

Preferred Project Report Lakes Estate Residential Subdivision

Prepared for:

Astoria Group

August 2012

Project No 10034



Preferred Project Report

Lakes Estate Residential Subdivision

Prepared for



By



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Appendix C:	Review of Environmental issues by Ecological Australia Pty Ltd.
Appendix D:	Review of Soil and geotechnical issues by Coffey Geotechnics
Appendix E:	Review of Stormwater and flood water issues by Umwelt

1.0 Introduction

1.1 Overview of Application

This Preferred Project Report (**PPR**) has been prepared by GLN Planning on behalf of Astoria Group in relation to the site known as 'Lakes Estate' Residential Subdivision at North Boambee Road, North Boambee Valley in the Coffs Harbour Local Government Area (**LGA**).

The Project Applicant and principal land-holder of the subject site is Noubia Pty. Ltd. The Astoria Group (referenced in this report as **Astoria**) is the parent development business that controls Noubia Pty. Ltd.

The site is the subject of a Major Project Application (05_129) for a residential subdivision. That application, as lodged, included 196 residential lots, one (1) lot for future subdivision and one (1) lot for bush-land conservation, as well as associated road and access networks and storm-water drainage systems.

1.2 Statutory framework

This report provides the final components required for the submission of the preferred project application for the Lakes Estate project (**the proposal**) as required in accordance with the provisions of the EP&A Act 1979. In this regard, this report:

- Outlines the proposed changes to the project required to minimise environmental impact and provides detail of the preferred project;
- Provides a response to the issues raised by the NSW Department of Planning and Infrastructure (**DPI**), other State Government Departments and Authorities, Coffs Harbour City Council (**Council**), interested parties and the general public during the exhibition period;
- Provides a revised Statement of Commitments for the project.

These three (3) aspects of the report are consistent with the requirements of the now repealed section 75H(6) of the Environmental Planning and Assessment Act 1979 (EP&A Act). This report therefore supports the application to the Minister pursuant to the now repealed section 75J(1) for approval for the carrying out of the project.

This report also acknowledges the repeal of the Part 3A of the EP&A Act and the commencement of the Transitional Arrangements in Schedule 6A of the EP&A Act. Under these provisions this project is identified as a *transitional Part 3A project* but otherwise is not materially affected by these arrangements, which permit the finalisation of the assessment of this project in accordance with the repealed provisions.

1.3 Public Exhibition

The Environmental Assessment (EA) for the original proposal was publicly exhibited for a period of thirty (30) days from 31 August 2009 to 30 September 2009. In response to the public exhibition, written submissions were received from a range of State and local public authorities and agencies, including:

- Department of Planning (Regional Office);
- Department of Environment, Climate Change and Water;
- Coffs Harbour City Council;

- Land and Property Management Authority;
- NSW Office of Water;
- Roads and Traffic Authority;
- Rural Fire Service; and
- Northern Rivers Catchment Management Authority.

In addition to the above, a total of six (6) public submissions were received from neighbours and other interested parties.

The key issues categories identified in the submissions received included the following:

- Urban design and subdivision layout;
- Road network;
- Utility infrastructure;
- Community infrastructure;
- Bushfire protection;
- Environmental conservation;
- Flood and stormwater drainage management;
- Ground conditions; and
- Indigenous and non-indigenous heritage.

1.4 Structure of this Report

A detailed response to each of these issues is provided in **Section 3.0** of this report. Where further specialist consulting advice was required, the response provided by the relevant consultant is attached in the Appendices.

The feedback received from the public exhibition and the consequential review of the project provided clear direction when determining the final form of the preferred project. This process has resulted in a significant reduction in the yield that will be achieved on this site with the number of residential lots being reduced from 196 in the exhibited plans to the 140 in this preferred project. This is significantly lower than the target yield of 169 lots anticipated by Council when it prepared the *North Boambee Valley (East) Development Control Plan* adopted on 9 July 2009.

As a result of the substantial modification and reduction in scale of the proposal, necessary to appropriately address the issues raised in the submissions, a detailed description of the Preferred Project is included in **Section 2.0** of this report. This provides an immediate illustration that the applicant has fully considered the issues raised in the submissions and made substantial modifications to address these.

In preparing this preferred project the Statement of Commitments was also reviewed and a revised Statement of Commitments is included in **Section 4.0** of this report.

This PPR therefore comprises the following sections:

- **Section 1** – Introduction, including overview, statutory framework, public exhibition and submissions;

- **Section 2** – Description of Preferred Project;
- **Section 3** – Detailed listing and response to public exhibition issues; and
- **Section 4** – Revised Statement of Commitments.

The PPR is supported by a number of documents, including amended plans and specialist reports as follows:

- **Appendix A** – Amended plan package.
- **Appendix B** – Review of Traffic Impact by HDS Australia (including plan of Pacific Highway intersection upgrade).
- **Appendix C** – Review of Environmental issues (including vegetation and species management) by Ecological Australia Pty Ltd.
- **Appendix D** – Review of Soil and geotechnical issues by Coffey Geotechnics.
- **Appendix E** – Review of Stormwater and flooding issues by Umwelt.

It should be noted that the letters of review by the relevant consultants also reference their previous reports, which were submitted as part of the project application.

All previous reports submitted as part of the project application continue to inform the preferred project, except as altered by this **PPR**.

2.0 Preferred Project

2.1 Overview

The exhibited proposal was amended in a number of respects in response to submissions received during the exhibition period. These changes are summarised in **Section 2.3** below and are reflected in the amended plan package included in **Appendix A**. The changes primarily respond to the management of public land generally and consequently have resulted in a substantial reduction in private development. More specifically, the modifications improve the layout to protect koala habitat, increase public open space, provide better connections to adjoining estates and improve management of bushfires, stormwater and riparian areas.

The modifications have been carried out in response to the submissions received and have been reviewed by a number of specialist consultants. The final written comments from the relevant consultants are provided in **Appendices B to E**.

2.2 Preferred Project subdivision layout

In response to the issues raised in the various submissions and as a result of subsequent design refinements, the Proponent has revised the subdivision layout for the proposal and this is illustrated in **Figure 1**.

The full set of submitted plans is included in Appendix A. All are labelled under project number 912 and can be clustered broadly into two groups:

Plans identifying the constraints and controls that apply to the site and which have directed the nature of the development:

- **A001 D** – Location Plan, incorporating an aerial photograph and lot and Deposited Plan (DP) details
- **A002 D** – Surrounding development plan indicating the layout of approved development proposals in the immediate vicinity of the subject development (all at various stages of construction);
- **A003 F** – Zoning Plan, illustrating the proposed subdivision layout on the background of the zoning of land;
- **A004 F** – Koala Habitat Plan, indicating both primary and secondary habitat areas and corridors;
- **A005 F** – Previous Banana Plantation Areas Plan; and
- **A006 F** – Combined Constraints Plan, combining the information of plans A002-A005 to illustrate the primary factors the proposed layout was determined.

Plans describing the Preferred Project

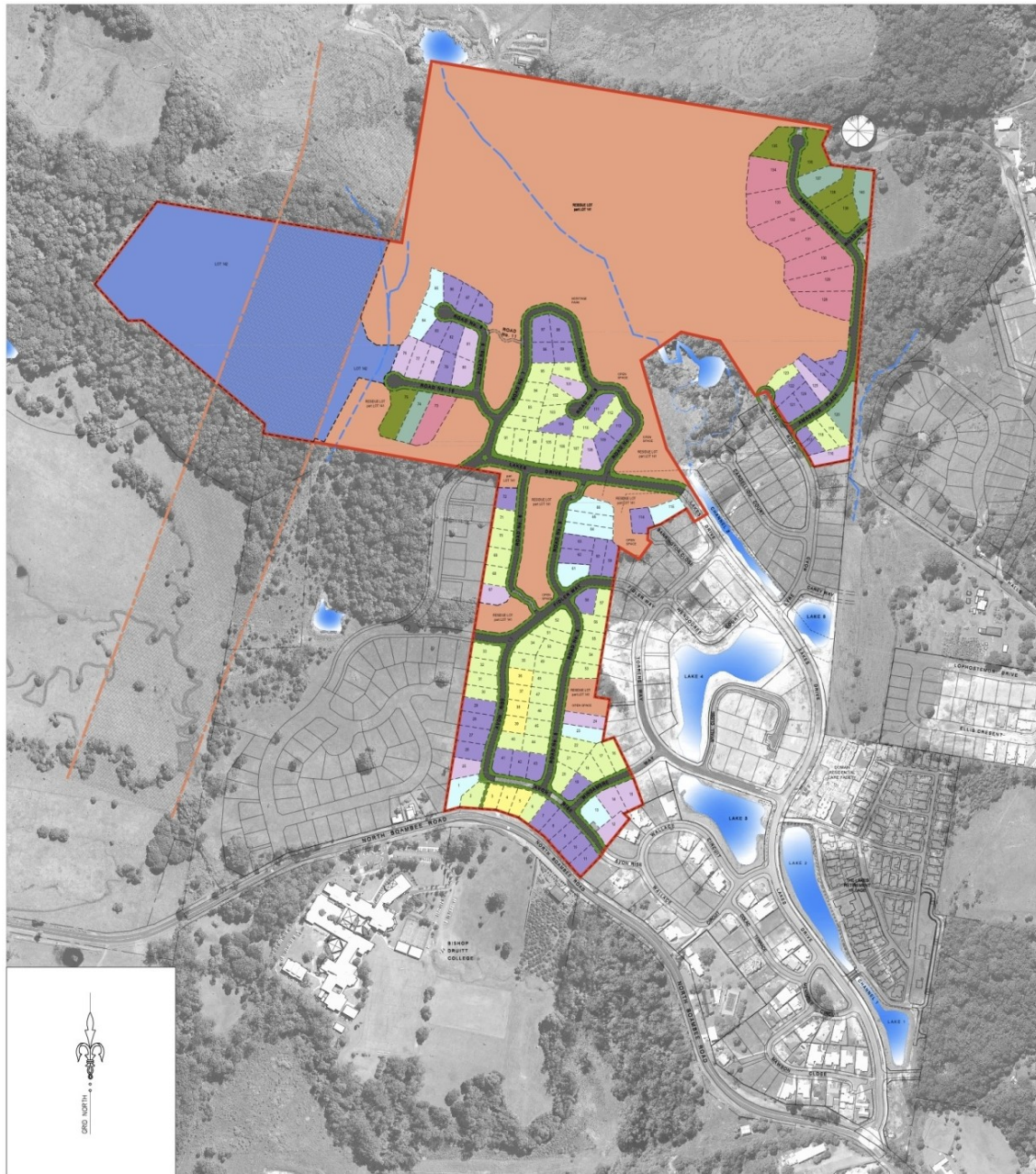
- **A007 G** – Open Spaces Plan, identifying open space and bushland areas;
- **A008 G** – Roads and Movement Access Plan, illustrating the road network, pedestrian and cycle paths, fire trails, future bus routes, areas of restricted traffic flow and koala culverts;
- **A009 F** – Services Plan, identifying powerlines, water supply mains, stormwater mains and sewer mains;
- **A0010 D** – Subdivision Layout Plan, also including a colour code for different lot sizes;

- **A011 D** – Subdivision Staging Plan, providing colour code of likely staging and maximum building envelopes; and
- **A012 C, A013 D and A014 D** – Subdivision Stage Plans for each of the 3 stages, providing more detailed information at a larger scale.

A breakdown of the lot sizes and numbers of each is provided in the Subdivision layout Plan provided as **Figure 1** and summarised in **Table 1**.

Table 1 Lot numbers and sizes

Matter	Requirement	Comment
600 – 700	7	5.0%
700 – 800	51	36.4%
800 – 900	40	28.6%
900 – 1,000	15	10.7%
1,000 – 1,200	10	7.1%
1,200 – 1,600	4	2.9%
1,600 – 2,000	5	3.6%
2,000 – 2,600	8	5.7%
TOTAL	140	100%



LEGEND

--- WATERWAY
 --- SUBJECT SITE

--- FUTURE HIGHWAY BI-PASS CORRIDOR

LEGEND - LOT AREAS

600-700 m ² - 7 Lots (5.0%)	1000-1,200 m ² - 10 Lots (7.1%)
700-800 m ² - 51 Lots (36.4%)	1,200-1,600 m ² - 4 Lots (2.9%)
800-900 m ² - 40 Lots (28.6%)	1,600-2,000 m ² - 5 Lots (3.6%)
900-1,000 m ² - 15 Lots (10.7%)	2,000-2,600 m ² - 8 Lots (5.7%)
TOTAL - 140 Lots (100.0%)	

AMENDMENTS			
ISSUE	DRAWN	DESCRIPTION	DATE
A	DD	PRELIMINARY FOR COUNCIL APPROVAL	23/07/12
B	DD	LOT 142 ADDED	09/08/12
C	DD	LOT 141 & 142 HATCH & ROAD NAMES ADDED	15/08/12

NOTES			
Lengths shown are in metres. Distances & Areas are subject to further Survey.			
Building setbacks according to DCP are as follows:			
6 metre setback from Primary Street Frontage			
3 metre setback from Secondary Street (Corner Lots)			
20 metre setback from Creek & Watercourse			
20 metre setback from side of road boundaries and			
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CHECKED	DRAWN	SCALE	
KS	DD	0 25 50 100 150m	
PROJECT NO.	LOT No.	DWG No.	REV. No.
912	-	A0010	C

Figure 1 Preferred Project subdivision layout

2.3 Key changes from original proposal

The submissions identified a number of issues necessitating this PPR undertakes a holistic review of all the constraints affecting the land and amending the layout accordingly. The key changes are therefore also identified and discussed in '**Section 3.0 Responses to key issues**'.

Nevertheless, in broad terms the key changes include:

- Reduction in total number of residential lots from 196 to 140;
- Removal of all residential development lots from land zoned 7A and providing open space in the central location along Lakes Drive between Stages 2 and 3;
- A significant reduction in Stage 3 lots, enhancing koala habitat areas as well as corridors and linkages to land to the east;
- Inclusion of restricted traffic flow measures to reduce risks to koalas on the road as well as inclusion of culverts below the road in key locations, also to facilitate the movement across the area by koalas;
- Removal of large lots adjoining the proposed Highway Bypass corridor and enhancing the riparian zone in this location, which serves to create a buffer to the future highway.
- Review and alteration in arrangement of lots adjacent to Highway Bypass corridor to account for impact of bushfire asset protection zones;
- Provision of a clearer arrangement for the management of bushfires, including location of fire trails on public land and management of asset protection zones throughout;
- Relocation of the reserve for indigenous artefacts to an area immediately adjoining bushland and along a pedestrian pathway, where there can be potential educational benefits as suggested in the heritage report;
- More coherent and integrated management of stormwater in conjunction with open space areas, walking paths, riparian corridors and bushland;
- Additional pedestrian connection to North Boambee Road providing a more direct linkage to the school across that road; and
- Review of road linkages to adjoining land parcels, providing the most efficient linkages to these and ensuring consistency with existing approvals.

3.0 Response to key issues

This section provides a summary of the issues raised in the submissions and a response to those issues.

3.1 Urban Design and Subdivision Layout

3.1.1 Issue: Non-compliance with LEP zone.

The exhibited proposal included the subdivision, for residential purposes, of land that is zoned 7A Habitat and Catchment Zone (Zone 7A), under the Coffs Harbour LEP 2000. This matter has been addressed by amending the subdivision layout so that all proposed residential lots are located wholly on land zoned Residential 2A Low Density Zone (Zone 2A). Refer to **Appendix A**, Plan A003.

3.1.2 Issue: Inadequate active open space.

The DPI comments indicate that the “*subdivision design at present provides for very little open space ... the land outlined for subdivision in the 7A zone... could instead be utilised for a public open space and recreation area.*” As illustrated in **Figure 2** (extract from Plan A007), the proponent has complied with this request.



Figure 2 Neighbourhood Parks

The Council submission states that it raises no objection to the proposal for additional neighbourhood parks, playgrounds, subject to no costs, including those of land acquisition, being borne by Council.

The proposed open space areas:

- are a natural extension to previous open space areas, which were transferred by the proponent to Council under a previous application (shown as light green in Figure 2);
- are zoned in a way that makes open space an appropriate use;
- include a pedestrian/ cycle path;
- include a 'heritage park' that could accommodate any indigenous or non-indigenous heritage items from other parts of this site to be used for educational purposes as suggested by the heritage study; and
- provide a public benefit to the future residents and community of this area.

We note also that one of the submissions from local residents specifically requested more parks and green space: *"It would be lovely to see more parks, more greenery in this area"*.

The commonly used benchmark standard for the required area of open space provision is 2.83 hectares per 1,000 residents. The Coffs Harbour Council's *North Boambee Valley Stage 1 Release Area Developer Contributions Plan 2008* assumes that the occupancy rate for detached housing is 3.2 persons per dwelling.

Given that the proposed development will include 140 residential lots, the expected population arising from this development will likely be approximately $140 \times 3.2 = 448$ residents.

At 2.83 ha/1,000 residents, the required open space is 1.268 hectares. The proposal now incorporates just over 4.0 hectares of open space that may be used for passive and active recreation.

It is therefore reasonable to request that the public benefit should be recognised and accounted for in determining the development contributions payable for the site.

3.1.3 Staging and dedication of open space areas

The Council submission states that *"The EA does not detail the timing or staging of dedication of open space areas relative to VMP works and the subdivision staging."*

The proponent has consolidated all the land to be acquired by Council (with the exception of the road network) into lot 141. This land could be transferred to Council as soon as the lot is formally created and any preconditions to the acquisition are satisfied. The proponent commits to working with the Council to establish satisfactory arrangements for the timing and terms of the acquisition.

3.2 Road Network

3.2.1 Issue: Connections to Highlands Estate (south-west of site).

It is noted that the North Boambee Valley (East) DCP provides three connections to the Highlands Estate and the comments by both DPI and the Council reinforce this requirement. In

preparing the PPR the proponent was made aware that an approval was obtained in relation to that adjoining Highlands Estate site (DA 711-06).

As requested by the DPI and Council, the proponent has contacted Newnham Karl Weir & Partners Pty. Ltd. (**NKW**), who prepared the plans for the Highlands Estate. A copy of the most recent plans was requested and details of the Lakes Estate subdivision layout were provided to ensure that the road networks of the two developments aligned. These plans confirm that there is provision for a total of two connections from Lakes Estate to Highlands Estate.

This PPR includes Plan 912 – A002 – Surrounding Development Plan. This plots the development in the surrounding area, including the Highlands Estate, as constraints for the development of the subject site. An extract of this plan is included in **Figure 3**.



Figure 3 Connections to Highlands Estate

3.2.2 Issue: Connection to Kratz Drive Estate (north-east of site)

The connections to the north-east differ from those to Highlands Estate in that there are no current approvals for development to Kratz Drive. In assessing roads and movement in and around the subject site, “possible future road links” (purple dashed line) have been identified (refer 912-A008). An extract from that plan is included as **Figure 4**, showing also existing bushland and likely Asset Protection Zones.

The connection to a potential future Kratz Drive Estate has been provided in order to maximise the potential development in that area. Note also that the provision of a small area of open space in this location allows for some minor adjustments to the road location that could be made by the adjoining owner if necessary.

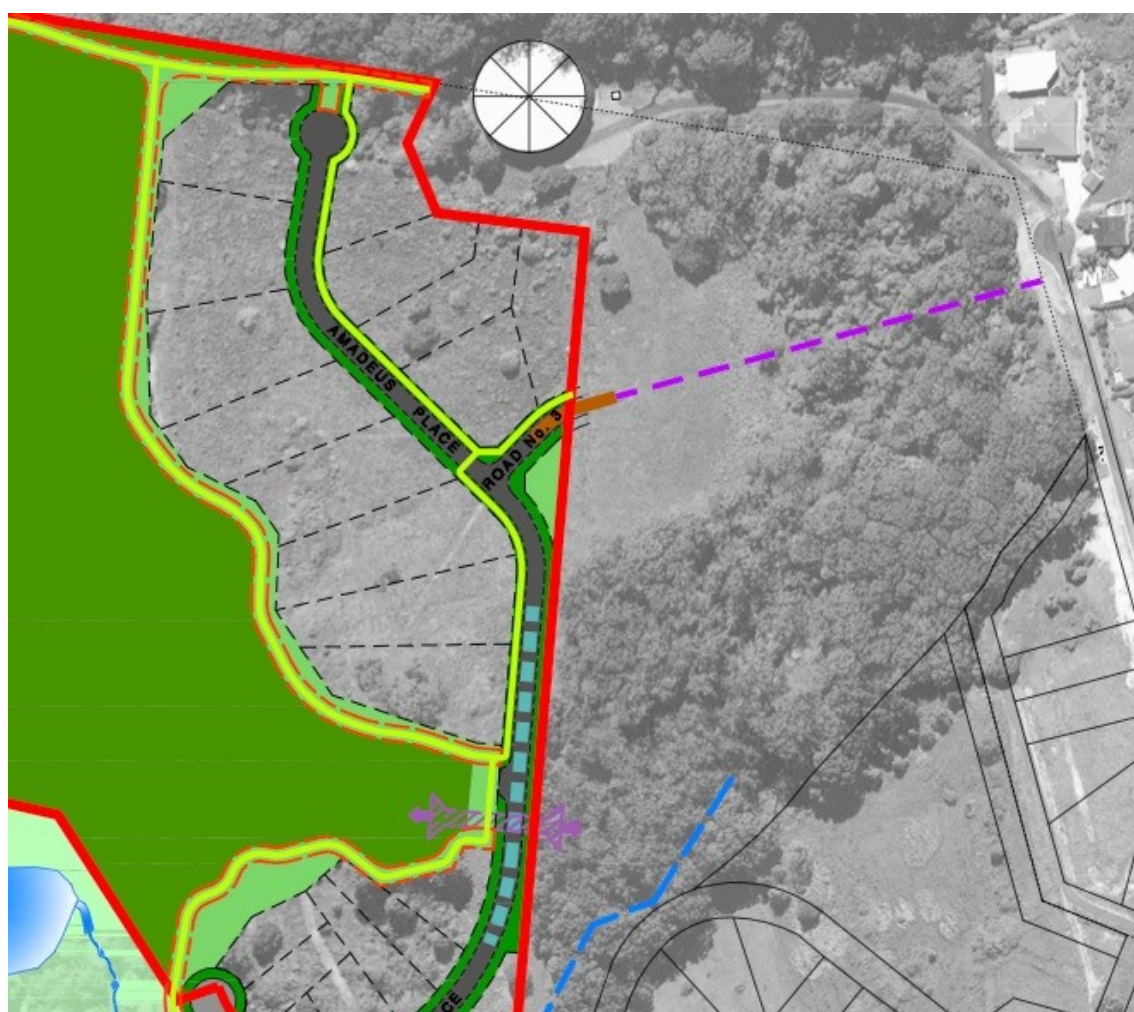


Figure 4 Connections to Kratz Drive

3.2.3 Issue: Consider extending Road 4 or 5 to North Boambee Road

Consideration has been given to extending either road 4 or 5 to North Boambee Road by referring the matter to HDS Australia (**HDS**), the civil engineers responsible for providing advice in relation to the management of traffic. Their detailed response is included as **Appendix B**. They have concluded that: “Providing additional road connections onto North Boambee Road is not considered warranted and should be discounted.”

They have included a number of reasons for this including the following:

- The proposal has been reduced from 196 to 140 lots, substantially reducing future traffic volumes;
- *“The two intersections (1 existing and 1 proposed) will ultimately service approximately 325 dwellings...[which] could comfortably accommodate the projected traffic flows”.*
- *“further it is desirable to minimise the number of intersections onto higher order roads to enhance safety and minimise delays and congestion”;* and
- *“It is noted that the existing topography near North Boambee Road in these locations is relatively steep... which creates potential safety issues...”*

Figure 5 illustrates the connections to North Boambee Road and also illustrates the addition of a pedestrian and cycle link, which now more directly connects the estate to Bishop Druitt College on the opposite side of North Boambee Road.



Figure 5 Connections to North Boambee Road

3.2.4 Issue: Capacity of North Boambee Road

The traffic carrying capacity of North Boambee Road has also been addressed by HDS (refer **Appendix B**) and they conclude that: *“...the proposed development will not result in North Boambee Road operating beyond capacity.”*

Reference is made by HDS to Council's classification of this road as a collector, which is designed for a capacity of 12,000 vehicles per day, compared to the 3,000-6,000 range referred to in earlier reports. The report further states that that *“as part of the modelling of future traffic growth, Council assumed that North Boambee Road would ultimately service 800 equivalent lots (8,000 vpd) which is consistent with it operating as a collector road. The development is only contributing an additional 140 lots compared to the DCP assumption of up to 200 lots.”*

It is therefore considered that no further action is required in relation to this matter.

3.2.5 Issue: Impacts of development on congestion at Pacific Highway intersection

The impact of the development proposal on the Pacific Highway intersection was raised a number of times in the submissions including by local residents. The matter has been reviewed by HDS, the proponent's traffic consultants, and a detailed response is provided in **Appendix B**.

HDS held discussions with the State Roads Authority who advised that they are proposing to upgrade this intersection *"and anticipate construction in 2014"*. HDS further notes that the proposed upgrade was designed on the basis of the higher lot yield for the precinct that was originally anticipated in Council's DCP and through earlier planning. They conclude:

"In light of the above, it is considered that the RTA's proposed intersection upgrade works has ultimately taken a conservative approach to the future traffic flows ... and no further investigations of this matter would be required."

3.2.6 Issue: Impacts on Crown roads – adjoins 7A land will not be affected.

The submission from the Land and Property Management Authority indicates that the subject site *"adjoins an unnamed Crown public road on its north western boundary..."*. The Authority requests that the Proponent does not:

- *Encroach upon the road;*
- *Remove any vegetation from the road; or*
- *stockpile any materials or store any equipment, machinery or plant on the road.*

The proponent notes that this road is separated from the principal development areas by a significant area of bushland and so is physically remote from the development at the site. Nevertheless, the proponent commits to ensuring that the road is not affected in the manner identified above.

3.2.7 Issue: Provide access to lot 101 west of proposed highway

The Council submission refers to the residue lot identified as lot 101 in the EA and states that the *"EA should detail a legal access arrangement to this lot."* This residue lot relates to land that will be sterilised by the proposed highway bypass.

As a result of the redesign of the precinct the area previously identified as lot 101 is now identified as lot 142 and, as illustrated in **Figure 6**, has been provided with direct access from a proposed new road (Road No.10).



Figure 6 Connections to proposed lot 142

3.2.8 Issue: Alternative transport modes, including buses, bicycles and pedestrians and associated infrastructure, bus-shelters etc.

The RTA submission indicates that the “*subdivision layout needs to be designed to provide for other modes of transport such as buses, bicycles and pedestrians.*” The proponent has identified a pedestrian and cycle network that is illustrated on Plan A008 – Roads and Movement Access Plan.

The same plan identifies Lakes Drive as the likely future bus route through the estate. It is noted that part of this route is required to have restricted traffic flow to minimise risk for koalas. The proponent intends to discuss this matter in detail with Council to ensure that both objectives are appropriately addressed with the detailed road design at the construction certificate stage.

3.3 Utility Infrastructure

3.3.1 Issue: Agreement to be reached with Highland Estate regarding the 66kV power line

The DPI requested that “*An agreement with North Boambee Estate Pty Ltd. must be reached in regards to the existing 66kV overhead power line located within the proposed Stage 1 area and traversing westwards to the Highlands Estate.*”

Discussions have been held with the adjoining owner and no formal written agreement has been reached. The neighbour's submission acknowledges that the Council DCP *"has taken this power line into account by locating one of the road connections on this alignment."* The proposal outlined by the PPR aligns with the layout illustrated in the DCP and also provides a road connection on this alignment.

The proponent will commit to making all necessary allowances for all adjoining owners to connect to the existing power lines.

3.3.2 Issue: Agreement to be reached with Highland Estate regarding the sewerage infrastructure

The DPI requested that *"An agreement with North Boambee Estate Pty Ltd. will also be required in regards to connections to existing sewerage infrastructure..."*

We understand that the owners of Highlands Estate have now connected the sewerage infrastructure to their site by extending the sewer main along North Boambee Road and then into the site from the newly constructed roadway.

Our advice is that this connection is sufficient to service the entire Highlands Estate development site.

3.4 Community Infrastructure

3.4.1 Issue: Confirm that conservation lot will be dedicated to Coffs Harbour Council

The land identified as proposed lot 141 includes all the bushland and open space land on the estate.

Council's submission included a statement that the *"proponent's intention to retain ownership of the 7A land is contrary to the provisions of the contributions plan..."* The 7A land includes the bushland koala habitat and also the open space land.

In accordance with the North Boambee Valley (East) Release Area Contributions Plan 2012 (last amended 2 August 2012) provision has been made by Council for the acquisition of the bushland as Koala habitat and the open space areas for active and passive recreation uses. The Statement of Commitments (**SO**C) will include a commitment to transfer lot 141 to Council based on the value of the land. This can occur by way of a private treaty sale of the land to Council as provided for at page 7 of the Contribution Plan.

In order to facilitate the transfer of the land to Council, lot 141 is proposed to be created with a total area of 213,656 m², composed as follows:

- Bushland – 173,269 m²
- Open Space – 40,387 m²

3.4.2 Issue: Street trees

Council's submission suggests that the number of street trees proposed is maintenance intensive. The Preferred Project includes a reduction in the number of street trees so that they are consistent with Council's street tree maintenance regime for the remainder of the city.

The proponent commits to providing trees consistent with Council's standard of provision in other areas so as to ensure that the proposed works do not increase Council's costs relative to other areas.

3.5 Bushfire Protection

3.5.1 Issue: Provide details of fire trails and Asset Protection Zones

Council's submission requires that Fire trails should not be located on private property. All fire trails are now proposed to be located within lot 141, which will be transferred to Council.

The fire trails are identified on Plan A008 – Roads and Movement Access Plan.

The location of Asset Protection Zones are provided on Plan A006 – Combined constraints Plan as well as on the detailed subdivision layout plans (A012-A014) showing its relationship with the likely development of lots.

Given the substantial expansion of bushland to provide for koala habitat there is a consequential increase in the risk from bushfires. The improved fire trail and open space network provides a higher level of protection than originally proposed. Particular mention should be made of the following areas.

Stage 2

Figure 7 illustrates the subdivision pattern in the most western edge of stage 3. The northern lots, 85-88, are potentially most affected by a bushfire risk, although the building footprint is generally located at distances greater than 21 metres from bush. By contrast, the southern-most lots, 73-75, have a substantial buffer.

Although not proposed at this stage, roads 9 and 10 could be relocated further south so as to reduce the size of lots 73-75 and increase the size of lots 85-88 so as to reduce the risk for the northern lots.

The current arrangement aims to avoid logging primary or secondary koala habitat. To further reduce fire risks some additional koala habitat would need to be removed south of the intersection of roads 9 and 10.



Figure 7 Stage 2 configuration and APZ

Specific Lots

Lots 67, 76, 12,136 and possibly lot 128 will result in a building footprint within the area recommended as a buffer by the Bushfire planning consultant. The proponent commits to the inclusion of a s88B instrument on title advising future purchasers of this higher risk. The proponent will also, of course, construct any buildings in this area in accordance with the appropriate construction standards.

3.6 Environmental Conservation

3.6.1 Issue: Revise Stage 3 to preserve koala habitat and corridor

The key issues identified by the DPI included that:

“Consideration should be given to the deletion of Road No. 2; realignment of other proposed roads within Stage 3; and a revised lot layout created in this area to preserve all koala habitat and the existing habitat corridor.”

Stage 3 has been substantially redesigned both to retain koala habitat and better address the slope of the land. The road previously referred to as Road No. 2 has been removed and other roads have been realigned as requested.

Figure 8 illustrates the previous road pattern in this area, while **Figure 8a** illustrates the current subdivision layout, which more fully accommodates the koala habitat and corridors.

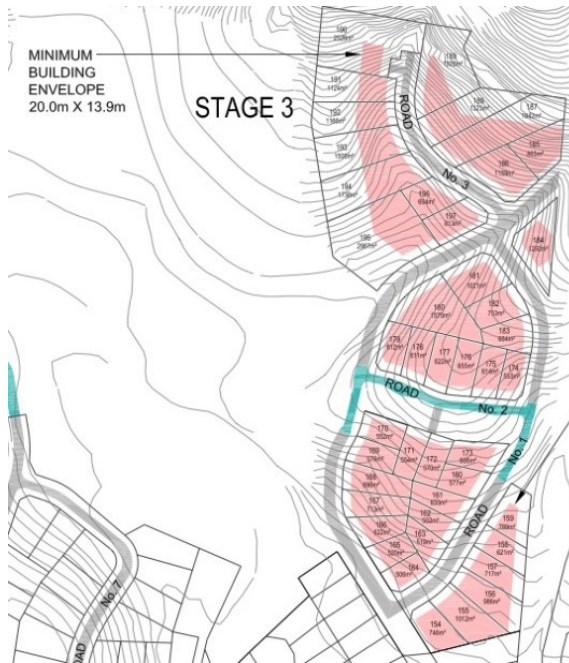


Figure 8 – Project Plan Application – Stage 3



Figure 8a – Preferred Project – Stage 3

3.6.2 Issue: Retention of Primary and Secondary Koala habitat

The general approach in the design of the subdivision layout has been to avoid tree removal so as to minimise impacting on Koala habitat. Accordingly, all Primary or Secondary Koala Habitat, comprising remnant vegetation or within identified corridors, will be retained in lot 141.

The only area of koala habitat outside lot 141 is in the southern part of the site. **Figure 9** identifies the koala habitat in this location. The proposed open space identified in **Figure 9A** will be part of lot 141 and will be acquired by Council, while the remainder will be on private land and on the roadway.

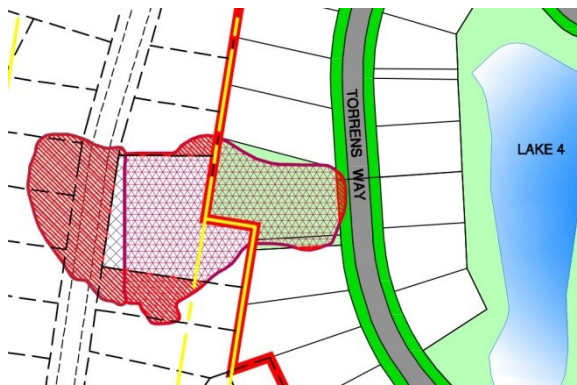


Figure 9 – Identified Koala habitat

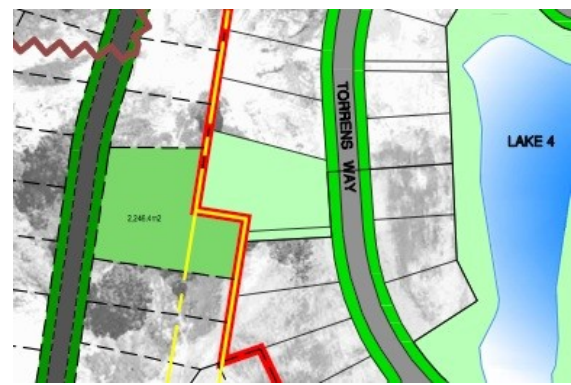


Figure 9a – Proposed open space

The inclusion of Road No. 5 will necessarily require the lopping of trees in that location. Where possible trees will be retained on private land although the provision of driveways and adequate building footprints will necessarily require some lopping.

The only other location where koala habitat is proposed to be removed is depicted in **Figure 10**, adjacent to lots 126 and 127 as identified in **Figure 10a**. This is a narrow strip of secondary koala habitat that is proposed to be removed so as to provide a fire trail and pedestrian path. As illustrated in **Figures 8 and 8a** above, this represents a significant reduction in tree removal when compared with the original project application.



Figure 10 –Koala habitat removal at Stage 3



Figure 10a – Lot identification

In the context of the significant reduction in development yield for the project, including a reduction below that which was anticipated under the DCP, it is considered that the minor loss of habitat in these areas is appropriate and reasonable. This matter has been noted by the environmental consultant in the report at **Appendix C**.

3.6.3 Issue: Prepare Vegetation Management Plan

In accordance with the item 3.4.1 above it is intended that lot 141 will be transferred to the ownership of Council and so it is considered that all vegetation that would otherwise be managed through a VMP will be the responsibility of Coffs Harbour City Council.

This matter was discussed with Eco Logical Australia Pty. Ltd. (Eco Logical), the proponent's environmental consultants, who have reviewed the submissions in the context of their original report. Their further comments are included in **Appendix C**. They have confirmed that:

"Typically a Plan of Management (PoM) would be prepared by Council to manage these lands. The PoM should include measures to deal with the major issues present on the site, set objectives for management and identify appropriate management actions and on ground works to be undertaken within a given timeframe. The following set of 'standard' management actions for conservation lands, based on guidelines developed by OEH for the Biodiversity Certification Assessment Methodology (BCAM), are an excellent basis for the development of a management plan for these conservation areas and include the following:

- *Weed control*
- *Management of fire for conservation*
- *Management of human disturbance*
- *Retention of regrowth*
- *Replanting or supplementary planting where natural regeneration will not be sufficient*
- *Retention of dead timber*
- *Erosion control*
- *Retention of rocks*

In addition to these general management actions, there will be a number of species specific recommendations that relate to the ecological values present on site including the presence of both Primary and Secondary Koala Habitat.

Finally, the management of these lands must be undertaken in accordance with the Coffs Harbour Comprehensive Koala Plan of Management.

It is proposed to include commitments in the SOC to comply with the provisions of the Council's relevant Plans of Management.

3.6.4 Issue: Protection of Grey-headed flying fox.

Reference is made in the memorandum from the Northern Region branch of the DPI to the requirement of a risk assessment to identify any impacts to grey-headed flying foxes in the area. The matter was referred to the proponent's environmental consultant and their detailed response is included in **Appendix C**. Briefly, they advised that:

There was no observation of a camp, transitory or maternal roosting site present...Buffers, risk assessments and dedicated management planning are more likely required where development is occurring directly adjacent to established camps.

3.7 Flood and stormwater drainage management

3.7.1 Issue: Increased impact of flooding on Pacific Highway intersection

This matter has been addressed by the proponent's flood and drainage management consultants (Umwelt). Their detailed response to the issues raised in the submissions are included in **Appendix E**. They have reiterated that the general approach in the design of the lakes stormwater detention system is that post-development peak flows will be less than or equal to pre-development peak flows.

"As such the proposed development is expected to have negligible impacts on flood flows downstream of the Lakes Estate detention system. This includes the area ... along North Boambee Road and the Pacific Highway."

It is further noted that the RMS is now proposing to upgrade this intersection as indicated in item 3.2.5 above for the management of traffic at this same intersection. It is assumed that any flood management issues will be addressed through the design process.

3.7.2 Issue: Outline any WSUD techniques to mitigate run-off and pollutant impact on habitats

Umwelt have considered this matter and concluded that:

"The original stormwater management system (GHD, 1997) and the constructed five lakes and one wetland system (Umwelt, 2003) were designed to meet the following objectives:

Stormwater Detention – *post-development peak flows from the site will be limited to less than or equal to the pre-development peak flows from the site for each storm event up to the 100 year Average Recurrence Interval (ARI) storm event.*

Water Quality – *export rates of 0.5 mg/L of total nitrogen (TN) and 0.05 mg/L of total phosphorus (TP) are not exceeded for more than six months of a median rainfall year.*

Proposed catchment scale controls are based on an integrated creek and detention basin network designed to assist in the nutrient and pollutant removal from stormwater generated within the site."

The management of stormwater and flood-waters across the site are part of a broader strategy for this and surrounding development at North Boambee Valley. Much of this system has already been approved by Council and constructed by the proponent as part of previous stages of development. This proposal simply integrates into the existing systems.

3.7.3 Issue: Assessment of Probable Maximum Flood

The DECCW submission notes that the *"flood assessment has not reported on the behaviour of the Probable Maximum Flood. This is required to identify all flood prone land and whether any emergency management needs to be addressed."*

This is a matter that should be considered prior to the rezoning of land. The water management system for this and surrounding development precincts has already been designed, approved by Council and constructed.

As indicated in the next section, although the PMF has not specifically been assessed, the conservative approach to the assessment of Climate Change impacts confirms that more significant rainfall intensities and volumes have been considered in the design for water management.

3.7.4 Issue: Potential Impacts of Climate Change

The issue raised by the (then) Department of Environment, Climate Change and Water (DECCW) suggests that the assessment of Climate Change impacts "may be too conservative" in its assumption of a 30% increase in rainfall intensity and volume. DECCW suggests that an upper bound of 10% is considered to be more appropriate in accordance with CSIRO reports.

The proponent will review the sensitivity of the flood regime to increases in intensity and volume to determine whether further adjustments are required to the final floor levels or other design measures. However, the approach taken by the proponent to date, being conservative, serves to demonstrate that the proposal is acceptable with regard to likely future flood related risks.

3.7.5 Issue: Assessment of cumulative impacts of similar developments across the complete Newports and Boambee Reek catchments.

The assessment of cumulative impacts of development is a matter for Council prior to the rezoning of land. As previously indicated, the water management for the broader area has, in fact, been carried out and approved by Council. The lakes and wetlands system has been constructed to serve development including as well as beyond the subject site.

3.7.6 Issue: Impact of fill on flood regime

The DPI (Northern Region) requests that consideration be given to the likely effects of fill on the flood regime of the site and adjacent land. This matter was considered in the review of submissions by Umwelt. They conclude that:

"The modelling indicates that channelisation of these flows and associated filling will not increase flood levels downstream of the proposed development areas.

In addition, the proposed modifications of the development plans remove the need for some of the filling works within the 100 year ARI flood event."

3.7.7 Issue: Lots 91, 93, 102 and possibly other lots run across a drainage depression

The Council submission identified that several lots included in the original project application were located in a drainage depression. These are shown in **Figure 11** and, as illustrated in **Figure 11A**, these lots have been removed.



Figure 11 – Lots 91-104 in Project Plan Application.



Figure 11a – Lots removed in Preferred Project

3.7.8 Issue: Lots 87 to 106 are affected by flooding

The Council submission states that lots 87 to 106, identified in **Figure 11**, are affected by flooding. This matter was considered in the review by Umwelt.

Umwelt have concluded that:

“Potentially two lots within the western catchment are located within the 100 year ARI flood extent, however the layout provides sufficient land for a building envelope to be located outside the modelled flood extents.”

3.8 Ground conditions

3.8.1 Soil contamination

The DECCW submission expresses “concerns regarding soil contamination and recommends that additional soil testing is undertaken...”

This matter was considered by Coffey Geotechnics, the proponent’s specialist consultant whose detailed report is included in **Appendix D**. In relation to soil contamination generally they conclude:

“these issues are not unusual and normal development protocols and engineering advice can address these... Such issues are normally identified in the planning stage of the project, and then addressed in detail following approval of the development, but prior to final approval for subdivision.”

The details of these protocols, provided in the letter from Coffey, are included in the Statement of Commitments.

3.8.2 Issue: Geotechnical engineering

The Council submission expresses some concern about the steepness of roads as well as certain lots. The amended design has more carefully reviewed the location of roads to ensure that they more closely follow land contours so as to minimise engineering costs of construction and also to ensure that the development lots are more accessible and usable.

The review of this matter by Coffey notes that:

“The new lot layout limits further development of the lower lying water course and provides for generally gently to moderately sloped lots across much of the proposed development. Whilst internal road design has not been fully completed (which is expected for a pre approval project) we understand that the proposed road network will not require significant retention structures or supported cuttings. Further to this inter allotment retention structures are not likely to be required.”

3.9 Indigenous and non-indigenous heritage

3.9.1 Issue: Provision of Aboriginal Heritage Reserve

“DECCW supports the proposal to create an Aboriginal Heritage Reserve ... in the northern portion of the project area ... in acknowledgement of the ACH [Aboriginal Cultural Heritage] values of the area and as an offset for the impact on the known ACH values within the development footprint. However, the proponent should be requested to confirm the mechanism which will be used to ensure that the reserve is protected in perpetuity. This mechanism should be reflected in the conditions of approval.”

The DECCW response above is consistent with the findings of the Anthropological Assessment (Dr Gaynor Macdonald – Department of Anthropology, University of Sydney), which states that:

“I do not recommend that an application be made to have any of these four sites designated as an Aboriginal Place. There is insufficient cultural information available which would warrant them being given this status.”

Therefore, from an anthropological perspective, he states that “in this case, it is not my place to make a specific recommendation...” but then makes the following request:

“I respectfully suggest that all parties, including Mudjay Elders, consider the erection of a small keeping place within the parkland of the development to which all artefacts could be removed and which would recognise the Aboriginal use and significance of the North Boambee area. In my opinion, this would convey more respectfully the desires of the Mudjay Elder to retain knowledge of and respect for their ancestors. Leaving artefacts in situ cannot achieve this in the present case. This would involve the design of a suitable structure, research into the cultural information it might contain, and advice on how to best represent the artefacts by signage. It may be possible to have signage erected in areas from which artefacts were removed referring to the keeping place.”

The DECCW submission is based on the comments above and the proponent commits to providing and designating an area as “Heritage Park”, which is identified in plan 912 – A007. Any artefacts uncovered during the development process can be relocated to this area.

The proponent commits to transferring this land to the Council to ensure that the reserve can be protected in perpetuity.

The proponent further commits to constructing a “keeping place” for any artefacts uncovered at the site, as well as providing relevant signage, in accordance with the terms determined by Council as the party responsible for the interests of the local community. The proponent commits to undertaking appropriate discussions with Council to determine the required structures to be provided as part of the process of, and prior to, the transferring of land.

The DECCW submission includes a range of other detailed conditions that, in light of the commitments above, the applicant does not propose to commit to.

3.9.2 Issue: Non-indigenous heritage

Although no specific submission was made in respect on non-indigenous heritage, it is noted that the Cultural Heritage Assessment made the following recommendation:

“The LE-H8 notched tree stump should be carefully sawn off at ground level and re-located to a suitable public open space within the Lakes Estate development area. The stump would need to be mounted on a plinth designed to minimise further rot and termite damage.

To facilitate public appreciation of the LE-H8 notched stump, interpretive signage should be developed and erected beside the relocated stump.”

The proponent commits to relocating the tree stump to the heritage park and creating a cultural experience at that location that incorporates both indigenous and non-indigenous heritage items, appropriate structures and signage.

4.0 Statement of Commitments

The following commitments included in **Table 2** have been compiled based on the environmental assessment undertaken in the preparation in the original submission of this application and revised following review and consideration of the issues raised during public exhibition and authority consultation.

They provide a commitment by Noubia Pty. Ltd., indicating the parties responsible and the timing for the implementation of the measures to which they are committing.

It should be noted that the consent will apply to the land and not the applicant. Therefore, although the commitments are made by the proponent, it is expected that the party that ultimately acts on the consent will be responsible for fulfilling the commitments below.

Table 2 – Statement of Commitments

NUMBER	ISSUE	COMMITMENT	RESPONSIBLE	TIME FRAME
C1	Urban Design and subdivision Layout	The development of the subdivision will be undertaken in accordance with the subdivision layout prepared by Astoria Group Pty. Ltd., dated 28 August 2012 and outlined in this Preferred Project Report.	Noubia Pty. Ltd.	Construction and operation
C2	Urban Design and subdivision Layout	A Construction Management Plan ("CMP") will be prepared for each stage of civil construction works associated with the subdivision and will be prepared prior to construction of each respective Stage of the proposed subdivision.	Noubia Pty. Ltd.	Prior to construction of stage 1
C3	Infrastructure - Utilities	Construction and operation of the utilities in the proposed residential subdivision will be in accordance with the principles outlined of the Engineering Assessment prepared by Resource Design Management in December 2007 and amended November 2008 as modified for the current proposal.	Noubia Pty. Ltd.	Review 2007 assessment- prior to construction; Construction and operation at construction stage
C4	Infrastructure - Utilities	The proponent commits to providing electricity and telecommunication to all lots in the subdivision. Negotiation will be held with Council and relevant service providers to determine the extent of electricity, gas and telecommunications provision and extension of the existing service.	Noubia Pty. Ltd.	Negotiations and discussions - Prior to construction; Construction and operation at construction stage
C5	Infrastructure - Utilities	The proponent commits to make all necessary allowances to enable adjoining land developers to connect into the 66kV power line and the sewer mains.	Noubia Pty. Ltd.	Construction
C6	Infrastructure - land transfer	In accordance with the provisions of the North Boambee Valley (East) release Area Contributions Plan 2012 (the CP), lot 141 will be created for the purposes of being acquired by Coffs Harbour Council. Lot 141 includes the bushland and open space land on the subject development site. This can occur by way of a private treaty sale of the land to Council as provided for at page 7 of the CP .	Noubia Pty. Ltd.	Lot 141 to be created and registered as part of the subdivision. Negotiations and discussions as per the CP - Prior to construction

		The proponent further commits to discuss with the Council, the timing of the transfer of this land.		
C7	Infrastructure - land transfer	<p>The proponent commits to transferring to Coffs Harbour Council, all the land occupied by road carriageways and pedestrian paths (that are not located on lot 141) as follows:</p> <ul style="list-style-type: none"> ▪ Lakes Drive extension to be acquired by Council, consistent with previous similar negotiations; and ▪ LOCAL roads to be transferred at no cost to Council. 	Noubia Pty. Ltd.	Upon construction of roadworks
C8	Infrastructure – roadway works	The proponent commits to constructing roadworks on the subject site in accordance with the Roads and Movement Access Plan (912-A008 G) designed and built to the standards provided by Coffs Harbour Council.	Noubia Pty. Ltd.	Construction
C9	Infrastructure – roadway works	The proponent commits to restricting traffic flow and providing koala crossings in culverts under the roadway in the locations identified on the Roads and Movement Access Plan (912-A008 G). The purpose of these actions is to minimize risk to koalas and other wildlife. The methods adopted in the various locations will vary according to the other purposes of the road in each location. Various methods for restricting traffic flow are identified in the Council's Koala Plan of Management and include signage and speed limits.	Noubia Pty. Ltd.	Construction
C10	Infrastructure – roadway works	Street tree planting will be undertaken in accordance with Council's standard requirements with regards to tree sizes, spacing and methods for planting.	Noubia Pty. Ltd.	Construction and operation
C11	Infrastructure – roadway works	The proponent commits to initiating discussion with Roads and Maritime Services (RMS) for the construction of the Pacific Highway Bypass for the provision of noise mitigation measures. These measures should be undertaken by the RMS as part of the design and construction of the bypass.	Noubia Pty. Ltd.	During construction phase
C12	Infrastructure – Fire trails	The proponent commits to providing fire trails in the locations identified in the Roads and Movement Access Plan (912-A008 G)	Noubia Pty. Ltd.	Construction

C13	Infrastructure – open space works	The proponent commits to providing a 'heritage park' in the location identified in the Open Spaces Plan (912- A007 G). The heritage park will include any indigenous or non-indigenous heritage items found during the construction process. The purpose of the heritage park will, in addition to general recreation, provide some form of education of the local history. Note: this would be infrastructure that would be able to be considered as a material public benefit under the terms of the CP (see C15).	Noubia Pty. Ltd.	Construction
C14	Infrastructure – open space works	The proponent commits to providing a pedestrian and/or bicycle path network in the locations identified in the Roads and Movement Access Plan (912-A008 G).	Noubia Pty. Ltd.	Construction
C15	Infrastructure – development contributions	The proponent commits to the payment of monetary contributions in accordance with the relevant sections of the CP. The total cash contribution to be paid would be off-set by the value of the public infrastructure land and works provided by the proponent through these commitments in accordance with the terms of the CP.	Noubia Pty. Ltd.	Prior to release of subdivision certificate.
C16	Infrastructure – development contributions (water and sewerage)	The proponent commits to the payment of development contributions for water supply and sewerage in accordance with the Wastewater Treatment & Carrier System Development Servicing Plan 2008 and Water Supply Development Servicing Plan 2008.	Noubia Pty. Ltd.	Prior to release of subdivision certificate.
C17	Infrastructure – Stormwater drainage management	The proponent commits to providing standard pits and pipes drainage for all residential lots to the 'five lakes and one wetland system' designed by Umwelt in 2003, approved by Council and already constructed to manage the post-development peak flows as well as the water quality.	Noubia Pty. Ltd.	Construction and operation
C18	Stormwater drainage management	The proponent commits to obtaining any necessary permits pursuant to Part 3 of the Water Management Act for proposed development close to drainage lines.	Noubia Pty. Ltd.	Construction and operation
C19	Environmental Management	Vegetation removal for development of proposed lots, roads and other infrastructure within Primary and Secondary Koala habitat areas will be restricted only to those areas identified "Trees proposed to be removed	Noubia Pty. Ltd.	Construction and operation

		or pruned in a koala designated area” on the plan labelled ‘Koala Habitat Plan’, numbered 912/A004F and dated 27/07/12. The proponent commits to compensatory planting on lot 141 in accordance with the Coffs Harbour Koala Plan of Management.		
C20	Environmental Management	The proponent commits to incorporating within the discussions and agreements for the transfer of lot 141, arrangements to ensure that the Council's relevant Plans of Management for the management of the bushland are complied with.	Noubia Pty. Ltd. & Coffs Harbour City Council	Prior to Construction
C21	Environmental Management	All domestic animals kept in association with future residential development must be registered with Council and not allowed outside the property unless on a lead or other restraint. This will be enforced through use of a covenant applied through s88B Instruments, and advisory signage will also be established within the estate.	Noubia Pty. Ltd.	Operation
C22	Flood management	All future dwellings will be constructed with a freeboard of 500 millimetres above the determined 1 in 100 year flood level. This requirement will be incorporated into any estate design guidelines or development Control Plan that applies to the subject site.	Noubia Pty. Ltd. & Coffs Harbour City Council	Operation
C23	Soil Contamination	<p>The proponent commits to:</p> <ul style="list-style-type: none"> (a) undertaking a detailed site investigation of the areas of concern identified in Coffey report GEOTCOFH02233AA-AE dated 27 February 2008. The objective of this is to assess the extent and nature of soil contamination, and to inform the preparation of a Remedial Action Plan (RAP). (b) Based on the findings of the investigations prepare a RAP to remediate the areas of soil contamination. (c) Following consultation with Coffs Harbour City Council (CHCC) the need for a development approval to allow implementation of the RAP will be established and the RAP will be implemented on site with appropriate contractors and overseers; (d) Following completion of the remedial works prepare a site 	Noubia Pty. Ltd.	Prior to Construction

		validation assessment to assess that the land has been made suitable for its intended use.		
C24	Geotechnical Engineering	<p>The proponent commits to:</p> <ul style="list-style-type: none"> (a) Investigate the locations of proposed individual features such as retaining walls and road infrastructure, to allow structural engineers to undertake design of the features. Works would include preparation of detailed design parameters and pavement thickness designs as well as providing advice on foundations for culverts and other water sensitive infrastructure. (b) Provide guidance on where controlled filling should be undertaken to meet the guidelines of AS3798-2007 <i>Guidelines on earthworks for commercial and residential developments</i>. (c) Prepare site classification assessments to AS2870-2011 <i>Residential Slabs and Footings</i>. The site classification assessments can then be used to assess the site constraints at subdivision certificate stage. Where "P" classifications are noted, the reports shall include specific engineering advice on how to develop the site for residential use. This may include recommending further investigations and slope risk assessments on individual lots, or further investigation to allow provision of specific parameters and founding levels. (d) Investigate individual lots where site classifications note the need. Slope risk assessments should be undertaken in accordance with the Australian Geomechanics Society Practice. <p>Note: Guidelines for Landslide Risk Management (known as AGS 2007). The risk assessment process should include definition of site specific development guidelines for the individual lots. Based on the lot layout provided we do not expect a significant number of lots to be affected by slope stability constraints.</p>		

C25	Roadway - activities	<p>The proponent acknowledges the unnamed Crown public road on its north western boundary and commits to ensuring that they or their representatives do not undertake the following activities on that road:</p> <ul style="list-style-type: none"> ▪ Encroachment upon the road; ▪ Removal of any vegetation from the road; or ▪ Stockpiling of any materials or the storing of any equipment, machinery or plant on the road. 		
C26	Bushfire protection	The proponent commits to the management of bushfire risk by reference to the Asset Protection Zone as identified by Australian Bushfire Protection Planners Pty Ltd (ABPP) on plans A012-A014.	Noubia Pty. Ltd.	Construction and operation
C27	Bushfire protection - Covenant	<p>An 88B Covenant, in accordance with the provisions of the Conveyancing Act 1919, shall be created on the title of the future lots burdened by the Asset Protection Zones to ensure the ongoing management of the landscaped gardens/residual vegetation, in accordance with the prescriptions of an Inner Asset Protection Zone.</p> <p>Where the building footprint is likely to encroach beyond the line proposed by ABPP, (particular attention shall be given to lots 67, 76, 85-88, 127, 128 and 136) then that higher risk shall be conveyed covenant.</p>	Noubia Pty. Ltd.	Construction of each stage.
C28	Bushfire protection – Additional provisions	<ol style="list-style-type: none"> 1. The ongoing management of the estate will include maintenance of the Asset Protection Zone as an Inner Protection Area in accordance with Appendix 5 of Planning for Bushfire Protection 2006 and the NSW Rural Fire Service's "Specifications for Asset Protection Zones". 2. All future dwellings erected on those lots which are adjacent to the bushfire prone vegetation and which are impacted by the provision of the recommended Asset Protection Zones shall be constructed 	Noubia Pty. Ltd.	<ol style="list-style-type: none"> 1. Operation 2. to 6. Construction of each stage.

		<p>with a minimum construction standard of Level 3, in accordance with the specifications of Australian Standard A.S 3959 - Second Edition 1999 and Amendment 1, 2000, "Construction of Buildings in Bushfire Prone Areas".</p> <ol style="list-style-type: none"> 3. The development will include public access constructed to comply with the deemed-to-satisfy provisions of Section 4.1.3(a) of Planning for Bushfire Protection 2006. 4. The development will include extension of the existing water supply main to service the future residential development, in accordance with the specifications of Australian Standard A.S 2419.2. All hydrants shall have a flow rate of 10 litres / second with blue pavement marks provided to locate hydrant positions. 5. The development will ensure all fire hydrants shall be accessible and located such that a tanker can park within a maximum distance of 20 metres from the hydrant and the habitable building must be located such that a fire at the furthest extremity can be attacked by fire-fighters using two 30 metre hose lines and a 10 metre water jet. The hydrants will be allocated with regard to allowing a clear unobstructed path of 90 metres between the hydrant and the most distant point of the building. 6. The development will include blue hydrant markers to locate the positions of the hydrants and shall be positioned on the hydrant side of the centreline of the road pavement. 		
	Heritage – Indigenous and Non-indigenous	<p>The proponent commits to providing and designating an area as "Heritage Park", which is identified in plan 912 – A007. Any artefacts uncovered during the development process will be relocated to this area.</p> <p>The proponent further commits to transferring this land to the Council to ensure that the reserve can be protected in perpetuity.</p>	Noubia Pty. Ltd.	Construction and operation