expose any potential acid sulfate soils to oxidation. However, some excavation of floodways and deeper excavation for servicing trenching will be required. These works should be managed in accordance with Council's current policies and are not a significant constraint to development in this area.

Geotechnical

Geotechnical conditions across the NBVw release area do not pose a major constraint to the rezoning of land for urban purposes. Development within the urban areas of NBVw should occur in accordance with Council's existing policies for site classification and engineering design of slabs and footings plus compaction control for subdivision earthworks.

How has the planning proposal adequately addressed any social and economic effects?

Social and economic effects arising from the draft LEP will be positive in terms of the provision of new housing, recreation and employment land in close proximity to existing centres.

Recreation Land

Over 2 ha of land has been zoned RE1 Public Recreation for the purpose of a local recreation. This land is located in close proximity to the NBV (east) precinct and the proposed neighbourhood centre off North Boambee Road. This land is of a sufficient size to accommodate a range of recreational activities.

Heritage Impacts:
Potential heritage values of the old tramway cuttings in the south western corner of the valley are protected within the provisions of the E2 Environmental Conservation zone. There is a limited range of permissible land uses in the vicinity of the old tramway cuttings due to zone limitations and land constraints; therefore, it is unlikely that future development proposals would disturb the tramway cuttings.

Vision Statement:
The following vision statement has been evolved as a framework for recommendations to minimise the potential visual impact of future development on NBVw:

> ***To guide future development to North Boambee Valley (west) in a manner that is sensitive to the distinct rural and bushland character of the valley and that maintains the high scenic amenity of the valley and its views. North Boambee Valley (west) should be a contemporary Coffs Harbour suburb that is integrated with the valley setting and that embraces its bushland as part of a comprehensive network of 'green spaces' and recreational areas.***

The Planning Proposal supports the vision statement by zoning important bushland, habitat corridors and drainage buffers for environmental conservation purposes. Additionally 2.66 ha of land will be zoned for recreation purposes which will add to the network of 'green spaces' in the release area.

Neighbourhood Precinct
8,532 m^2 of land on the southern side of North Boambee Road is identified in the draft DCP Masterplan to accommodate the range of "village" land uses recommended in the Structure Plan. Community facilities, child care centres, neighbourhood shops and emergency services facilities are permissible with consent in the R2 and R3 residential zones providing a range of opportunities for neighbourhood-scale commercial development.

The neighbourhood precinct will provide the dual function of enabling social and economic opportunities within a central site in close proximity to the recreation area and facilities available in the NBV east area.

Standards for the provisions of community facility vary considerably. Three separate benchmark guidelines have been considered to assess the need for a neighbourhood scale community centre. The following thresholds apply for the provision of a 'Neighbourhood Centre'

1. 18,000 people - Hill PDA Economists data used by SutherlandKoshy in the Nambucca Structure Plan, 2009.
2. 8,000 people - Richard Cardew in the *Valla Urban Growth Area Community Needs Assessment,* April 2011.
3. 3,500 to 15,000 people – Sharyn Casey in *Establishing Standards for Social Infrastructure,* University of Queensland, August 2005.

The future resident population of the NBVw area will be around 2,400 people. This is below the generally accepted threshold for a community centre. The proposed recreation area may serve a role for the surrounding local community as a local meeting place.

8.5. Section D – State and Commonwealth Interests

Is there adequate public infrastructure for the planning proposal?

The key public infrastructure elements of the NBVw release area are as follows:

Road Network

An indicative road network is in Figure 1 Development Overlay. This network is shown in more detail in the draft NBVw DCP and Masterplan. The key elements of the road network are:

- Interconnectivity of residential streets providing a logical and efficient local road network and reducing no through roads in bushfire prone areas.
- Road widths designed in accordance with CHCC's AUS-SPEC guidelines
- Network designed to minimise road crossings of important native vegetation corridors and riparian areas.
- Englands Road is a 'no through road' from the intersection with the haulage road. This is important to maintain the rural character of this area and to protect significant roadside vegetation.
- The upper reaches of Englands Road will remain "quiet" in keeping with rural character of the area and providing safe road shoulders for cycle connections to the employment lands, recreation area, residential area and to the dedicated cycleway that will connect with North Boambee Road and Bishop Druitt College.

Link Road to North Boambee Road

The proposed link road to North Boambee Road will cater for industrial traffic, primarily from the Holcim Quarry and also from the proposed employments lands. This will reduce heavy transport usage of North Boambee Road and the upper reaches of Englands Road.

Water Supply

A reticulated water supply system will be provided to all R2, R3 and IN1 zoned land. Zone R5, being a large lot residential area is not proposed for reticulation in accordance with Council's policies and will need to rely on tank water..

The Coffs Harbour Water Supply Strategy Study, 1999 (CHWSS) developed a water supply strategy for the City. In preparing the strategy, this study included various growth areas across the city including NBVw. The CHWSS catered for an estimated population of 5,900 people in NBVw. The estimated peak day water demand the NBVw was 4.4ML/d. The estimated peak water demands resulting from the proposed rezoning are 2.63 ML/d which is less than assumed in the CHWSS. As such the water servicing strategies developed in the CHWSS are still applicable to the NBVw release area.

Sewerage

A reticulated sewerage supply system will be provided to all R2, R3 and IN1 zoned land. It is not proposed to service the future rural residential area with a conventional gravity reticulation system, rather a pressure sewerage technology would be the preferred system.

The sewerage system will feed to two main pumping stations (Ps1 and PS3) which will be the main transfer pumping stations to transfer the sewage eventually to the Coffs Harbour Water Reclamation Plant.

Energy and Communications

Existing residences and businesses within the NBVw release area are serviced by Essential Energy and Telstra. Both power and telephone services with require augmentation to cater for the additional population and resulting demand for services.

Both agencies have indicated that the area can be serviced, however details of service augmentation are more appropriately considered when development commences. Additionally, the National Broadband Network (NBN) Co. are likely to be responsible for the installation of fibre for all telecommunications within the release area as their 'roll-out' of fibre in the Coffs Harbour area has already commenced.

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.

8.6. PART 4 – COMMUNITY CONSULTATION

Community consultation was carried out during the preparation of the NBVw Structure Plan and again when the draft Structure Plan was publicly exhibited from 11 December 2008 to 30 January 2009.

The community, stakeholders and government agencies will have a further opportunity to make submissions to the draft LEP during the exhibition phase of the process.

This Planning Proposal has been prepared in accordance with the NSW Department of Planning 'A guide to preparing planning proposals', and is based on the findings of environmental studies carried out by the project team as required in accordance with Coffs Harbour City Council's brief for the North Boambee Valley (West) Planning Proposal.

Yours faithfully

GEOFF SMYTH CONSULTING

GEOFF SMYTH

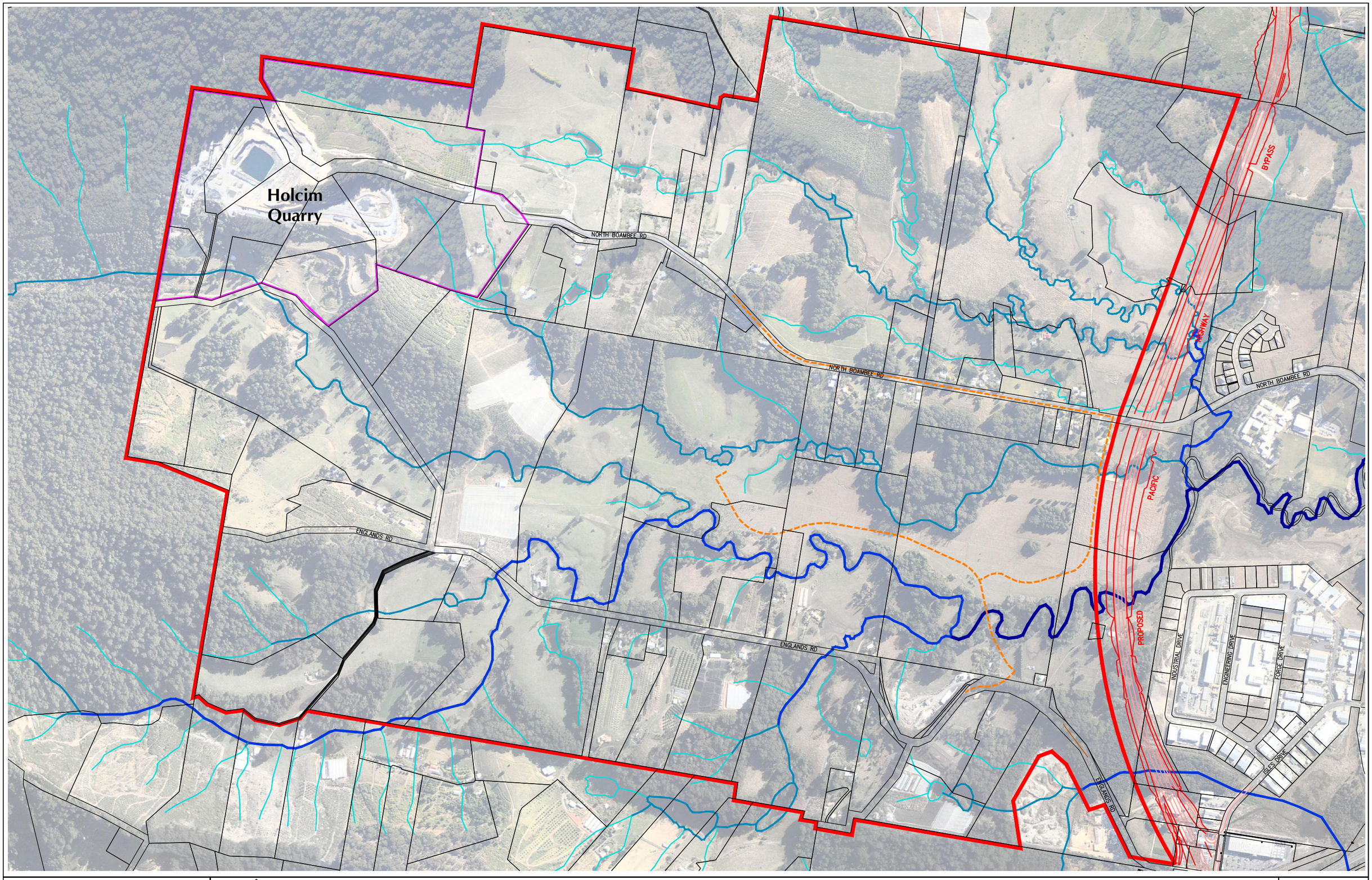
17 October 2014

DE GROOT & BENSON PTY LTD

ROB DE GROOT

17 October 2014

9. FIGURES



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NORTH
0 200 400 Meters

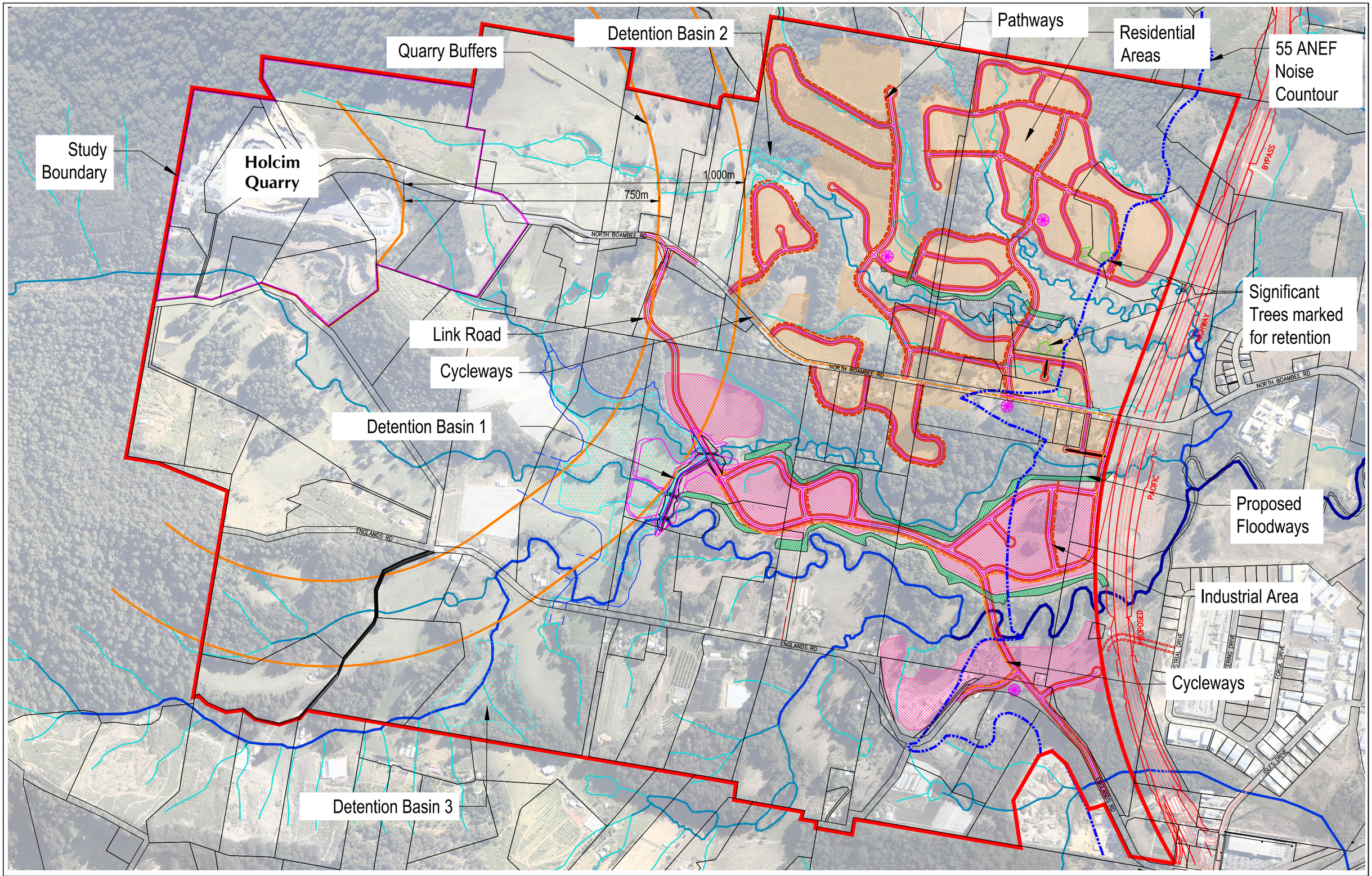
NORTH BOAMBEE VALLEY PLANNING PROPOSAL

STUDY AREA

C SEPT 2014 Plan. Prop.

Figure 1

Amendment No. C



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Fax (02) 6652 7418
Email email@dgb.com.au

NORTH
0 200 400 Meters

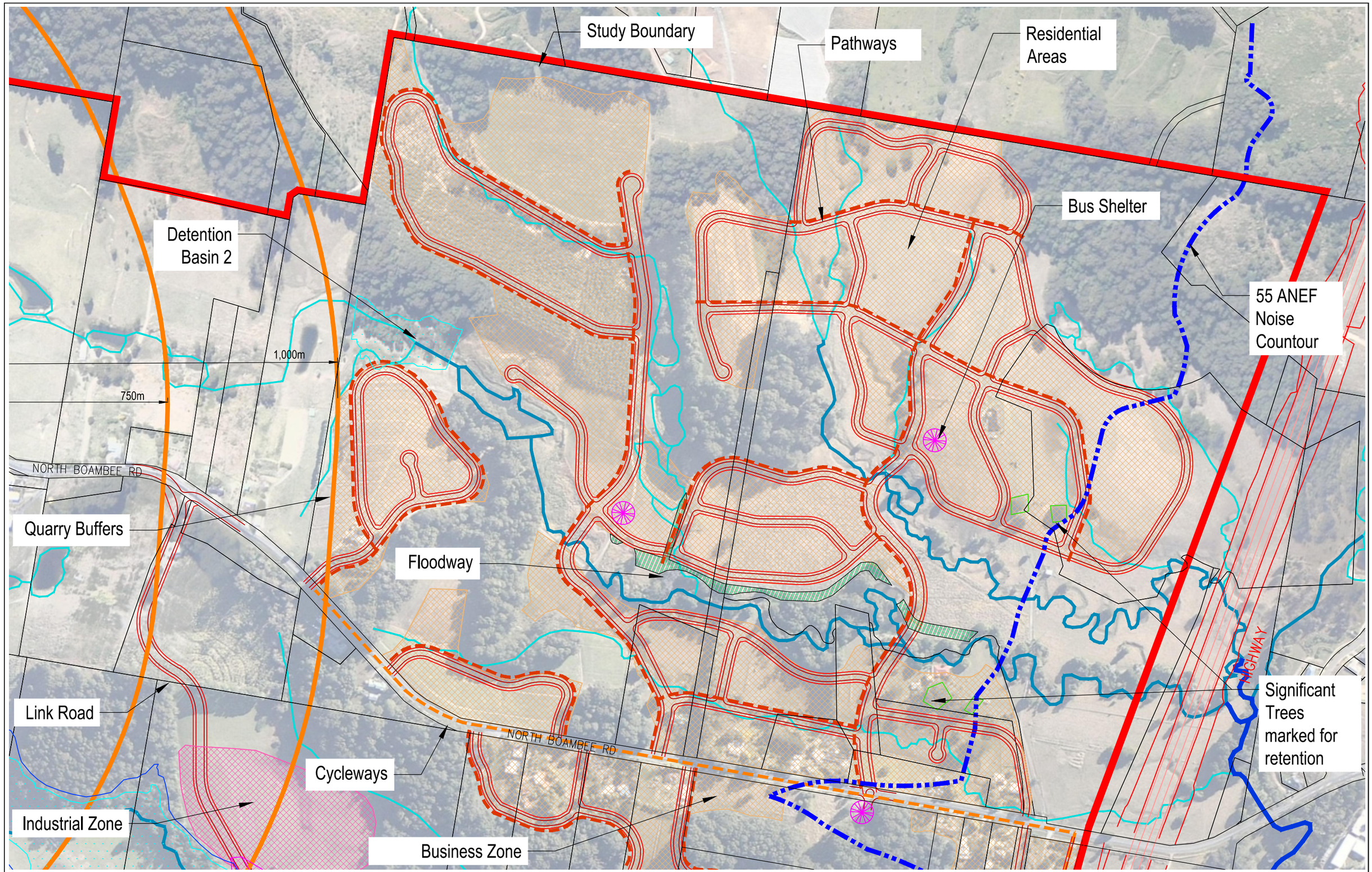
NORTH BOAMBEE VALLEY PLANNING PROPOSAL

DEVELOPMENT OVERLAY
CONCEPT MASTER PLAN- Sheet 1 of 3

C SEPT 2014 Plan. Prop.

Figure 2

Amendment No. C



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NORTH

Meters
100 0 100 200
1:5000

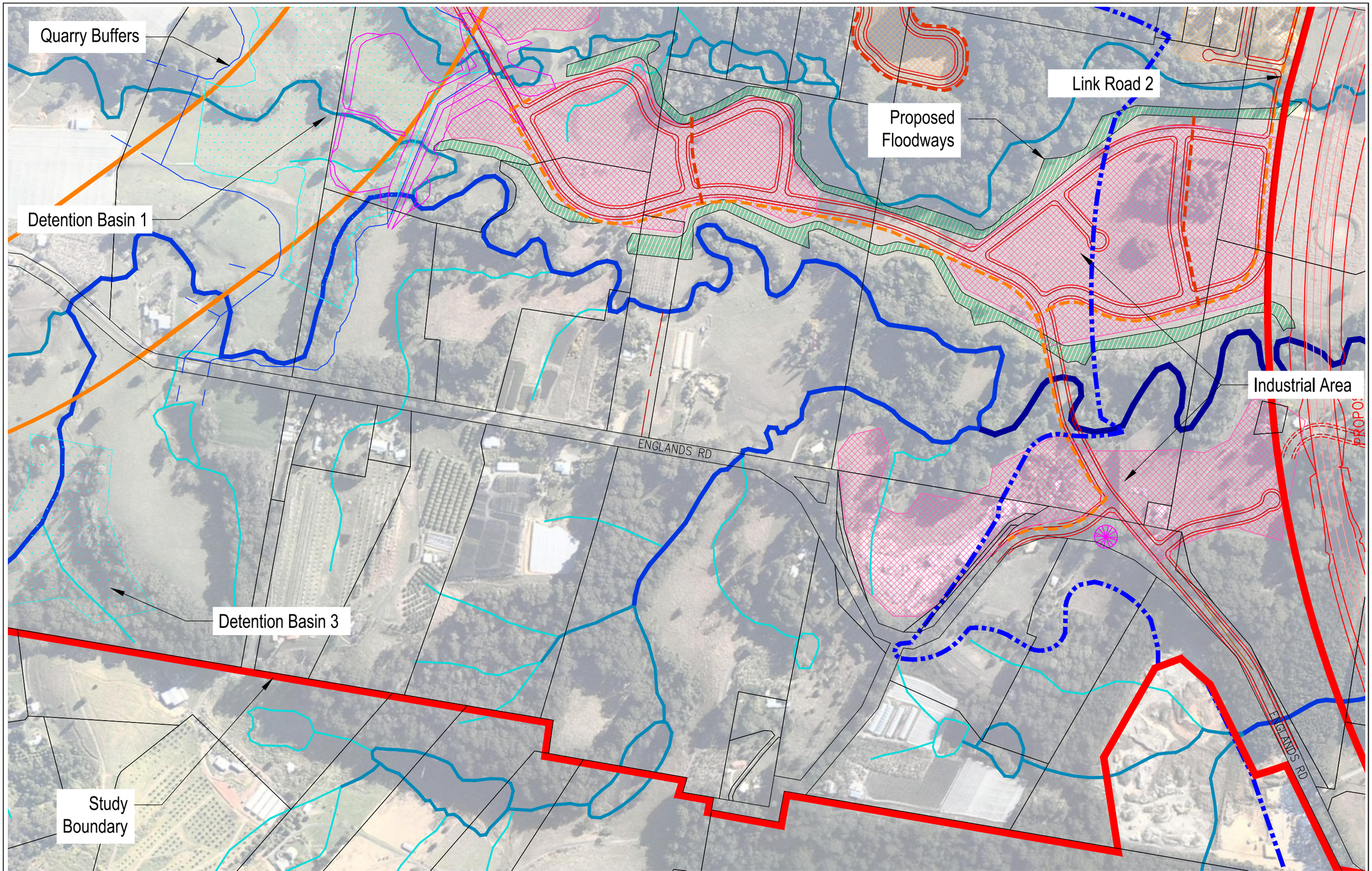
NORTH BOAMBEE VALLEY PLANNING PROPOSAL

DEVELOPMENT OVERLAY CONCEPT MASTER PLAN - Sheet 2 of 3

C SEPT 2014 Plan. Prop.

Figure 3

Amendment No. C



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NORTH

Meters
100 0 100 200
1:5000

NORTH BOAMBEE VALLEY PLANNING PROPOSAL

DEVELOPMENT OVERLAY
CONCEPT MASTER PLAN- Sheet 3 of 3

C SEPT 2014 Plan. Prop.

Figure 4

Amendment No. C

Study Boundary

Holcim Quarry

Detention Basin 2

Residential Areas

Link Road

Detention Basin 1

Industrial Area

Detention Basin 3

NORTH BOAMBEE RD

ENGLANDS RD

BYPASS

HIGHWAY

PACIFIC

PROPOSED

INDUSTRIAL DRIVE

ENGINEERING DRIVE

FORGE DRIVE

GLASS DRIVE

FIREBIRDS RD

LEGEND :

- **Low Risk**

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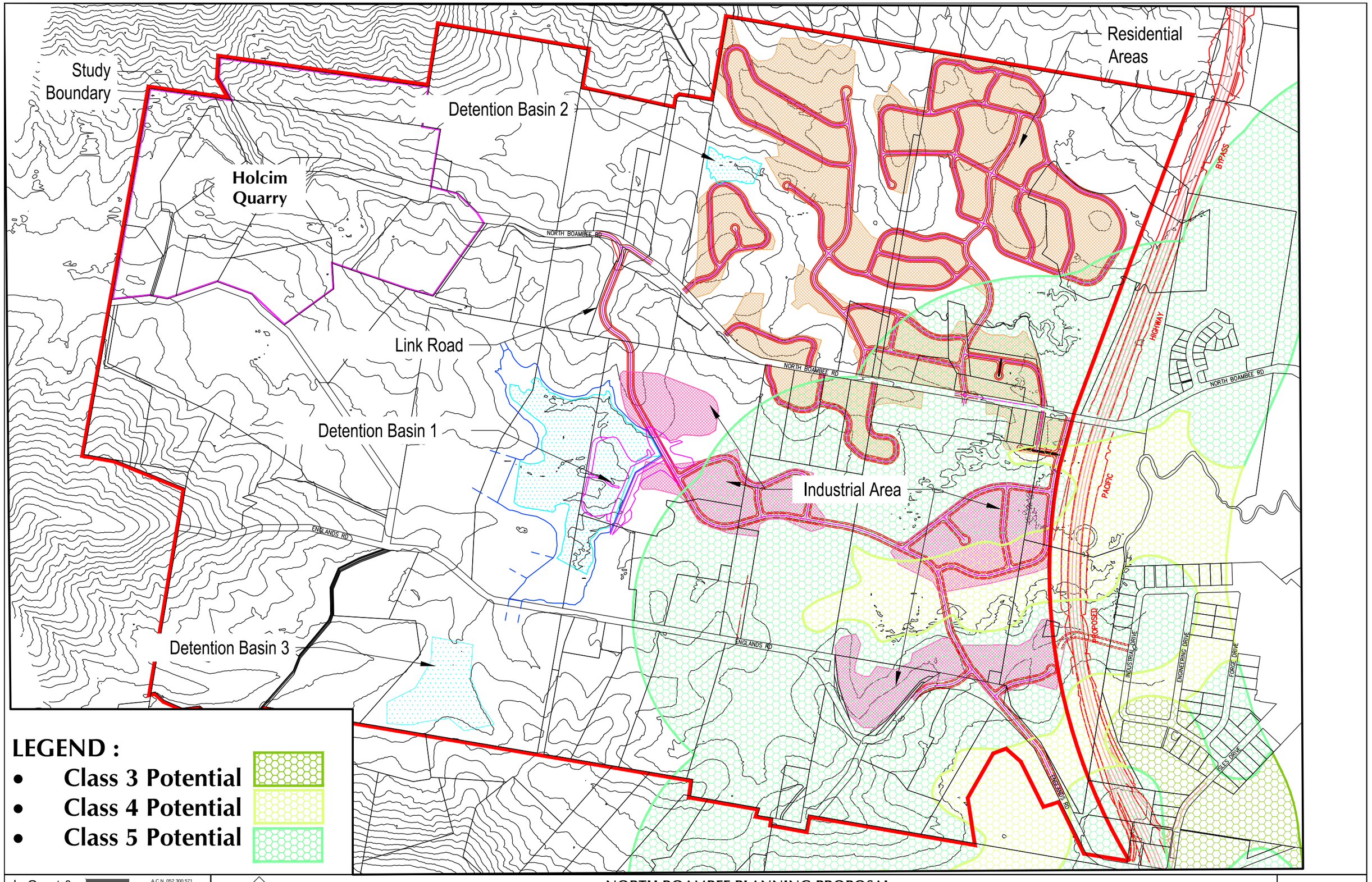
0 200 400 Meters

NORTH BOAMBEE PLANNING PROPOSAL
ACID SULPFATE RISK MAPPING

C SEPT 2014 Plan. Prop.

Figure 5

Amendment No. C



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NORTH
0 200 400
Meters

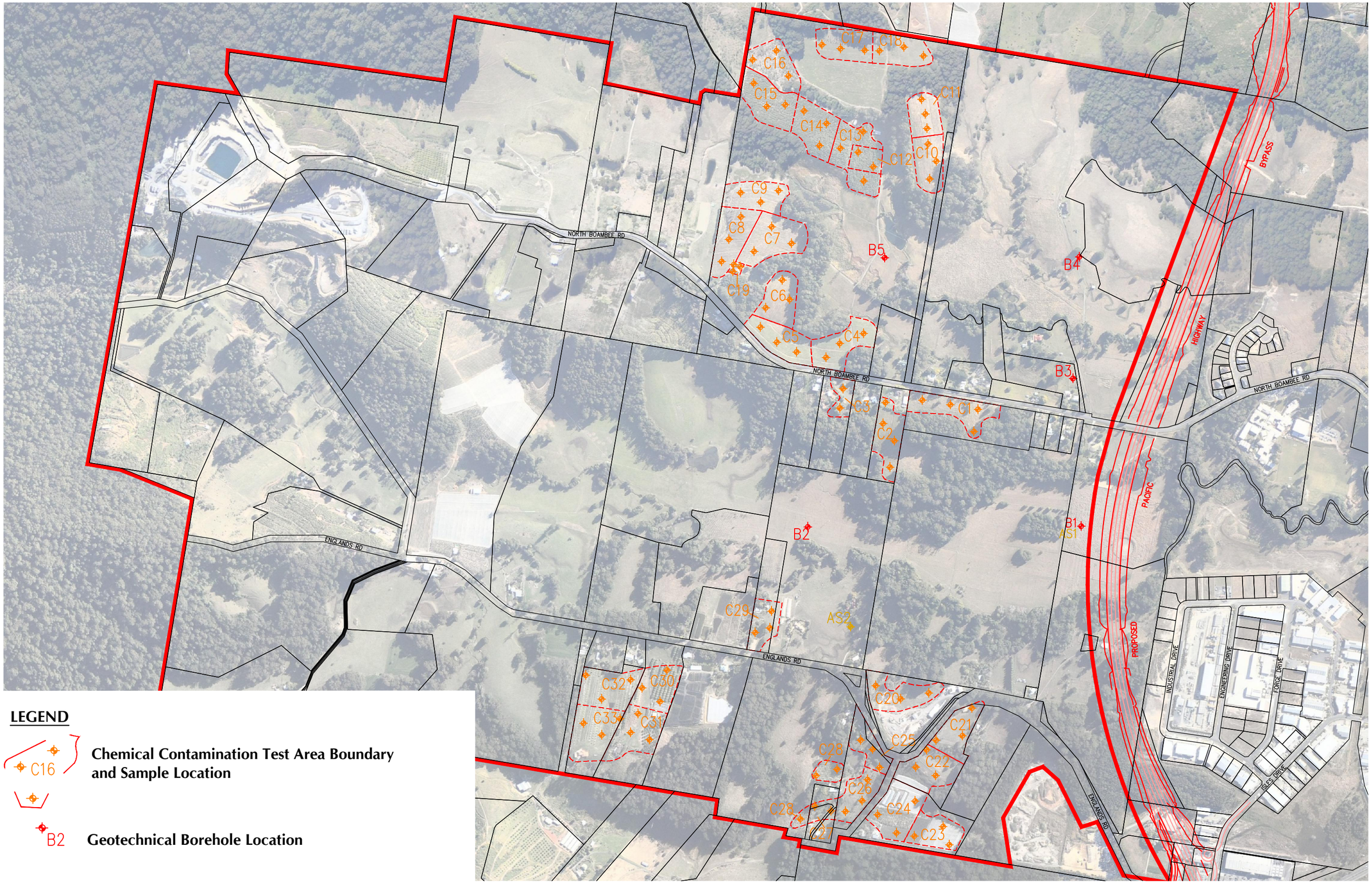
NORTH BOAMBEE PLANNING PROPOSAL

POTENTIAL ACID SULPFATE AREAS

C SEPT 2014 Plan. Prop.

Figure 6

Amendment No. C



LEGEND

C16 — **Chemical Contamination Test Area Boundary and Sample Location**

B2 — **Geotechnical Borehole Location**

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NORTH
0 200 400 Meters

NORTH BOAMBEE VALLEY PLANNING PROPOSAL

GEOTECHNICAL AND CHEMICAL INVESTIGATION SITES

C SEPT 2014 Plan. Prop.

Figure 7

Amendment No. C

Legend

Study Area

RMS Highway

Contours 10m

Elevation

- 0 m
- 10 m
- 25 m
- 100 m
- 200 m
- 350 m

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NORTH

0 200 400 600 m

NORTH BOAMBEE VALLEY PLANNING PROPOSAL

Topography

A NOV 2012 Plan. Prop.

Figure 8

Amendment No.

Legend
Study Area
RMS Highway
Contours 10m
Slope Hazard
Level
A (0 - 15%)
B (15 - 28%)
C (28 - 40%)
D (> 40%)

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NORTH

0 100 200 300 m

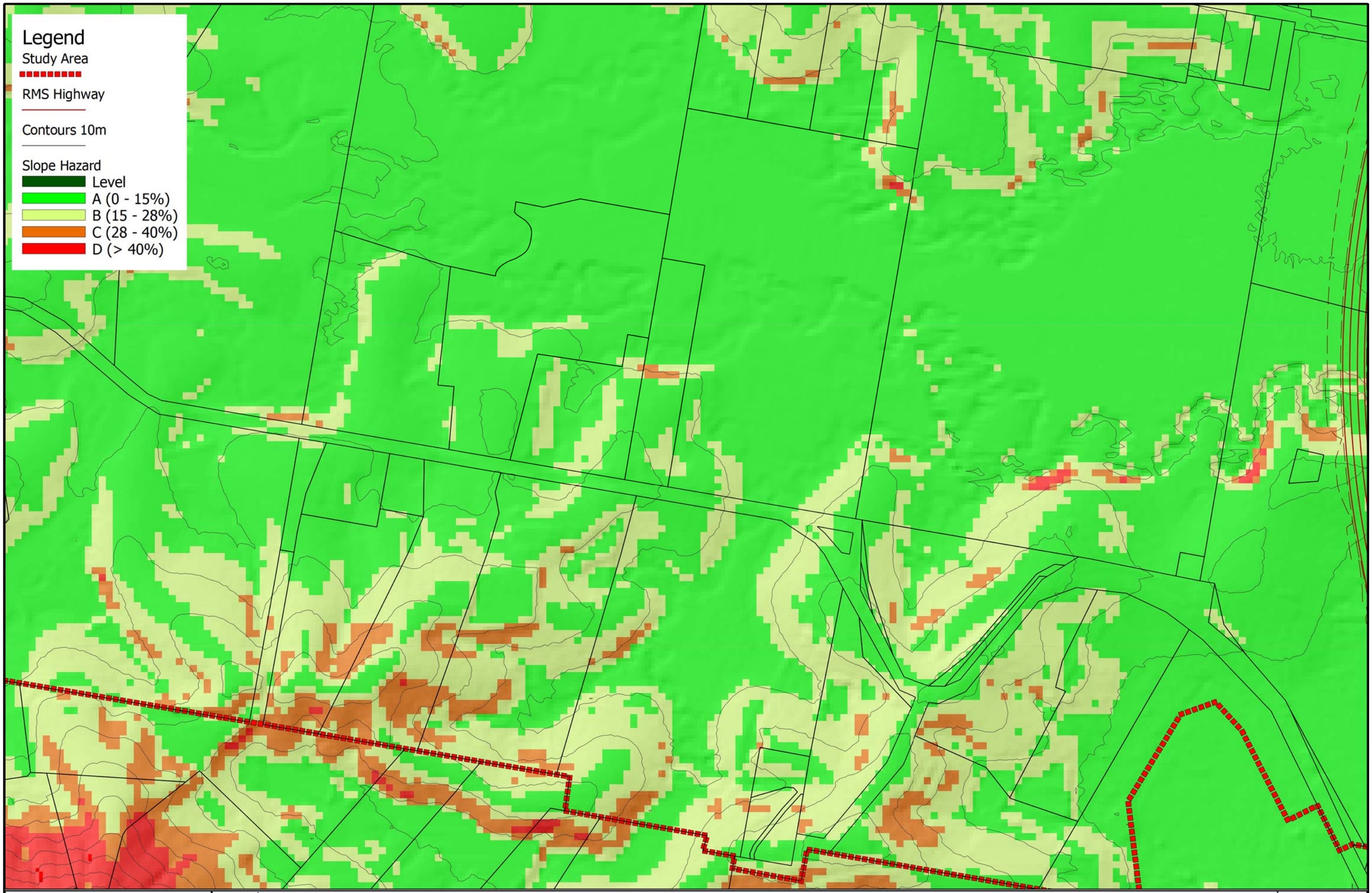
NORTH BOAMBEE VALLEY PLANNING PROPOSAL

Slope Hazard (North)

A NOV 2012 Plan. Prop.

Figure 9

Amendment No.



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NORTH

0 100 200 300 m

NORTH BOAMBEE VALLEY PLANNING PROPOSAL

Slope Hazard (South)

Figure 10

Amendment No.

A NOV 2012 Plan. Prop.

Legend

Study Area

RMS Highway

Historic Banana Lands

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NORTH

0 200 400 600 m

NORTH BOAMBEE VALLEY PLANNING PROPOSAL

Banana Cultivation Areas

A NOV 2012 Plan. Prop.

Figure 11

Amendment No.

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NORTH
0 200 400 Meters

NORTH BOAMBEE VALLEY PLANNING PROPOSAL

BANANA CULTIVATION TESTING

C SEPT 2014 Plan. Prop.

Figure 12

Amendment No. C

RL 55mAHD CONTOUR
(areas shaded blue can be supplied with a reticulated water supply)

Ø250
Ø450
Ø200
Ø150
Ø250 ss
Ø450
Ø200
Ø150
Ø200
Ø450
Ø150
Ø375
Ø375
Existing Water Mains
CHWSS (1999) RECOMMENDED TRUNK MAIN AUGMENTATIONS
Ø200
Ø200
Ø200
ADDITIONAL TRUNK MAIN WORKS PROPOSED BY THIS STUDY
Existing Water Mains

NORTH BOAMBEE RD
ENGLANDS RD
HIGHWAY
PACIFIC
PROPOSED
INDUSTRIAL DRIVE
ENGINEERING DRIVE
FORGE DRIVE
ISLES DRIVE

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NORTH
0 200 400
Meters

NORTH BOAMBEE PLANNING PROPOSAL

WATER SUPPLY CONCEPT PLAN

C SEPT 2014 Plan. Prop.

Figure 13

Amendment No. C

RISING MAIN TO LAKES ESTATE PUMPING STATION

TO ISLES INDUSTRIAL GRAVITY CONNECTION

TO STADIUM DRIVE PUMPING STATION

PRESSURE SEWER RISING MAIN

BYPASS

HIGHWAY

PACIFIC

PROPOSED

INDUSTRIAL DRIVE

ENGLANDS RD

PS1

PS2

PS3

GRAVITY

NORTH BOAMBEE RD

LEGEND

PS1 PUMPING STATION

RISING MAIN

GRAVITY GRAVITY SEWER MAIN

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NORTH

0 200 400

Meters (1:7500)

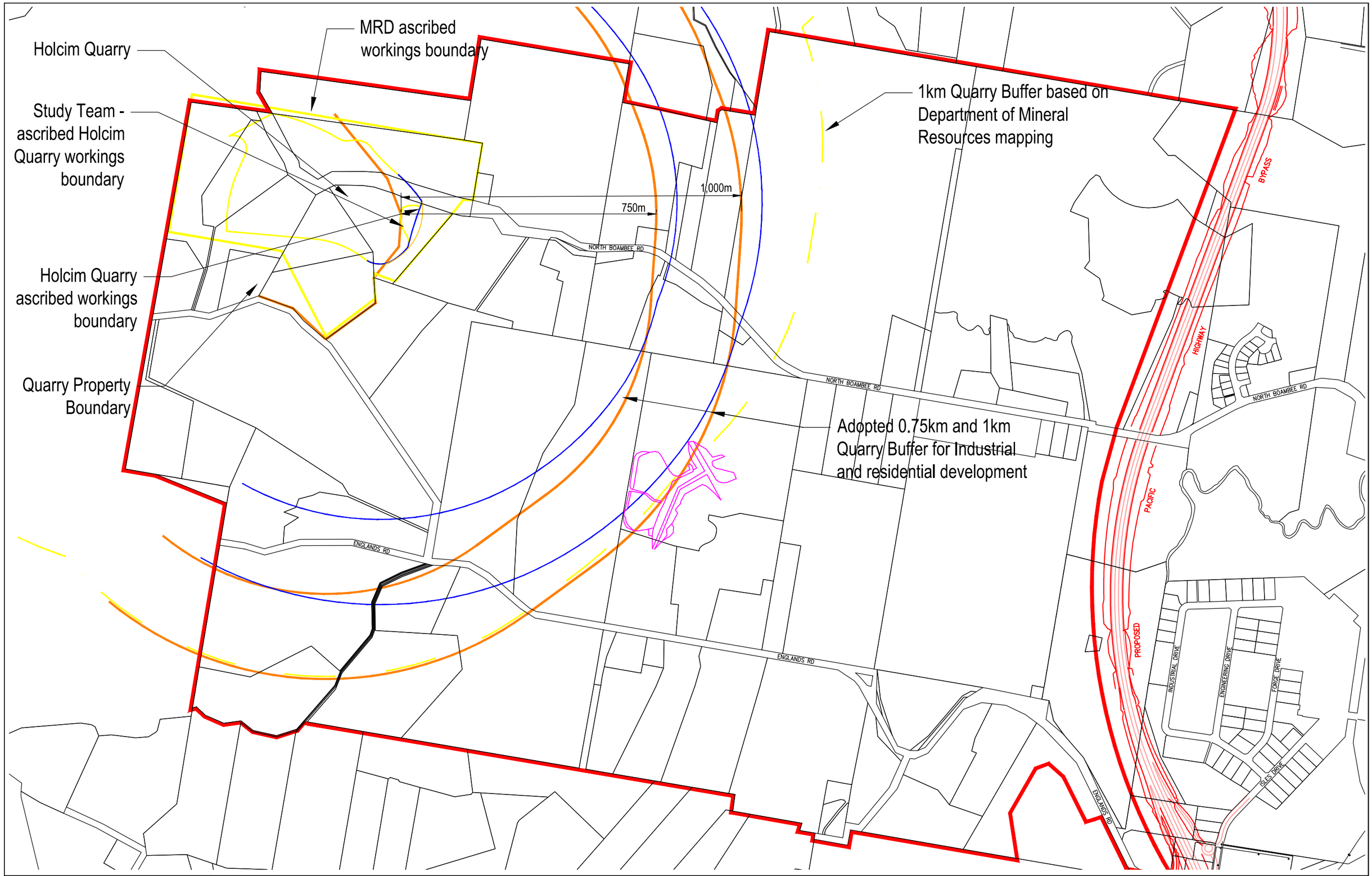
NORTH BOAMBEE PLANNING PROPOSAL

SEWERAGE CONCEPT RESIDENTIAL/INDUSTRIAL AREAS

C SEPT 2014 Plan. Prop.

Figure 14

Amendment No. C



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NORTH

0 200 400 Meters

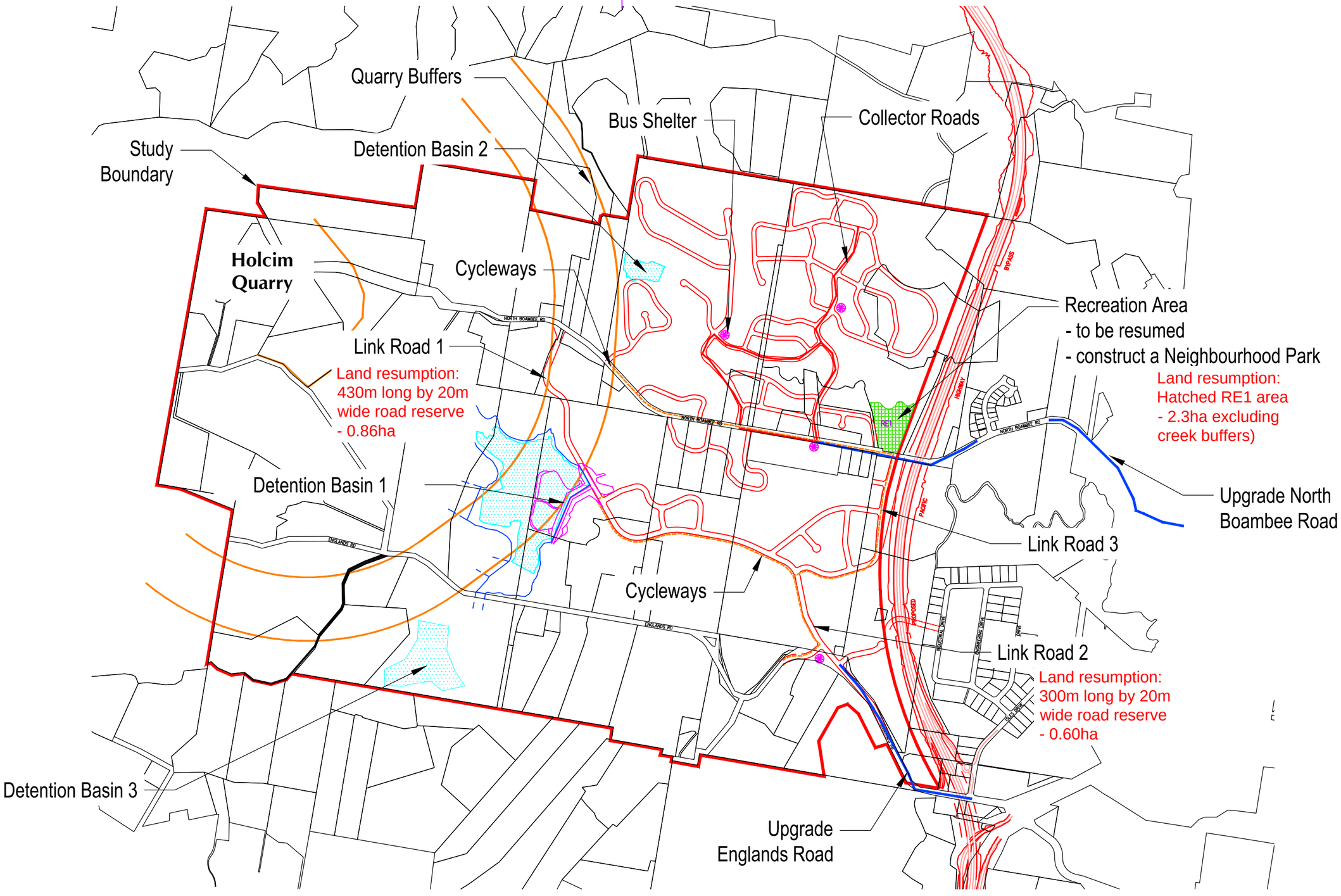
NORTH BOAMBEE VALLEY PLANNING PROPOSAL

QUARRY BUFFERS

C SEPT 2014 Plan. Prop.

Figure 15

Amendment No. C



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NORTH

0 200 400 Meters

NORTH BOAMBEE VALLEY PLANNING PROPOSAL

SECTION 94 Contribution Designated Works

SEPT 2014 Plan. Prop.

Figure 16

Amendment No. C