

**GLADES ESTATE
RESIDENTIAL SUBDIVISION
LOTS 1 & 2 DP 725785
PACIFIC HIGHWAY, MOONEE BEACH
Proposed by Rothwell Boys Pty Limited**

Director-General's Environmental Assessment Report
Section 75I of the
Environmental Planning and Assessment Act 1979

February 2009



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1 EXECUTIVE SUMMARY

Rothwell Boys Pty Ltd (Winten Property group) is seeking project approval from the Minister for a 524 lot residential subdivision at Pacific Highway, Moonee Beach in the Coffs Harbour local government area (Lots 1 & 2 DP 725785) ("the proposal"). The estimated cost of the development is \$51,856,670. The proponent expects that the proposal would generate 1560 housing construction jobs over the entire estate.

The proponent seeks project approval for the following:

- Construction of a Torrens title residential subdivision to create 524 lots in eleven stages;
- Construction of an internal network of roads, pedestrian paths and cycleways, including a pedestrian and cycleway linking the site to the south along the collector road;
- Provision of approximately 45 hectares of open space and/or habitat conservation areas, to be dedicated to Council, but subject to an initial two year establishment and management program;
- Construction of two recreation nodes and associated parking;
- Construction of associated infrastructure including water supply mains, sewerage mains, stormwater drainage structures, water quality and detention structures;
- Installation of noise attenuation barriers adjacent to the Pacific Highway; and
- Associated bulk earthworks, landscaping, street planting and rehabilitation of existing native vegetation areas.

Residential lots will constitute approximately 30% of the land on the site, while other areas of land are to be allocated to open space and for construction of roads.

During the exhibition period, the Department received a total of 14 submissions, including 5 from the public (including 2 letters of support), and 9 submissions from public authorities. Key issues considered in the Department's assessment included:

- Climate Change impacts and sea level rise;
- Traffic and access, and establishment of permanent access via a proposed collector road;
- Environmental Buffers and habitat areas;
- Open Space dedication and management;
- Aboriginal cultural heritage;
- Wallum Froglet Habitat;
- Road Traffic Noise;
- Acidic Soils and Acid Sulfate Soils;
- Groundwater;
- Road Layout and Design; and
- Bushfire Protection.

The Department has assessed the merits of the project and is satisfied that the impacts of the proposed development have been addressed via the Proponent's revised Statement of Commitments and the Department's recommended conditions of approval, and can be suitably mitigated and/or managed to ensure a satisfactory level of environmental performance. All statutory requirements have been met.

On these grounds, the Department is satisfied that the site is suitable for the proposed development and that the project will provide the following benefits:

- An important contribution toward housing targets for the Coffs Harbour local government area as identified by the *draft Mid North Coast Regional Strategy*;
- Early construction of the northern collector road at Moonee Beach facilitating release of urban land within the Moonee Beach release area, including this site and neighbouring land;
- Provision of 45 ha of open space, riparian buffers and habitat conservation areas which will be dedicated to Council as public land, representing over 45% of the site area;
- Protection of Wallum Froglet habitat and the environment and aquatic habitats of Moonee and Skinners Creeks; and
- Protection of areas of Aboriginal cultural heritage significance;

The Department recommends that the project be **approved**, subject to the effective implementation of the Proponent's Statement of Commitments and the Department's recommended Instrument of Approval.

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2 BACKGROUND

2.1 THE SITE

Site Context and Location

The site, Lots 1 & 2 DP 725785 Pacific Highway, Moonee Beach has a total area of 95.9ha and is within the local government area of Coffs Harbour. It is located on the eastern side of the Pacific Highway approximately 13km north of Coffs Harbour CBD and approximately 1km north of the existing Moonee Beach village area and shopping centre. Moonee Creek and Skinners Creek form the western and northern boundaries of the site. The site is owned by Rothwell Boys Pty Limited (Winten Property Group), the proponent (refer **Figure 1** for site context).



Figure 1: Site location

Existing Site Features

The site has gentle to moderately undulating topography with flatter lower lying areas associated with Moonee and Skinners Creeks. Existing ground levels range between 2m AHD and 16m AHD. Site slopes are generally of about 5 to 10 degrees. There are two high points within the site, the first adjacent to the Pacific Highway and the second in the centre of the site. Much of the site has been cleared and used for cattle grazing. Areas of grassland and slashed heath dominate the site; along with scattered trees (refer to **Figure 2**). Existing access to the property is via an access road off the Pacific Highway, and adjacent or parallel to the Highway (refer to **Figure 3**).



Figure 2: View from the south east showing undulating topography, cleared grazing land and scattered trees



Figure 3: Existing access to the site via an access road off and adjacent to the Pacific Highway

There are denser areas of remnant vegetation around the perimeter of the site adjacent to Moonee and Skinners Creeks and a connected area of denser vegetation along a ridge line near the centre of the site (refer to **Figure 4** and **Figure 5**).



Figure 4: Skinners Creek looking north west, close to its confluence with Moonee Creek



Figure 5: View from the south showing central vegetated corridor

Apart from Moonee Creek and Skinners Creek, there is a water course running west to east through the southern section of the site from the Highway to the southern boundary. A small dam or pond has been created along this watercourse near the southern site boundary.

Surrounding development

The site represents the northern extent of the proposed Moonee urban release area. It has a frontage on its western boundary to Pacific Highway of approximately 920m. Moonee Creek is located on the eastern boundary and Skinners Creek on the northern boundary. These Creeks are tidal estuaries and habitat protection zones under Solitary Islands Marine Park. Further to the east across Moonee Creek is Moonee Beach Nature reserve (administered by Department of Environment and Climate Change/National Parks and Wildlife Service) and then the beach. Further to the north across Skinners Creek there are existing rural/residential lots and dwellings along Tiki Road. To the south there is vacant residentially zoned land (lots 1 and 2 DP1097743 and lots 5 & 6 DP252223) that is also part of the proposed Moonee urban release area (refer to **Figure 6** for an aerial photograph of the subject site).



Figure 6: Aerial Photograph

The three adjoining lots to the south are subject of 3 separate development applications submitted to Council in 2006 and 2007 (refer to **Figure 7**). Each application was for a staged residential subdivision that did not trigger the provisions of the MP SEPP as the time these applications were made (in each case 24 lots or 24 lots and residue development lots). Assessment of these development applications has been deferred by Council. However, the Department has had preliminary discussions with the landowner for the most southern of these three lots in respect to submission of applications under the provisions of Part 3A of the Act and the Major Projects SEPP. On 20 November 2008 a proposal for the residential subdivision of Lot 5 DP 252223 was declared a project to which Part 3A of the Act applies.



Figure 7: Surrounding development

2.2 SITE DEVELOPMENT HISTORY

Development History

The site had been used for forestry purposes prior to the 1980s. In the 1990s, larger areas of vegetation were cleared and the land used for grazing (subject to the Development Consent issued by Council in 1994, as described below). A portion of the land, in the south east, has also been used for turf farming. The site is currently used for grazing. The site was rezoned from Non-Urban to Residential 2(a) in 1988 (Coffs Local Environmental Plan 1988). While the land has been zoned for residential proposes the lack of infrastructure services and, in particular, a reticulated sewerage service, has limited the development potential of the land. Stage 1 of the Coffs Harbour sewer upgrade was completed in March 2005 including deep sea release pipelines and water reclamation plants. This upgrade has provided a reticulated sewerage service to the Moonee Beach urban release area, facilitating development of existing vacant residentially

zoned land. Council adopted the current Moonee Development Control Plan (DCP) in September 2004 including a masterplan for the urban release area which identified a minimum dwelling yield of 486 dwellings for this site.

Previous Application

On 22 June 1994 Council gave consent to Development Application No. 257/93 for a community title subdivision of Lot 2, DP 237928 comprising 10 development lots (ranging in size from 4ha to 7ha), 1 community lot and 1 lot over land zoned 6(b) open space. It was proposed to use the land and the 10 development lots for grazing pending final residential development of the land once water and sewer services were available to the site. The approval included clearing of the land, the formation of an internal ring road and provision for a new intersection to be constructed providing direct access to the Pacific Highway.

The RTA agreed to allow direct access to the Highway provided that, if required in future, the intersection would be closed and access to this site be provided via a service road generally parallel to the Highway and with connections to a major intersection or interchange. This interim access to the Highway has been incorporated into the design of the proposed residential subdivision subject of this project application. Vegetation has been cleared on the site subject to this consent, including the removal of mature trees and associated undergrowth.

On 11 May 1999, Council confirmed that there had been substantial commencement of the 1994 consent and provided written advice to the owners of the land (at that time) that commencement of works on the site constituted commencement of the application (or consent).

The proponents will be required to surrender the development consent in accordance with section 75YA and section 104A of the Act, should this project application be approved.

3 THE PROPOSED DEVELOPMENT

3.1 PROJECT DESCRIPTION

Proposed Development (Preferred Project Report, February 2009)

The proponent seeks project approval for the following:

- Construction of a Torrens title residential subdivision to create 524 lots in eleven stages, lot sizes being generally 600sqm to 700sqm;
- Construction of an internal network of roads, pedestrian paths and cycleways, including construction of the main pedestrian and cycleway linking the site to the south along the collector road;
- Provision of approximately 45 hectares of open space and/or habitat conservation areas, to be dedicated to Council, but subject to an initial two year establishment and management program;
- Construction of two recreation nodes and associated parking;
- Construction of associated infrastructure including water supply mains, sewerage mains, stormwater drainage structures, water quality and detention structures;
- Installation of noise attenuation barriers adjacent to the Pacific Highway;
- Provision of fencing where access to riparian zones and habitat areas is to be restricted or denied; and
- Associated bulk earthworks, landscaping, street planting and rehabilitation of existing native vegetation areas.

Nearly 47% or approximately 45 hectares of the site is intended to be dedicated to Council as either habitat conservation or active/passive open space. The design of the open space system and the proposed location of recreation facilities are based on the open space and recreation strategy outlined in Council's Moonee Development Control Plan (DCP) 2004 (refer to **Figure 8** below for the proposed residential subdivision layout).



Figure 8: Preferred Project Subdivision Layout (February 2009)

Three main areas of cut are proposed. A cut to fill volume of approximately 274,000m³ is estimated. Cuts of up to 4.5m will be required tapering back to the natural surface level at the cut limits. No fill material is to be transported to the site as there will be sufficient fill from proposed site cuts to provide for proposed filling across the site, as shown on the Bulk Earthworks Plan (refer to **Figure 9**).

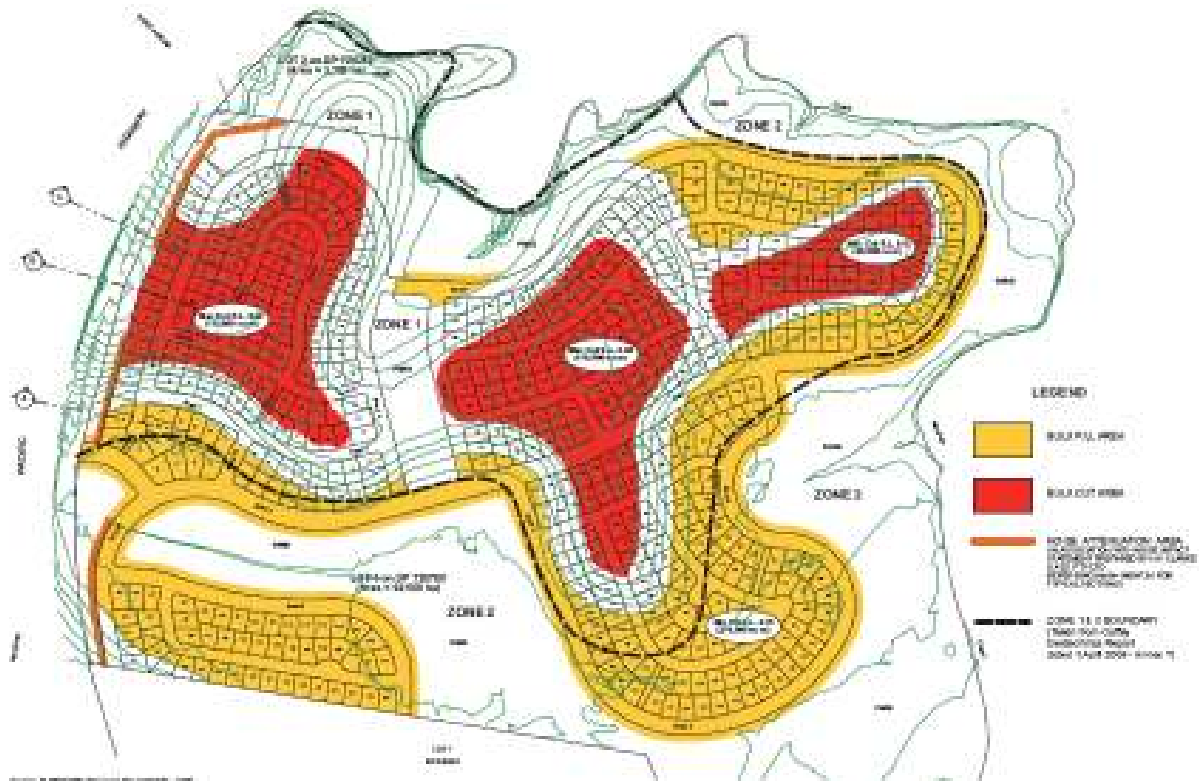


Figure 9: Bulk Earthworks Plan

3.2 PROJECT AMENDMENTS

Exhibited Subdivision Proposal (Concept plan plus project application)

The application as detailed in the Environmental Assessment (EA) was for approval of a concept plan for the subdivision of the land in 4 stages into 523 residential lots under Torrens title. It also included a project application to carry out the first 3 stages only of the subdivision comprising 148 lots of the total 523 lots, as well as associated infrastructure and temporary access to the Pacific Highway (refer to **Figure 10**).



Figure 10: Exhibited Subdivision Layout

Preferred Project Report

A preferred project report was submitted on 10 September 2008 and incorporated the following amendments to the proposal:

- Request for the Minister to rescind the concept plan authorisation.
- Project approval for the construction and subdivision of the entire estate in eleven stages, a total of 524 lots. (The original application sought project approval only for the first three stages comprising 148 lots and concept approval for entire estate comprising total of 523 lots).
- The proposed subdivision layout has been amended as follows:
 - Altered road layout at the estate entry to replace a proposed roundabout with a three-way intersection.
 - Creation of one additional lot for a future convenience or general store to service the estate.
 - Relocation of two recreation nodes or areas to less ecologically and culturally constrained areas of the site.
- Replacement of proposed vacuum sewer system with a conventional gravity system pumping to the existing Council sewerage treatment works in Bucca Road;
- Provision of wildlife crossings under proposed Road 1 to the north and south of a central vegetation corridor
- Deletion of proposed education centre, canoe/boat ramps, jetty and elevated decks over Moonee Creek
- Incorporation of an active play area or 'kick-around' area in recreation node/area 1; and
- Provision of draft design guidelines detailing proposed built form controls.

The Preferred Project Report was not advertised but was made available on the Department's website from 22 September 2008 (refer to **Figure 11**).



Figure 11: Preferred Project Layout, as submitted September 2008

Amendments to Preferred Project

On 2 February 2009 the proponent provided amendments to the preferred project subdivision layout to delete the proposed interim access to the Pacific Highway, other than the provision of temporary access for construction purposes, as agreed with the RTA, (refer to **Figure 8**). The areas resulting from deletion of the interim access have been included within three adjoining lots and also partly within the area of adjoining open space to be dedicated to Council. Appropriate landscape treatment is to be provided instead along the Pacific Highway frontage and noise mitigation measures also provided, if required, following a revised acoustic assessment, which forms part of the recommended conditions of approval

4 STATUTORY CONTEXT

4.1 PART 3A DECLARATION

The project is one to which Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) applies as it meets the criteria listed in *State Environmental Planning Policy (Major Projects) 2005* (MP SEPP) being a residential subdivision creating more than 25 lots in the Coastal Zone, under Schedule 2, clause 1(1)(i), as in force at the time of the project declaration (now clause 1(1)(j)). The opinion was formed by the Director-General as delegate of the Minister for Planning on 2 June 2006.

4.2 PERMISSIBILITY

Coffs Harbour City LEP 2000

Under the *Coffs Harbour City LEP 2000*, the site is zoned part Residential 2A Low Density, part 6A Open Space Public Recreation, part 7A Environmental Protection - Habitat and Catchment and part 7B Environmental Protection - Scenic Buffer, (refer to **Figure 12**). The majority of the site is within the Residential 2A Low Density zone. The 7A Environmental Protection Habitat and Catchment zone applies to land in the north of the site along Skinners Creek and to the south eastern border of the site adjacent to Moonee Creek. A fringe of land in the north of the site along Skinners Creek is zoned 6A Open Space Public Recreation. The 7B Environmental Protection zone applies to a strip of land adjacent to the Pacific Highway along the length of the site's western boundary.

The proposed subdivision will be primarily contained within that part of the site zoned 2A. The subdivision of land and development for the purposes of dwelling houses, dual occupancies, recreation facilities, recreation areas, roads and utility installations are permissible with consent in the 2A zone.

Development within the 6A zone is to comprise construction of roads, stormwater treatment measures, pedestrian/cycle pathways, elevated board walks, an environmental interpretation centre, car parking, barbeque and picnic facilities, tree planting and environmental protection works. These works are all permissible with consent in the 6A zone.

Development within the 7A zone is to comprise construction of roads, stormwater treatment measures, pedestrian/cycle pathways, elevated boardwalks, tree planting and environmental protection works, whilst development within the 7B zone will be limited to construction of roads, pedestrian/cycle paths, noise attenuation mounds and tree planting. Development for these purposes is generally permissible with or without consent in these zones.

The construction of noise mounds or attenuation measures while not defined in *Coffs Harbour City LEP 2000* and not specified as permissible development in the 7B zone, are considered to be ancillary to the subdivision of the land which is permissible with consent in this zone. The noise measures will also include landscape planting and will therefore be consistent with the relevant objectives of the 7B zone to enable development which does not adversely impact on the scenic qualities of the Pacific Highway.

Draft Coffs Harbour City LEP (Amendment No. 24)

Draft *Coffs Harbour City LEP 2000 (Amendment No.24)* was placed on exhibition from 4 April to 5 May 2005 – (refer to **Figure 13**). Amendment No 24 proposes a zoning regime for the site and the Moonee release area consistent with the planning strategy set out in Moonee DCP 2004. Amendment No. 24 would reduce the extent of land on the site zoned Residential 2A while increasing the area of land zoned Environmental Protection 7A. The proposal is generally consistent with the proposed zonings; however there are some variations in respect to the subdivision layout in stages 5, 6 and 9.

A number of submissions were received from the affected landowners objecting to the rezoning of the land, including the proponent, Rothwell Boys Pty Ltd. Subsequently, Coffs Harbour City Council made an agreement with the Department to defer Amendment No.24 until determination of the major project application. It was agreed that the Department would undertake the detailed assessment of the application to determine the most appropriate zonings for the site.



Figure 12: Existing zoning

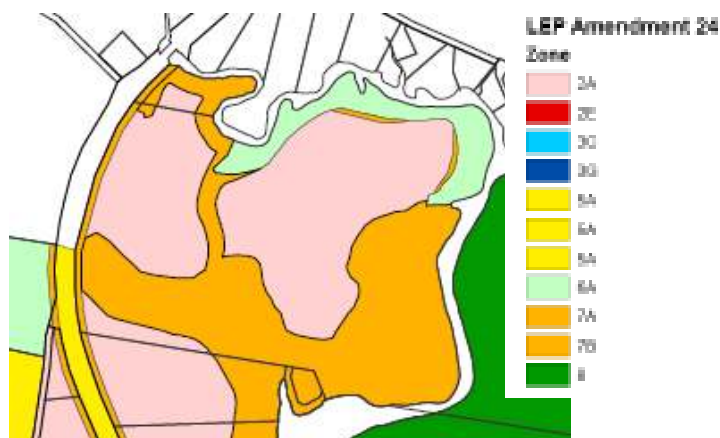


Figure 13: Extract from Draft LEP Amendment No.24 (as exhibited)

4.3 MINISTER'S POWER TO APPROVE

The Department exhibited the Environmental Assessment (EA) in accordance with section 75H(3) of the Act, as described in **Section 5** below. The project is permissible and meets the criteria of the Major Projects SEPP. Therefore, the Department has met its legal obligations and the Minister has the power to determine this project.

4.4 DIRECTOR-GENERAL'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

The Director-General's Environmental Assessment Requirements (DGRs) were issued on the 19 October 2006. On the 31 October 2007 the EA was considered to be compliant with the DGRs for the purposes of section 75(2)(g) of the Act.

4.5 OBJECTS OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

The objects of any statute provide an overarching framework that informs the purpose and intent of the legislation and gives guidance to its operation. The Minister's consideration and determination of a project application under Part 3A must be informed by the relevant provisions of the Act, consistent with the backdrops of the objects of the Act.

With respect to Ecologically Sustainable Development (ESD), the Act adopts the definition in the *Protection of the Environment Administration Act 1991* including the precautionary principle, the principle of inter-generational equity, the principle of conservation of biological diversity and ecological integrity, and the principle of improved valuation, pricing and incentive mechanisms.

The Department has considered the Objects of the Act, including the encouragement of ESD in the assessment of the project application.

4.6 ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD) PRINCIPLES

The Department has considered the Objects of the Act, including the encouragement of ESD in the assessment of the project application. The principles of ESD have been considered in this assessment as follows:

There are five (5) accepted ESD principles:

- Integration Principle - decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations (the integration principle);
- Precautionary Principle - if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (the precautionary principle);
- Inter-Generational Principle - the principle of inter-generational equity - that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations (the inter-generational principle);
- Biodiversity Principle - the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making (the biodiversity principle); and
- Valuation Principle - improved valuation, pricing and incentive mechanisms should be promoted (the valuation principle).

The Department has considered the proposed development in relation to the ESD principles and has made the following conclusions:

Integration Principle

Long term and short term consideration have been integrated in the decision making process in the following ways:

- The staged release of new residential land in Moonee Beach will provide economic, social, and equity benefits to the local and Coffs Harbour community and include establishment of new residential lots, infrastructure, roads, access and contributions to Council for local and community services.
- The retention and protection of environmental buffers and habitat corridors will provide for short and longer term environmental benefits for the ongoing protection of core habitat areas and sensitive environments such as Moonee Creek/estuary.

Precautionary Principle

The Environmental Assessment has identified and assessed the range of environmental impacts of the proposal. The proponent has demonstrated that the subdivision design and appropriate mitigation measures including the establishment of environmental buffers and habitat corridors will be implemented to prevent potential environmental impacts. Further mitigation measures are outlined in the proponent's Statement of Commitments and/or the recommended conditions of approval.

Inter-Generational Principle

The development will provide the following benefits to the local community now and into the future.

- Provision of additional residential accommodation
- Provision of additional public open space
- Provision of improved access to Moonee and Skinners Creek and coastal foreshores
- Protection of fauna habitat for Wallum froglets and Ospreys
- Provision of environmental buffers to Moonee and Skinners Creeks

Biodiversity Principle

The major part of the development site has been cleared of native vegetation, except environmental buffer zones to Moonee and Skinners Creeks, around core Wallum Froglet habitat and through the centre of the site. These areas are to be retained and revegetated where required to protect the biological diversity and ecological integrity of these areas and adjoining estuaries and wildlife corridors. The proponent has undertaken an assessment of the development's compliance with:

- Environment Protection and Biodiversity Conservation Act, 1999 (Commonwealth)
- Threatened Species Conservation Act, 1995, (NSW)
- State Environmental Planning Policy No 71 – Coastal Protection

Valuation Principle

The subdivision has been designed having regard to solar access and in accordance with the principles of Water Sensitive Urban Design. The water management system is designed to promote an environmentally sustainable outcome through management of the stormwater runoff. This will assist future residents to comply with BASIX requirement for construction of sustainable dwellings.

Approval of an environmentally sensitive and ecologically sustainable residential subdivision will improve the valuation of the land and aid in the long term enhancement and maintenance of the locality and its environmental qualities, compared to an unsustainable development which would degrade the local environment and devalue the site and locality.

4.7 ENVIRONMENTAL PLANNING INSTRUMENTS (EPIs)

Application of EPIs to Part 3A of the Act

To satisfy the requirements of section 75(2)(d) and (e) of the Act, this report includes references to the provisions of the environmental planning instruments that substantially govern the carrying out of the project and have been taken into consideration in the environmental assessment of the project. A detailed assessment of compliance with the relevant EPIs is in **Appendix B**. A summary of compliance is provided below.

The provisions, including development standards of local environmental plans, and development control plans are not required to be strictly applied in the assessment and determination of major projects under Part 3A of the Act. Notwithstanding, these standards and provisions are relevant considerations as the DGRs require the proponent to address such standards and provisions. Accordingly the objectives of a number of EPIs and the development standards therein and other plans and policies that substantially govern the carrying out of the project are appropriate for consideration in this assessment as follows:

State Environmental Planning Policy (Major Projects) 2005

The MP SEPP applies to the project as discussed in Section 4.1 above.

State Environmental Planning Policy No.11 – Traffic Generating Developments

Although SEPP No.11 has now been repealed and replaced with State Environmental Planning Policy (Infrastructure) 2007, SEPP 11 was in force at the time the EA was placed on exhibition. The EA has been referred to the RTA for consideration in accordance with the provisions of SEPP 11. Recommended conditions have been provided by the RTA and these are discussed in **sections 5 and 6**.

State Environmental Planning Policy No.55 – Contaminated Land

The predominant land use has been for cattle grazing. Agricultural activities are listed as an activity that may cause contamination in Table 1 of the *Contaminated Land Planning Guidelines* and therefore a preliminary investigation was required. This investigation has been undertaken. The agricultural activities undertaken on the site in the past have been primarily livestock grazing and therefore potential land contamination is not a significant issue for the proposal. The site is considered appropriate for residential development.

State Environmental Planning Policy No.71 – Coastal Protection

SEPP 71 applies generally to land within the Coastal Zone. Clause 8 of the policy sets out matters for consideration by a consent authority when determining an application to which the policy applies. Those matters generally reflect the key elements of the Coastal Policy of which the proposal generally accords. The proposal provides for the following, in accordance with SEPP71:

- the development is suitable given its type, location and design;
- the development protects and retains important wildlife corridors and habitats;
- there are no significant impacts on any threatened species;
- the potential impacts of the development on flooding from Moonee Creek and Skinners Creek have been addressed;
- the likely impact of coastal processes and coastal hazards on development and any likely impacts of development on coastal processes and coastal hazards, including the effects of climate change, has been assessed and is considered acceptable;
- protects the cultural places, values, customs, beliefs and traditional knowledge of Aboriginals;
- protects the water quality of Moonee and Skinners Creeks; and,
- the cumulative impact of the development has been assessed and is considered acceptable.

A complete assessment against SEPP71 is provided in **Appendix B** to this report.

North Coast Regional Environmental Plan

The North Coast Regional Environmental Plan (REP) provides a basis for policy development to protect the natural environment on a regional basis. Provisions of the REP which are relevant to this proposal include those related to quality of water flows to wetlands and fishery habitats, coastline management and design guidelines, public foreshore reserves and maintenance of vegetation surrounding fishery habitat, impacts on environmental features and the management of sediment and erosion on site, and adequacy of community and welfare services. The proposal will meet the relevant provisions of the REP. A more detailed assessment against the provisions of the REP has been provided in **Appendix B**.

Coffs Harbour City Local Environmental Plan 2000

The relevant aims and objectives of *Coffs Harbour City LEP 2000* are:

- to encourage sustainable economic growth and development within the City,
- to recognise the need to provide for, and to provide for, development within the City in an ecologically sustainable manner,
- to provide a quality lifestyle within the City;
- to protect environmentally sensitive areas and the City's heritage,
- to allow for the equitable provision of social services and facilities for the community, and
- to minimise the risk to human life and damage to property caused by natural hazards such as bush fire, land instability and flooding.

The development generally meets the relevant aims and objectives of the *Coffs Harbour City LEP 2000*. A detailed assessment against the provisions of the *Coffs Harbour City LEP 2000* has been provided in **Appendix B**.

4.8 OTHER PLANS AND POLICIES

The proposal has also been considered against the following plans, policies, and non statutory documents:

- 1) Draft *Coffs Harbour City LEP 2000* (Amendment No 24)
- 2) Moonee DCP
- 3) Subdivision DCP
- 4) Draft Vegetation Conservation DCP
- 5) NSW Coastal Policy 1997

- 6) Coastal Design Guidelines
- 7) Draft Mid North Coast Strategy
- 8) Coffs Harbour Settlement Strategy to 2031: Our Living City
- 9) Coffs Harbour City Koala Plan of Management
- 10) Coffs Harbour City Vegetation Strategy
- 11) Moonee Creek Estuary Management Plan

A detailed assessment against these controls can be found in **Appendix B**. The proposal is generally consistent with the objectives of these controls.

5 CONSULTATION AND ISSUES RAISED

5.1 PUBLIC EXHIBITION DETAILS

Environmental Assessment

The Environmental Assessment for the proposal was exhibited for 30 days from 23 November 2007 to 24 December 2007 and notices were placed in the Coffs Harbour Advocate and the Coffs Harbour Independent on 22 November 2007. The Environmental Assessment was made available to the public at the following locations:

- Department of Planning, Information Centre, Bridge Street, Sydney
- Department of Planning, Grafton Regional Office
- Coffs Harbour City Council, Administration Building, Coffs Harbour
- Nature Conservation Council offices, Sydney

Letters were sent to adjoining landowners and relevant government agencies, including Council, notifying of the exhibition and inviting a submission. A total of 14 submissions were received, comprising 5 submissions from the public and 9 submissions from public authorities being:

1. Coffs Harbour City Council
2. Roads and Traffic Authority
3. Solitary Islands Marine Parks Authority
4. Department of Environment and Conservation (now Department of Environment and Climate Change)
5. Department of Water and Energy
6. Department of Lands
7. Northern Rivers Catchment Management Authority
8. Department of Primary Industries
9. NSW Rural Fire Service

Preferred Project Report

A Preferred Project Report (PPR) was lodged on 10 September 2008 and as the changes to the nature of the project were not considered to be significant, it was not re-exhibited but was placed on the Department's website. The PPR was also referred to relevant agencies and comments were received from:

1. Coffs Harbour City Council
2. Solitary Islands Marine Parks Authority
3. Department of Environment and Conservation (now Department of Environment and Climate Change)
4. Department of Lands
5. NSW Rural Fire Service

The Preferred Project Report and the proponent's response to submissions is at **Appendix D**.

5.2 SUBMISSIONS FROM THE PUBLIC

Summary of issues raised in public submissions

In response to the public exhibition of the Environmental Assessment, the Department received 5 submissions from the public, comprising 3 letters of objection and 2 letters of support for the proposal. The letters of support referred to the justification for the project in the Executive Summary of the EA and also that new housing development with gardens, trees, and shrubs was the best way to look after the environment. The main issues raised in the letters of objection were:

- The provision of temporary access to the site from Pacific Highway is not supported, and the proposed collector road as set out in Council's Moonee DCP 2004 and related Moonee Developer Contributions Plan 2007 should be constructed to provide access to the estate.
- There should be early construction of proposed Road 4 (to connect Glades estate to the adjoining properties to the south and the proposed northern collector road) or instead a right of carriageway should be created in favour of Lots 1 and 2 DP1097743 (the adjoining properties to the south).
- The location of proposed Road 5 needs to be flexible so that it can properly connect with the eventual perimeter road location within any residential subdivision of the adjacent properties to the south.

Comment

The proponent has committed to the provision of permanent access to the development via the proposed collector road, rather than the temporary highway access. The proponent is prepared to forward fund the construction of the collector and has undertaken discussions and meetings with Council and the adjoining landowners aimed at reaching agreement on its construction. This matter is discussed further in **section 6**.

The project is generally consistent with the subdivision layouts set out in the Moonee DCP. The establishment of the collector road will form the basis for subdivision layouts on adjoining properties. Proposed Road 5 is located within Stage 9 of the Glades Estate, and not within the proposed initial stages of the subdivision. Depending upon the progress of subdivision approvals for adjoining properties there is the possibility for some flexibility, subject to approval of any subsequent modification of an approved subdivision layout.

5.3 SUBMISSIONS FROM PUBLIC AUTHORITIES

The following public authority submissions were received following exhibition of the EA and in response to the PPR:

Coffs Harbour City Council

Council raised concerns relating to the following matters in response to the EA:

- Road traffic impacts, including the proposed intersection to the Pacific Highway; internal road design; and noise attenuation mounds.
- Biodiversity impacts, including the need for a Species Impact Statement and creek buffer zones.
- Open space issues, including staging, dedication at no cost, and provision of playgrounds and active play areas.
- Water supply and sewerage infrastructure.
- Hydraulic and flooding assessment.
- Acid Sulfate Soils.
- Construction Environmental Management Plan (CEMP).

Council raised the following concerns in response to the PPR:

- Temporary access to the Pacific Highway and the need for the development to be accessed by the proposed northern collector road and Moonee Beach Road.
- Lack of certainty about permanent access to the proposed development.
 - Open space dedication "at no cost" to Council.

Comment

Key issues raised by Council, and in particular those raised in response to the PPR, are discussed in **Section 6** of this report. The proponent has committed to the provision of access to the project via the proposed collector road and Moonee Beach Rd and this is confirmed in the recommended conditions of approval. Open space areas of 36ha are to be dedicated at no cost to Council; however a further 9ha of open space is subject to the acquisition provisions of *Coffs Harbour City LEP 2000*. Other matters have been resolved in regard provision of water supply and sewerage in

accordance with Council's requirements; provision of a more detailed construction management plan; more plan details of the noise mound; and provision of an active play area.

Council raised the possibility that a Species Impact Statement (SIS) may be required having regard to potential flora and fauna impacts. There is no requirement under Part 3A of the Act for the submission of a SIS, as this is a matter for consideration for an application under Part 4. Satisfactory assessment has been undertaken of the potential flora and fauna impacts of the proposal. The proponent's statement of commitments and the recommended conditions of approval provide for appropriate ameliorative measures to deal with any potential impacts.

Roads and Traffic Authority (Regional Development Committee)

The RTA raised concerns relating to the following matters in response to the EA:

- Access to the Site
- Road traffic noise
- The internal road design

Comment

The key issues raised by the RTA are discussed in detail in **Section 6** of this report. Following consideration of the PPR the RTA raised further objection to direct access being provided to the Pacific Highway. The RTA requires that all access to the proposal should be via the internal collector road proposed in the Moonee DCP and that the proponent surrender development consent issued in 1994 for the 10 lot community title subdivision which included direct access to the Pacific Highway. This matter is discussed in section 6 of the report. A condition of approval will require that all access (the than for construction purposes) shall be via the proposed collector road. The proponent has committed to the surrender the 1994 development consent.

The RTA has also required that the development should be designed such that the road traffic noise from the Pacific Highway is mitigated by durable materials in accordance with EPA criteria for new residential developments (The Environmental Criteria for Road Traffic Noise, May 1999). Where the EPA external noise criteria would not be feasible or reasonably met, the RTA recommends that the internal noise objectives be applied for all habitable rooms under ventilated conditions complying with the requirements of the Building Code of Australia. This is discussed in section 6. A condition of approval is proposed to require that the proponent submit a revised acoustic assessment that demonstrates that the noise criteria be achieved for "new residential developments affected by freeway / arterial traffic noise"

Marine Parks Authority (Solitary Islands Marine Park)

The MPA raised concerns relating to the following matters in response to the EA:

- Climate Change
- Environmental Buffers
- Cut and Fill
- Sediment and Erosion Control
- Storm Water Management
- Structures within the Solitary Islands Marine Park

Following consideration of the PPR the MPA raised concerns related to the following matters:

- Climate Change and the need to consider sea level rise of between 1m and 2m to the year 2100, and also consider other climate change impacts besides sea level rise.
- Environmental Buffers and the need for vertical as well as horizontal buffers to take account of climate change impacts; the need for a minimum 100m horizontal as well as vertical buffer adjacent to Skinners and Moonee Creeks; and potential adverse impacts due to buffer encroachments to Moonee Creek and the adjacent to salt marsh area.

Comment

Apart from the issue concerning structures within the Marine Park, the key issues raised by the MPA are discussed in detail in **Section 6** of this report. The proponent agreed to delete the viewing platforms, boardwalks, bridges, canoe/boat ramps and jetty in Skinners Creek from the proposal (as described in the PPR) which addresses the MPA's concerns regarding structures within the Marine Park.

Department of Environment and Climate Change (DECC)

DECC raised issues regarding the following matters in response to the EA:

- Aboriginal Cultural Heritage -Archaeological Methodology, Community consultation, Salvaged Material
- Biodiversity conservation - Site rehabilitation, Buffers/habitat corridors, and impacts on low lying heath land.

A second submission from DECC (Coast and Floodplain Management Branch) raised issue regarding the following matters:

- Buffers
- Jetty and Ramp (Recreational Facilities)
- Dust Control
- Erosion and Sediment Control
- Acid Sulfate Soils
- Groundwater

DECC raised concerns related to the following matters in regard to the PPR:

- Biodiversity Conservation - the following Statement of Commitments previously recommended by DECC have not been adopted in the PPR
 - The development layout is to provide a minimum 100m buffer to Moonee Creek
 - The recommendations and ameliorative measures outlined in the James Warren & Associates Flora and Fauna Assessment November 2007 to be implemented as part of the development approval
 - The loss of the Swamp Sclerophyll Forest Endangered Ecological Community and the Glossy Black Cockatoo feed tree will be compensated for at a ratio of 10:1 in the revegetation identified in the Landscape Management Plan.
 - The central vegetation and habitat corridor to be widened by a minimum 25m on either side and rehabilitated with native vegetation as part of the Landscape Management Plan.
 - A detailed rehabilitation management plan for the open space areas be prepared and approved by Council prior to release of the construction certificate.
- Wallum Froglet Habitat - an appropriate offset is to be provided as compensation for the loss of Wallum Froglet habitat from the site. The identified offset should be to DECC's satisfaction, protected in perpetuity and included as a Statement of Commitment or condition of approval,
- Aboriginal Cultural Heritage - additional information and evidence is to be provided regarding the consultation process with the Coffs Harbour Local Aboriginal Land Council and the Yarrawarra Aboriginal Corporation (in conjunction with Garby Elders).

Comment

Following consideration of the DECC submission to the EA, the proponent agreed to delete the viewing platforms, boardwalks, bridges, canoe/boat ramps and jetty in Skinners Creek from the proposal to address DECC's concerns.

The recommended conditions of approval require that the proponent submit a construction management plan which will address in detail, sediment and erosion control measures, prior to issue of a construction certificate for each stage of the subdivision. Similarly, a condition of approval requires adequate measures to be taken to prevent dust from affecting the amenity of the neighbourhood during construction for each stage of the project. The other key issues raised by DECC in relation to buffers, biodiversity conservation, Aboriginal cultural heritage, acid sulfate soils and groundwater are discussed in detail in **Section 6** of this report.

Department of Water and Energy (DWE)

The Department was generally supportive of the proposal however raised issues regarding the following matters

- Protection of Waterfront Land
- Groundwater issues
- Stormwater Management
- Erosion and Sediment Control
- Acid Soils Issues
- Integrated Water Management

Comment

A condition of approval requires the proponent to submit a construction management plan that addresses, in detail, sediment and erosion control measures, prior to issue of a construction certificate for each stage of the subdivision. The other key issues raised by DWE are discussed in detail in **Section 6** of this report.

Department of Lands

The Department was generally supportive of the proposal however raised issues regarding the following matters:

- Community Facilities
- Vegetation Corridors
- Asset Protection Zones
- Stormwater
- Grey Water Reuse
- Landscaping & provision of a vegetation management plan or plan of management

The Department of Lands raised the following issue in regard to the PPR:

- A Vegetation Management Plan or plan of management for the environmental and open space areas is critical to ensure that these areas are appropriately managed.

Comment

The PPR addresses all matters raised by the Department of Lands with the exception of landscaping and the provision of a vegetation management plan. To address this, a condition of approval requires the proponent to submit a detailed Vegetation Management Plan prior to the issue of a construction certificate for the subdivision.

Northern Rivers Catchments Management Authority

The Catchment Management Authority was generally supportive of the proposal however raised issues regarding the following matters:

- Asset Protection Zones
- Removal of vegetation for view enhancement
- Protection of sensitive areas
- Restrictions of Cats and Dogs
- Acid Sulfate Soils

Comment

In its PPR, the proponent proposes to ameliorate impacts on threatened species by banning cats under the *Companion Animals Act 1998*. Dogs are to be strictly controlled within the development and contained within an appropriately fenced yard and on a leash at all times when outside of a fenced enclosure. The proponent also proposes to distribute a brochure to prospective purchasers and future residents that will describe the restrictions applying within the estate. All other issues raised by the NRCMA are discussed in more detail in **Section 6** of this report.

Department of Primary Industries

The Department was generally supportive of the proposal however raised issue regarding the following matters:

- Boat ramp facilities

Comment

In its PPR the proponent agreed to delete the viewing platforms, boardwalks, bridges, canoe/boat ramps and a jetty in Skinners Creek from the proposal which addresses DPI's concerns. The Department considers that there will be opportunities for Council to consider the provision of suitable facilities elsewhere on Moonee Creek, funded by developer contributions under the Moonee Developer Contributions Plan 2008 and subject to further assessment of potential impacts of such facilities.

Rural Fire service

The RFS did not object to the proposal subject to imposition of conditions related to following matters:

- Asset Protection Zones,
- Water/ utilities and
- Emergency Access

Comment

The same matters were raised by the RFS in respect to the PPR along with the need to provide a minimum 10m asset protection zone for the proposed lots along the southern boundary (Lots 475 and 484-498). The recommended conditions of approval include all relevant conditions requested by the RFS.

Proponent's Response to Submissions

The proponent responded to the public and agency submissions to the EA on 10 September 2008 as part of the Preferred Project Report and the proponent's response is at **Appendix D**.

6 ASSESSMENT OF ENVIRONMENTAL IMPACTS

Key issues considered in the Department's assessment of the Environmental Assessment (EA), the Preferred Project Report (PPR) and consideration of the proponent's draft Statement of Commitments include the following:

6.1 CLIMATE CHANGE IMPACTS

Flooding and Predicated Sea Level Rise

Lower lying parts of the site are located within areas potentially subject to 1 in 100 year flooding. These parts of the site are adjacent to the estuaries of Moonee and Skinners Creeks and along the dam and drainage line in the south of the site. Filling of lower lying parts of the site will be carried out up to a minimum level of 4.75mAHD, but generally only where these areas are to be developed and they are outside proposed open space areas and riparian buffer zones. Because of these potential flooding impacts as well as the site's proximity to the estuaries and the ocean, consideration is also required of additional climate change flood risks and the impacts of predicted sea level rise over the next 100 years. The Hydraulic Assessment in the EA did not adequately consider these impacts over a 100 year time frame, but only considered sea level rise scenarios up to 2040 of between 0.03m and 0.25m (*The Glades, Moonee Beach: Hydraulic Assessment*, Cardno Lawson Treloar/Auspacific Engineers, April 2007). This assessment indicated that no specific allowance had been made for the 2040 scenarios as a freeboard of up to 0.5m was generally applied to 1 in 100 year flood levels. However sea level rise scenarios over the 100 time frame are expected to exceed a freeboard of 0.5m being up to 0.91m for high ocean level impacts (Department of Environment and Climate Change (*Floodplain Risk Management Guideline - Practical Consideration of Climate Change*, Department of Environment and Climate Change, 2007).

The PPR included a revised hydraulic assessment. This provided additional hydraulic modelling for a sea level rise by 2100 of 0.59m as indicated by the *International Panel on Climate Change*, plus an additional 100mm anticipated for the east coast of Australia. This sea level rise is however still below the predicated 0.91m high ocean level impacts as indicated by DECC. A further assessment has been provided with a revised PPR submission. This further assessment takes account of a high level ocean impact of 0.91m and a 30% increase in storm volumes. The proponent's hydraulic consultants have established that all the residential lots and roads will be above the inundation extent resulting from the predicted high level ocean impacts. They have indicated that the proposed fill platforms levels of minimum RL 4.75AHD will exceed predicated inundation levels by a minimum 600mm and will therefore provide an acceptable long term level of flood protection, including freeboard, taking into account predicted high level ocean impacts and increased storm volumes. Accordingly, the Department considers that proponent has adequately considered the expected impacts of climate change and sea level rise on the project and provided appropriate mitigation measures.

6.1.2 Vertical Buffering for Sea Level Rise

The Solitary Islands Marine Park Authority (MPA) has raised the need for the proposal to incorporate vertical buffers in addition to minimum 100m horizontal buffers to Moonee and Skinners Creeks. This has been recommended by MPA so that sea level rise and the likely landward movement of the mean high water mark are taken into consideration. A vertical buffer would allow for expansion of the waterway due to future sea level rise. There is however no established position in relation to the adoption of vertical buffers in addition to horizontal buffers for waterways such as coastal creeks and estuaries. The provision of vertical buffering is based on work done in relation to the hydrology of a particular type of coastal lake or ICOLL (Intermittently Closed and Open Lake and Lagoon). This is work done by Haines in relation

to management strategies for ICOLLS (Haines, P.E. *ICOLL Management: strategies for a sustainable future*, September 2008, BMT WBM Limited). Vertical buffers are recommended for development adjacent to ICOLLS.

The hydrology of ICOLLS is not directly the same as the hydrology of open estuaries, such as Moonee and Skinners Creeks. Haines has stated that *ICOLLS have a significantly different water regime compared to other estuary types* (Haines, 2008: 62). ICOLLS are subject to closure of their ocean mouths or outlets and potential subsequent build up of water levels from their catchments. Sea level rise may also increase the height of berms that enclose these lakes and therefore increase the catchment impacts. There are likely to be elevated water levels within ICOLLS as a consequence of higher entrance berm levels and higher tide levels.

Open creeks and estuaries such as Skinners and Moonee Creeks are not currently or likely to be subject to closure of their ocean mouths to the same extent as ICOLLS. Therefore the climate change impacts on open estuaries such as Moonee and Skinners Creeks are not expected to be of the same extent as expected impacts for ICOLLS. In this case 50m to 100m horizontal environmental buffers are considered appropriate and sufficient for setbacks to Moonee and Skinners Creeks also taking into account expected impacts from climate change and sea level rise, and to accommodate expansion of the waterway. The provision of vertical buffers is not warranted or sufficiently justified.

6.1.3 Increased bushfire risk

Climate change and associated predicted temperature rises will likely lead to an increase in the average number of days when the Forest Fire Danger Index (FFDI) rating is very high to extreme. The combined frequency of days with very high and extreme FFDI ratings is likely to increase from 4-25% by 2020 and 15-70% by 2050, with the increase in fire weather risk being greater away from the coast. These estimates are from a CSIRO study of climate change impacts on fire weather in south-east Australia carried out in 2005. The study also highlights a number of uncertainties when assessing the impacts of fire weather risk associated with climate change, such as:

- Changes in rainfall thresholds;
- Changes in ignition and fuel loads; and,
- Changes in El Nino-Southern Oscillation events under climate change.

There is an increased risk of fire weather associated with climate change, as indicated by the FFDI predictions mentioned, however at this stage the regional impacts cannot be as easily quantified with any certainty. The coastal location would appear to be an advantage, with a lesser risk than inland areas. The subject site is partly identified in Coffs Harbour City Council's Bushfire Prone Land Map as bushfire prone land. The proponent commissioned RDM Pty Ltd to prepare a Bushfire Risk Assessment. This has been prepared having regard to the NSW Rural Fire Service (2006) "Planning for Bushfire Protection" and recommends appropriate mitigation measures including asset protection zones and construction standards for future dwellings.

Given the uncertainties, the application of current requirements embodied in Planning for Bushfire Protection, 2006 is a logical response and the requirements from the Rural Fire Service and those within the PPR Bushfire Protection Assessment should provide an adequate level of protection within the 2050 horizon. The recommended conditions of approval contain requirements from the Rural Fire Service relating to the provision of Asset Protection Zones and requirements regarding construction standards.

6.2 TRAFFIC AND ACCESS

6.2.1 Interim Access

It is proposed that access to the site will be initially provided directly off the Pacific Highway by means of a new temporary un-signalised intersection. This would be constructed as part of the first stages of the subdivision and located where an intersection was proposed for the previously approved 10 lot community title subdivision (DA No. 257/93). It is intended that this access will be a temporary measure pending the future construction of alternative site access via a proposed collector road across adjoining properties to the south of the site. This will direct traffic to the main intersection and future grade separated interchange at Moonee Beach Road and the Pacific Highway. While the RTA had entered a 'works authorisation deed' (WAD) with the proponent for the private developer works for financing and construction of the temporary intersection from the Glades estate site to the Pacific Highway, the RTA has subsequently advised that this WAD is not now applicable to the current proposal. RTA objections to the interim access are discussed further in **section 6.2.4.**

6.2.2 Access via Proposed Collector Road

Alternative access to the site via a proposed collector road has been identified in the Moonee DCP and Moonee Developer Contributions Plan 2007. This collector road will avoid the need for direct access to the Glades Estate from the Pacific Highway and will connect the site with Moonee Beach Road and its intersection with the Pacific Highway. The DCP and Contributions Plan provide that subdivision and development of land in the Moonee release area shall be designed to incorporate the collector road. The land required is to be dedicated to Council with the value of the land being credited against developer contributions. The road is to be of an 11 metre standard width. Development adjacent to the collector road will be required to fund a fully constructed 8m carriageway with the additional 3m of carriageway to be funded from or credited against developer contributions.

6.2.3 Pacific Highway upgrade

The RTA also plans to upgrade the adjacent section of the Pacific Highway, between Sapphire and Woolgoolga, to motorway standard with a four lane carriageway. The project application for this work was approved by the Minister for Planning on 13 January 2009. All access to the upgraded highway will be via grade separated interchanges, including an interchange for the Moonee area at the junction of the highway and Moonee Beach Road. The RTA has made no provision in the highway upgrade for direct access to this subdivision. The upgrade was based on the premise that access to the subdivision of the site would be provided via the collector road and the Moonee Beach Road interchange, as set out in the Moonee DCP. Direct access to the upgraded highway would in any case only allow for left in and left out traffic movements, which is unsatisfactory for a residential subdivision and development of this scale.

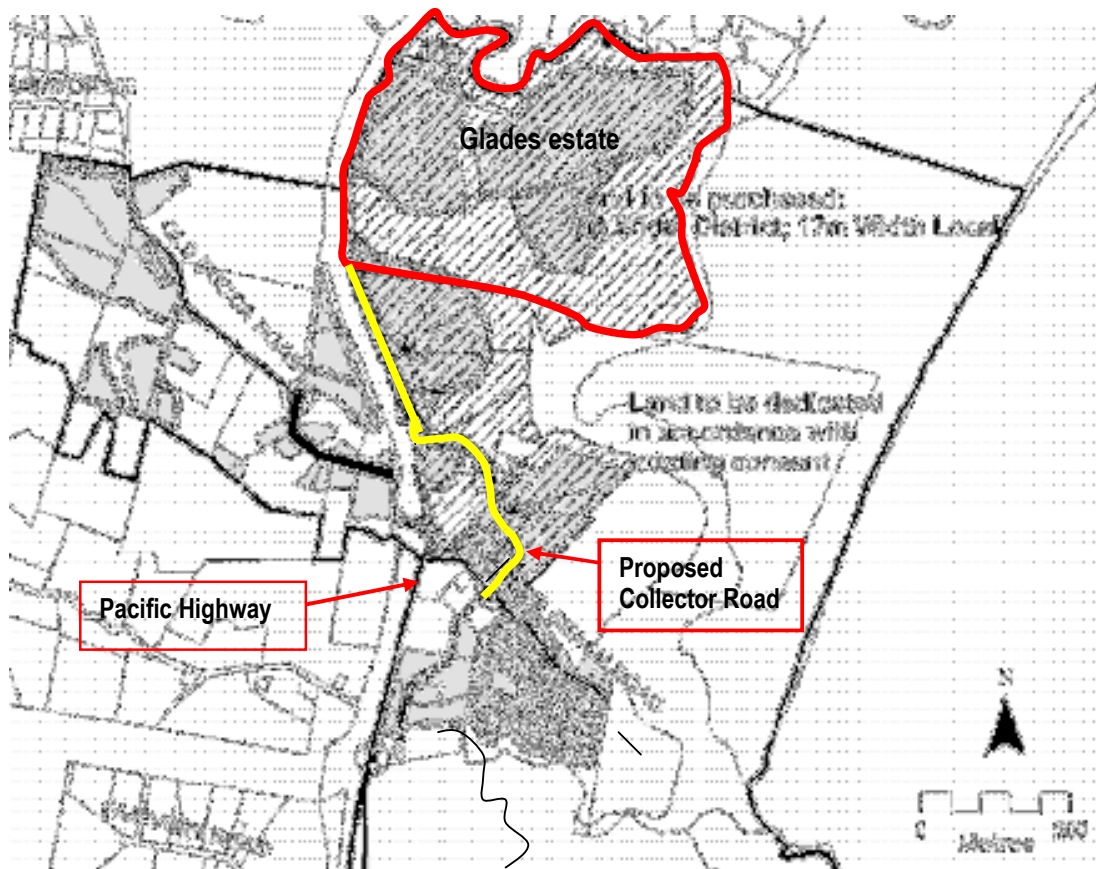


Figure 14: Extract from Moonee Developer Contribution Plan showing land to be developed and dedicated for the collector road.

6.2.4 Permanent site access from the proposed collector road

The draft statement of commitments with the EA did not provide satisfactory commitment to provision of permanent access to the site via the proposed collector road. There was also no definitive timing for the closure of the proposed interim access. The draft statement of commitments indicated that the interim access *may be* decommissioned upon the

construction of the collector road and Moonee Beach interchange, and also that the proponent would enter a formal agreement with Council to forward fund the construction of the collector road.

The proponent has since progressed negotiations with Council and the affected landowners aimed at early construction of the collector road. The Moonee DCP and Contributions Plan provide for the collector road to be constructed as respective properties are developed. It would be funded by contributions from the developers who benefit from its construction. Moonee Developer Contribution Plan does not provide for Council to forward fund the road or parts of the road to facilitate access to otherwise landlocked subdivisions. Moonee DCP indicates that where the collector road has not been constructed at the time the developer wishes to proceed, it will be the developer's responsibility to forward fund road acquisition and construction. Council will undertake land purchase at the developer's cost.

The proponent is prepared to fund the construction of the northern section of the collector road to provide for its construction prior to the subdivision and development of the other adjoining properties. The proponent has undertaken negotiations with adjoining landowners to facilitate the construction of the collector road. The proponent is seeking agreement to provide for the construction of the collector road, for the proponent to lodge any relevant applications, and dedicate the road alignment to Council. The proponent provided revised statements of commitment with the PPR to facilitate the commencement of the construction of the collector road upon release of the Subdivision Certificate for the 200th lot and its completion prior to release of the Subdivision Certificate for the 400th lot. It was also proposed that if the collector road was constructed after the interim access, the proponent would decommission the interim access within 6 months of the collector road being open to traffic, or at a later date nominated by the RTA.

Council and the RTA raised concerns that this would still not provide certainty of permanent access to the proposed development, and objected to the provision of temporary access being provided to the Highway. The RTA recommended that access to the proposed subdivision only be via the proposed collector road and objected to any direct access to the Pacific Highway (either temporary or permanent) as it would:

- *Be inconsistent with the access arrangements proposed for the highway upgrade;*
- *Be inconsistent with the proposal currently being assessed by the Department of Planning for the upgrade of the highway;*
- *Increase traffic conflicts on the highway between through and local traffic and potentially reduce road safety and transport efficiency of this critical infrastructure project; and*
- *Be inconsistent with the access arrangements proposed in the Moonee DCP.*

The Department recognises the concerns of both Council and the RTA and given the circumstances; the construction of interim or temporary access is not supported. This is particularly as the interim or temporary access would conflict with the planned local road system and the upgrade of the Pacific Highway. The proponent made further amendments to the project on 2 February 2009 to delete the direct access to the Pacific Highway, refer to **Figure 8**. Also the recommended conditions of approval require that access to the estate shall be via the proposed collector road as identified in Moonee DCP. Therefore no lots will be released until the satisfactory construction and completion of the collector road and its dedication to Council.

The proponent expects that the construction time frame for the initial stages of the subdivision will be approximately 2 years. The proponent is also seeking to progress the construction of the collector through to Moonee Beach Road, at the same time. Construction of the collector road and the initial stages of the subdivision are expected to generally coincide with the timeframe for the upgrade of this section of the Pacific Highway, and in particular the upgrade of the intersection with Moonee Beach Road. The Environmental Assessment for the Sapphire to Woolgoolga Highway upgrade indicated that any staging of the construction of the Highway upgrade would include the early provision of interchanges to access the existing and future residential areas along the coastal corridor. In this context the recommended conditions of approval are reasonable and are not expected to unduly or unjustifiably delay development of the site.

6.2.5 Construction and Funding of the Collector Road

The construction of the collector road by Council, or construction as funded on Council's behalf by the proponent, can be dealt with under the provisions of Part 5 of the Act and *State Environmental Planning Policy (Infrastructure) 2007*. The Moonee Developer Contributions Plan requires the proponent to pay contributions of \$23,450.41 per lot, including \$4,229.65 per lot for Moonee local roads, which will be wholly allocated towards the costs of construction of the collector

road. A contribution of \$9711.86 per lot is also included for Traffic and Transport measures in the Moonee urban release area. Part of this Traffic and Transport contribution will be allocated towards the costs of construction of the collector road, related to an additional 3m of carriageway width for the collector road beyond the 8m width required for a local road. These contributions total \$13,941.51 per lot, with a combined total amount of \$7,277,468.22 for the whole project. Council has indicated that the cost of the northern collector road as included in the Contributions Plan is approximately \$3,579,690.

The Contributions Plan provides that in lieu of monetary contributions the proponent may seek to make a contribution by way of a 'works-in-kind' contribution for an item in the Council's schedule of works. In this case the proponent is proposing to forward fund the construction of the collector road, which is included in the schedule of works. The Department considers this as suitable 'works in kind' which would comply the provisions of the Contributions Plan. The recommended condition of approval for developer contributions provides for the relevant contributions for Moonee Local Roads and Transport and Traffic to be made in part by works-in kind with the balance being paid as monetary contributions. The value of 'works-in-kind' to be undertaken plus the monetary contributions shall be at least equal to the Transport and Traffic and the Moonee Local Roads contributions as assessed, and adjusted, in accordance with the plan. The proponent is also seeking to credit 'works-in-kind' related to construction of two recreation areas and associated recreation facilities against the contributions required for Neighbourhood Open Space, and this is to be dealt with in a similar manner.

6.2.6 Intersection Capacity Moonee Beach Road and Pacific Highway

In addition to concerns with the temporary access to the site, the capacity and safety of the existing at grade un-signalised 'seagull' intersection at Moonee Beach Road and the Pacific Highway also needs to be considered. In particular whether it can accommodate additional traffic arising from this development, as well as from other planned and approved subdivisions. Also important is the timing of the planned upgrade of this section of the Pacific Highway and the provision of a grade separated interchange at Moonee Beach Road intersection.

Provision of the existing 'seagull' intersection was related to the development of the adjacent shopping centre which was completed in December 2005, as well as an estimated catchment of 500 lots, existing and proposed. The proponent's traffic consultants have indicated that the 'seagull' intersection in its current form is not sustainable in the longer term given the limited spare capacity and safety related deficiencies. They undertook an assessment in 2006 which is part of the EA (*"The Glades" Moonee Beach Traffic Engineering Review*, Cardno Eppell Olsen, October 2006). It was found that the intersection had reached a level of saturation at the current year (2006) including existing traffic volumes and assumed shopping centre trips associated with the adjacent shopping centre. It was noted that this intersection performance did not include traffic demand generated by Glades Estate. On this basis it was suggested that the proposed interim access would provide relief for the Moonee Beach Road intersection to allow the Moonee area to develop prior to provision of a grade separated interchange. Once a grade separated interchange is constructed at the intersection of Moonee Beach Road and the Pacific Highway there will be capacity to accommodate traffic from the whole of the planned Moonee release area. While the timing of the implementation of this grade separated interchange is dependant upon development uptake and RTA construction commitments, at this stage it is envisaged that the interchange will be completed by 2015. As noted above, the RTA upgrade project for the Sapphire to Woolgoolga section of the Pacific Highway was approved by the Minister for Planning on 13 January 2009.

A more recent traffic assessment undertaken by the RTA suggests that based on projected usage of the existing Moonee Beach Road intersection, including expected lot release in the Moonee Beach area, it is anticipated that the intersection has sufficient capacity to accommodate traffic generated by 105 lots from Glades Estate. The RTA has also advised that development in excess of 105 lots would need to be the subject of further traffic studies for the intersection and implementation of any required improvements agreed with the RTA. It is expected that this could involve the provision of traffic lights. There will therefore need to be a limited release of lots in the estate until the completion of the interchange at Moonee Beach Road. In particular the RTA has recommended that should the grade separated intersection not be completed by the time of release of the 105th lots then no further subdivision certificates for additional lots beyond the first 105 lots shall be released until a further traffic study of the intersection of Moonee Beach Road and Pacific Highway is undertaken to determine whether capacity is available to accommodate the additional traffic and whether any improvements are required to increase that capacity. Any required improvements are to be designed, approved and implemented to the satisfaction of the RTA.

The proponent has indicated that they are willing to accept some limitation on the release of lots related to the intersection upgrade but the extent of the limitation down to 105 lots would have an adverse impact on the viability of the project and the early construction of the collector road. The proponent has indicated that if capacity restrictions only allow a relatively small number of lots to be developed then some form of interim access arrangements should be permitted until these capacity restrictions are eliminated. The proponent is however prepared to accept a limitation of 149 lots which is equivalent to the first three stages of the subdivision, and would more reasonably balance the costs of carrying out the construction of the collector road, construction and completion of which is required before the release of any lots.

The 2006 assessment by the proponent's traffic consultants, Cardno Eppell Olsen, was based on some traffic generation assumptions including 100% occupancy for the shopping centre. These assumptions may also have been carried over into the RTA's more recent assessment. However, at least 25% and possibly up to 50% of the floor space within the shopping centre is currently unoccupied, primarily floor space set aside for bulky goods retailing. The extent of retail floor space in the shopping centre was based on expectations about the size of the Moonee release area and existing residential zonings in the area before the adoption of the current Moonee DCP. The DCP would restrict or limit the extent of residential development and set aside more land for environmental protection. Also, the Glades estate represents by far the largest undeveloped component, approximately 80%, of the North Moonee Precinct and approximately 30% for the whole of the Moonee urban release area (target yield of approximately 1700 lots). On this basis there will currently be additional capacity at the Moonee Beach Road and Pacific Highway intersection due to underutilisation of the existing floor space within the shopping centre, prior to release and development of land within the Moonee urban release area including the Glades estate.

Another factor to take into consideration is the delays in uptake and development of the land which would delay the impact of the Glades estate subdivision and other subdivisions in the area. In their assessment the proponent's traffic consultants have assumed a development uptake of 50 lots/dwellings per year which they consider is a conservative assumption. Development uptake will of course depend on market and financial conditions and it is likely to be less than 50 lots/dwellings per year. On this basis and taking into consideration a construction phase of approximately 2 years, it could take up to 5 years before there is full take up of the first 3 stages of the Glades estate. This would be closer to the expected completion of Moonee Beach Road intersection upgrade works by 2015.

Having regard to the above matters the Department supports the RTA recommended limitation on the release of lots but supports the proponent's request that this be based on the first three stages and the first 149 lots rather than the first 105 lots. Therefore a condition of approval requires that should the grade separated interchange with the Pacific Highway not be operational immediately prior to the release of first 149 lots, no further subdivision certificates for additional lots shall be released until a further traffic study of the intersection of Moonee Beach Road and Pacific Highway is undertaken to determine whether capacity is available to accommodate the additional traffic and whether any improvements are required to increase that capacity. The possibility of some flexibility has been included to allow for a different number of lots (either a decreased or increased number) as might otherwise be agreed with or directed by the Department, in consultation with the RTA. A copy of the recommended conditions of approval were forwarded to the RTA, and no further amendments were suggested this matter.

6.2.7 Construction Traffic Access

Temporary access from the Pacific Highway to the site and adjoining properties will still be required to allow for the construction of the subdivision and the collector road. This matter has been clarified with the RTA. The RTA will accept temporary construction access for the subdivision, but not for other purposes such as for the construction of dwellings or for future access by residents. Appropriate traffic arrangements are required to the RTA's satisfaction including acceleration, deceleration lanes for construction traffic turning into and out of the site. The proponent will be responsible for costs associated with the approval, design and construction of this access, traffic management measures, and removal and rehabilitation of the temporary access. The recommended conditions of approval require that the proponent provide evidence of agreement being reached with the RTA for the provision of this construction access prior to the issue of initial construction certificates.

6.3 ENVIRONMENTAL BUFFERS AND HABITAT CORRIDORS

6.3.1 Riparian Buffers to Moonee and Skinners Creeks

The proposal provides for riparian buffer zones to the creeks or estuaries adjacent to the site, Moonee Creek and Skinners, as shown in **Figure 15**. These areas are to be dedicated to Council. The planning controls in Moonee DCP specify that urban development should be excluded from within 100m of Moonee Creek and 50m of Skinners Creek (measured from mean high water mark) to protect riparian vegetation and maintain water quality and provide habitat linkages. The DCP and its planning controls were prepared in consultation with and advice of relevant agencies including DECC. The proposed riparian buffer zones are provided generally in accordance with the Moonee DCP and will encompass areas of existing and regenerating riparian vegetation (refer to the discussion below in section 6.3.2 regarding buffer encroachments). It is noted that following consideration of issues raised in submissions the proponent made changes to the project to move any works or structures outside of the buffer zones. These areas have been fenced off to restrict stock movements and allow for natural regeneration. The Department supports these amendments.



Figure 15: Buffers to Moonee and Skinners Creeks (source: ERM, Preferred Project Report, September 2008).

6.3.2 Reduced Buffer Widths

As noted above whilst buffers to the Moonee and Skinners creeks are generally 50m to 100m wide in accordance with the planning controls in the Moonee DCP, there is an area within the north/ north eastern (NNE) corner of the site where the buffer width is reduced to 40m to 55m, refer to **Figure 15**. The EA and PPR include discussion of the reduced buffer width in this part of the site and the proponent has sought to justify these variations. It is considered appropriate that there should be some flexibility in implementation of these buffer zones and a merit based approach taken. DECC has advised that a minimum 100m vegetated buffer is considered necessary to reduce impacts of increased water runoff from the proposed built up areas and to filter sediments and pollutants known to occur in urban stormwater. The design of stormwater infrastructure for the subdivision provides for filter zones to treat stormwater runoff. Stormwater measures will be outside buffer zones and substantially outside the part of the site where the buffer to Moonee Creek is less than 100m. This includes filter zones and drainage outlets. There would be no expected stormwater runoff impacts. Additional concerns were raised by the MPA about potential impacts on the salt marsh area within Moonee Creek, in particular residents accessing Moonee Creek at this point being the closest point to Moonee Creek. This can be resolved by provision of appropriate fencing to restrict access to this area and is reflected in the recommended conditions of approval. Accordingly, the Department considers the reduced width in the NNE corner can still provide for an effective buffer in this area, particularly having regard to stormwater management measures and restricted access in this area.

6.3.3 Moonee Creek Estuary Management Plan (EMP)

The EMP was prepared on behalf of Coffs Harbour City Council and the Department of Environment and Climate Change to fulfil the requirements of the requirements of the NSW Estuary Management Policy (1992) and NSW Coastal Policy (1997). It was adopted by Council on 6 November 2008, following exhibition of a draft EMP in 2006. The EMP identifies 24 management strategies for Moonee Creek including the establishment of vegetated buffers to the creek foreshores, which are not to be relied upon to treat urban runoff, or cleared for bushfire risk mitigation. It is further recommended that buffers be established to the RL 4.0m AHD contour, ensuring buffers of at least 100m from the creek banks. This project provides for buffers to Skinners Creek which will be in most part established to the RL 4.0m AHD contour, while buffers to Moonee Creek will be established between RL 3m to 4m AHD contours and will mostly exceed 100m, except for the reduced width discussed in section 6.3.2. The Department is satisfied that the project provides for appropriate buffers that comply with the aims and intent of this strategy. The proposed buffer zones will be free of any development and structures and public access will be restricted. They will comprise existing and regenerating native vegetation and will not be used to treat runoff or manage bushfire risk.

6.3.4 Central Wildlife Corridor

The network of open space, buffer zones and habitat corridors identified in the Moonee DCP for this site includes a narrower central corridor area connecting wider northern and southern buffer zones and habitat corridors. A dense corridor of existing trees and vegetation 60m – 70m wide will be retained on the site, (refer to **Figure 16**). This will act as a local wildlife corridor. It will connect northern and southern areas of the site which form part of a regional corridor identified by DECC (NPWS Key Habitats and Corridors database, and as identified in the flora and fauna assessment for the site prepared by James Warren & Associates Pty Ltd, Nov 2007). This regional corridor connect Moonee Beach Nature Reserve to the east of the site, on the opposite side of Moonee Creek, and Orara East State Forest to the west, on the opposite side of the Pacific Highway.

While the 60m – 70m width of the corridor is consistent with the Moonee DCP, the DECC has recommended that this corridor be widened by a minimum of 25m, on each side. The DECC has indicated that the lack of these additional buffers will severely limit the ability of this area to function as a wildlife corridor. The DECC has also noted that bushfire asset protection zones will intrude on this area.

The proponent's consultants have responded noting that expansion of the central vegetated corridor by 50m (25m either side) is not consistent with the requirements of Moonee DCP and would result in a significant reduction in lot yield. The additional 50m width would affect at least 22 lots either side of the proposed central corridor, but would also likely further reduce lot yield due to the need to revise lot layouts. The proponent's consultants have indicated that the provision of fauna underpasses under the adjacent roads to the north and south of the corridor will assist the functioning of the vegetated corridor to provide for wildlife movement.

Amendments to the project since exhibition of the EA have included the relocation of a proposed recreation area which was to be sited immediately to the south of the central corridor area. The relocation of the recreation area will enhance the effectiveness of the wildlife corridor and its linkages to the adjoining corridors buffering the creek line to the south of the site. Proposed asset protection zones have also been reduced where they previously would have intruded approximately 5m to 10m on either side of the proposed central corridor. Adjacent allotments will be subject to higher bushfire construction standards. This would be the same as is proposed for other allotments where the widths of adjoining asset protection zones are reduced to avoid any impacts for perimeter buffer zones. This is consistent with bushfire planning and the Rural Fire Service has accepted this approach. It is not expected that higher construction standards would substantially impose on the cost of dwelling construction.

The Department considers that there is inadequate justification for widening the central corridor with 25m buffers on either side. The proposed width of 60m - 70m is considered to be satisfactory for a local wildlife corridor. This is supported by an advisory note provided by the DECC which indicates that local corridors are smaller, less defined linkages that provide a local connection of remnant patches of vegetation and landscape features and which may be less than 50m wide (*North East NSW: Wildlife Corridors – Natural Resource Management Advisory Series: Note 15*, August 2004).



Figure 16: proposed Vegetation Management Plan (source: ERM, Preferred Project Report as amended December 2008).

6.4 DEDICATION & MANAGEMENT OF OPEN SPACE AREAS

6.4.1 Dedication of Open Space

Moonee DCP provides that all open space including buffers and corridor areas are to be dedicated to Council as development occurs. The proponent proposes that these areas will be dedicated to Council in stages consistent with the release of stages in the estate. Council has required the consolidation of this open space dedication in order to reduce the number of 'handovers', rather than dedication being in conjunction of the proposed 9 stages of the subdivision. Accordingly, the proponent has amended the staging of the open space dedication to reduce the number of 'handovers'. This is reflected in the recommended conditions of approval, and the staging and plans which are to be approved.

The proponent proposes to dedicate approximately 36ha of land (currently zoned Residential 2A and Environmental Protection 7A) as open space at no cost to Council. This excludes an area of proposed open space of approximately 9ha which is currently zoned 6A Open space under *Coffs Harbour City LEP 2000* (refer to **Figure 11** showing existing zonings of the site). Under the acquisition provisions of clause 20 of *Coffs Harbour City LEP 2000* the proponent can, by notice in writing, require Council to acquire the land. On receipt of such a notice Council shall acquire the land, unless it is required to be provided without cost as a condition of consent to the carrying out of development.

The proponent had sought to credit \$500,000 for the acquisition of the 6A land against the developer contributions required in the Moonee Developer Contributions Plan for this project. It is understood however that there has been no formal written request to Council to acquire this land. The proponent's approach is not appropriate as acquisition of the 6A land should be subject to an appropriate agreed valuation and the provisions of the *Land Acquisition (Just Terms Compensation) Act 1991*.

In order to avoid the need to acquire the 6A zoned land Council has recommended that the Department require the proponent to dedicate the land at no cost, along with the rest of the open space areas. Council has advised that the current Moonee Developer Contributions Plan 2008 does not provide for funds to acquire this land. Council has

suggested that it is in the public interest to limit its exposure to acquire this open space that benefits the site and the project. Council has also sought to amend *Coffs Harbour City LEP 2000* and change the zoning of the land (through Amendment No 24). On 21 August 2008 Council resolved to rezone the 6A land on the Glades Estate to Environmental Protection 7A, and defer the remaining changes proposed in Amendment No 24. The Department has not formally made a decision at this stage regarding this proposed rezoning and Amendment 24 of *Coffs Harbour City LEP 2000*.

The 6A zoning applying to part of the site has been longstanding, and therefore the acquisition of this land could have been planned for as part of the Moonee Developer Contributions Plan. However, there will be broader community benefits arising from provision of a riparian buffer zone in this area and protection of an area of Aboriginal cultural heritage significance. If Council wishes to pursue the rezoning of the 6A land, based on the environmental attributes of that part of the site, it should justify such a position and re-apply, if necessary, to the Department to progress such an amendment to *Coffs Harbour City LEP 2000*. The land currently zoned 6A Open Space is subject to the acquisition provisions of clause 20 of *Coffs Harbour City LEP 2000* and the Department makes no recommendation regarding the proposed rezoning as part of this assessment. Accordingly, the recommended conditions of approval require the proponent to dedicate all open space and public reserve areas at no cost to Council, other than any land that may be subject to the acquisition provisions of clause 20 *Coffs Harbour Local Environmental Plan 2000*.

6.4.2 Open Space Management

The proponent has provided a plan of management for open space areas including conservation areas and buffer zones. The Department of Lands has advised that there is little detail in the proponent's management plan. The Department of Lands recommends that a vegetation management plan be developed which outlines in detail rehabilitation areas, species to be planted; density of planting; monitoring and ongoing maintenance. The DECC has also recommended that a detailed rehabilitation management plan be prepared. The recommended conditions of approval require the submission of a detailed landscape plan and a vegetation management plan.

The proponent has committed to undertake bush regeneration and vegetation management during civil construction and for a period of 2 years following dedication to Council. After this period all maintenance will be Council's responsibility. The Department considers that 2 years is too short a period, particularly if dedication occurs soon after establishment of these open space areas. A 5 year period would be more appropriate and would ensure that these areas are restored to a sufficient standard for Council to maintain them without a significant ongoing injection of funds. It would also allow for canopy closure and weed control to the level required for handover to Council. The recommended conditions of approval require the proponent to maintain these areas for a minimum 5 years from release of relevant construction certificates. The recommended conditions of approval also require the proponent to submit a vegetation management plan including a maintenance, monitoring and reporting schedule with developer commitment for a period not less than 5 years, from release of construction certificates.

6.4.3 Coastal Walkway

A preferred route for a coastal walkway around the perimeter of the site adjacent to Moonee Creek has been identified in Moonee DCP 2004. While a coastal walkway comprising a concrete pathway and elevated boardwalks over wetlands and fragile areas was identified in the concept landscape plan submitted with the EA, it has been deleted from the concept landscape plan submitted with the PPR following further consideration of the potential impacts of such a walkway. The assessment of this project has identified that the preferred route of the coastal walkway through the site has potential adverse impacts on the riparian buffer zones, areas of sensitive vegetation and on areas of aboriginal cultural significance. The Department therefore supports the deletion of the coastal walkway from the project. Appropriate alternative access will be provided adjacent to open space areas around the perimeter of the site. A network of shared pedestrian and cyclepaths are to be provided including a major pedestrian/cycle route around the periphery of the site adjacent to the perimeter roads and adjoining open space areas and recreation nodes. This is confirmed in the project plans which would part of the conditions of approval, along with the preparation of a detailed landscape plan.

6.5 ABORIGINAL CULTURAL HERITAGE

The Aboriginal cultural heritage assessment prepared for the Environmental Assessment (*The Glades Residential Development Moonee Beach: Aboriginal Cultural Heritage Assessment*, ERM, dated October 2007) identified areas of

potential archaeological significance around the northern and eastern perimeter of the site adjacent to Skinners and Moonee Creeks as well as an area of cultural significance in the north-east corner of the site, refer to Figure 16. The assessment indicated that no development should occur in the area of cultural heritage significance and that it should not be a focus of public use. A major recreation node however was proposed within the vicinity of this area and nearby areas of potential archaeological significance. The project has been amended through the PPR and the recreation area has been relocated to avoid any conflicts with areas of Aboriginal heritage significance. Furthermore no significant works or structures are now proposed in most areas of potential archaeological significance around the northern and eastern perimeter of the site.

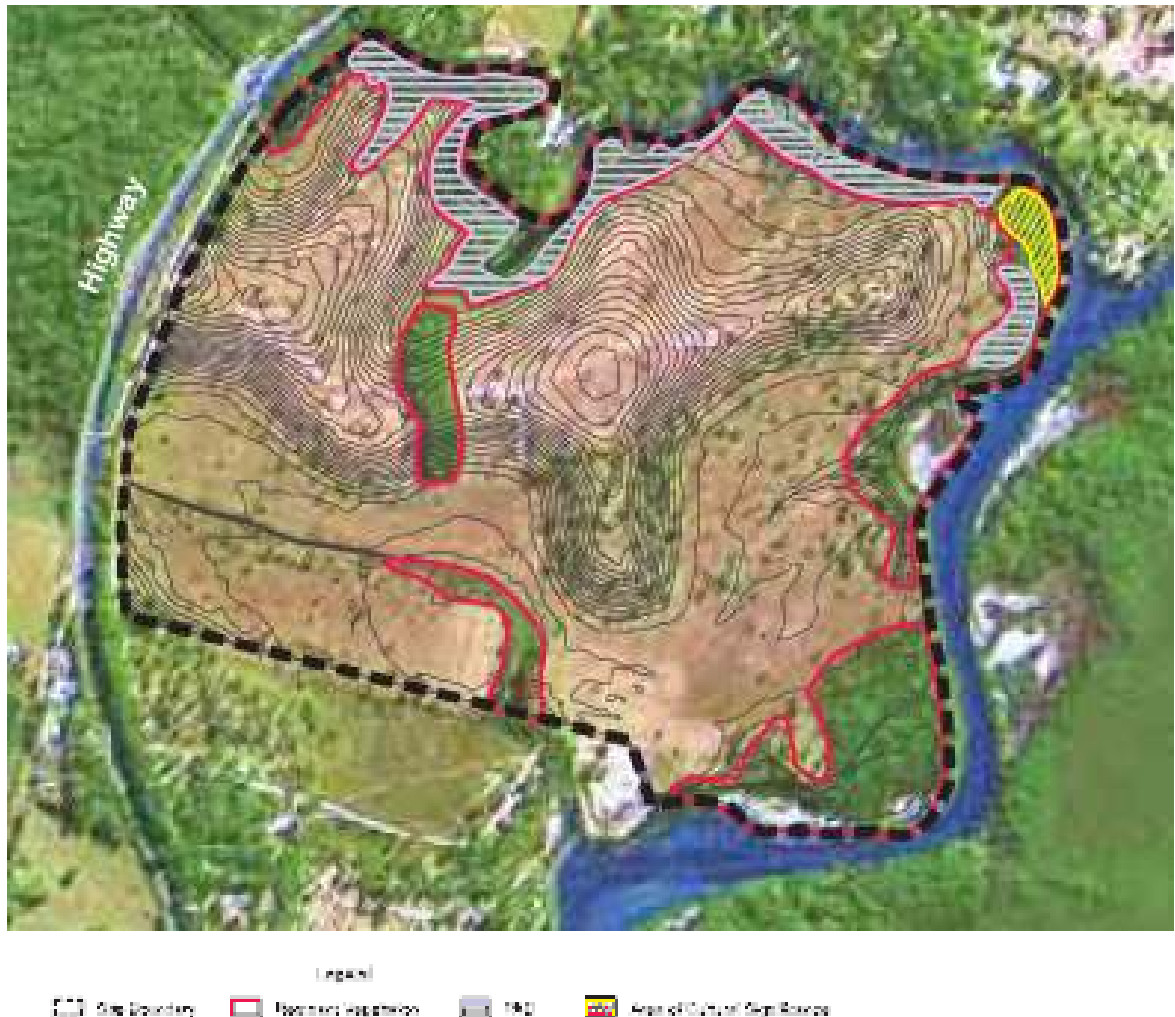


Figure 17: Areas of Archaeological Potential and Cultural Importance (source ERM, Environmental Assessment).

The Department supports these revisions as they will suitably minimise impacts on areas of Aboriginal cultural heritage significance. Statements of commitment are also proposed to further minimise any potential impacts and protect these areas. During construction these areas are to be protected by high visibility fencing and contractors made aware that they are not to be disturbed. In the event construction works disturb Aboriginal cultural materials, works at or adjacent to the material must stop immediately, fencing must be erected and the material must be identified by an independent archaeological assessment.

6.6 IMPACTS ON FAUNA HABITAT

6.6.1 Wallum Froglet Habitat

The proponent's EA and PPR provide an assessment of wallum froglet habitat on the site (*Wallum Froglet Assessment, Lot 1 & 2 DP 725785 Pacific Highway, Moonee*, James Warren & Associates, Nov 2007 & *Wallum Froglet Survey Lots 1 & 2 DP 725785 Moonee Beach*, Biosphere Environmental Consultants, August 2006). This indicates that Wallum froglets are not permanent residents of the site; there are no core populations on the site; and no breeding habitat. However foraging and dispersal of Wallum froglets can occur along and adjacent to the water course or drain in the southern part of the site. Froglets disperse along the drain and onto the site when conditions are favourable such as periods of saline or brackish water conditions when flooding backs up from Moonee Creek. The probable extent of Wallum froglet foraging and dispersal activity would also include areas below the dam and also extend into the area of the adjacent property where potential breeding habitat has been identified. Recent development on the adjacent property to the south in the vicinity of the creek and drainage line has the potential to adversely impact on areas of breeding habitat on that site, identified by the proponent's consultants.

The proposal will result in the loss of 0.29ha of this foraging and dispersal habitat adjacent to the water course. A further 0.87ha will be impacted by encroachments such as stormwater measures and asset protection zones (*Response to Request for Further Information: Assessment of Impacts on Potential Wallum Froglet Habitat*, James Warren & Associates Pty Ltd, May 2008). The total area affected is 1.16ha which represents 18% of potential wallum froglet foraging and dispersal habitat on the site.

To justify this loss of habitat the proponent's flora and fauna consultant has indicated that areas to be lost occur at the peripheries and the loss is considered likely to place negligible impact on available foraging and dispersal habitat. Ameliorative measures are proposed to deal with the loss of habitat involving periodic thinning of paperbarks along the southern drainage line to continue to make this area suitable for froglets. While this vegetation is representative of an Endangered Ecological Community (Swamp sclerophyll forest on coastal floodplains) the proponent's flora and fauna consultant considers that the proposed vegetation thinning is unlikely to adversely effect the composition of the EEC. Other mitigation measures include stormwater management with bioretention basins, vegetation buffer zones and adjacent bunds to achieve no significant net change in runoff; sedimentation controls and slit fencing during construction; and use of inert fill around roads and batters to reduce potential adverse pH change to habitat areas.

The DECC has however advised that ameliorative measures involving periodic thinning of paperbarks are inadequate and inappropriate compensation for the loss of habitat, and it is unknown whether this will provide suitable habitat. There is also expected to be ongoing impacts on the paperbarks. The DECC have recommended that an offset for the loss of habitat be provided. In the PPR the proponent has identified an area of approximately 1ha on the site, adjacent to identified habitat areas which can be rehabilitated to provide potential foraging and dispersal froglet habitat, (refer to **Figure 18**). This area would be an extension of existing habitat areas and form part of the overall open space areas on site that will eventually be dedicated to Council. The proponent will be responsible for the establishment of this area and for the initial maintenance period.

The proponent has undertaken appropriate assessment to clarify the nature and extent of potential habitat on the site. The development does not impact on known permanent populations or breeding habitat. A core area of potential foraging and dispersal habitat on the site is to be maintained and protected. Development of the site will allow for removal of current grazing impacts on habitat areas and provisions of buffers to these areas within open space to be dedicated to Council. Stormwater measures and vegetation regeneration and management will improve potential habitat values. The addition of 1ha of potential foraging and dispersal habitat will appropriately compensate for the loss of this habitat elsewhere on site. The compensatory areas will be located immediately adjacent to the existing habitat areas which are to be retained and will provide better connections to breeding habitat outside the site, on the adjacent property to the south.

Notwithstanding that this may not formally be an offset, the Department supports the provision of this additional habitat as appropriate compensation for impacts on potential Wallum foraging and dispersal habitat, particularly having regard to the substantial areas of habitat which will remain unaffected by the project. The recommended conditions of approval include approval of project plans showing the additional habitat areas. The conditions also require the proponent to prepare a vegetation management plan which will include management and maintenance measures for Wallum froglet habitat areas including the areas of additional potential wallum froglet foraging and dispersal habitat.



Figure 18: Additional Potential Wallum Froglet Habitat (source: ERM, Preferred Project Report as amended Dec 2008).

6.6.2 Koala Habitat

The project will involve the loss of 33 potential Koala feed trees and removal of some areas of secondary Koala habitat as identified in Council's Koala Management Plan, comprising scattered paddock trees in the north east part of the site. Vegetation mapped as secondary habitat along most of the northern and eastern boundaries will be retained. Compensatory koala habitat trees are to be planted near Skinners Creek in the northern part of the site outside the development footprint. This is confirmed by the recommended conditions of approval which require compensatory koala habitat revegetation. This will be carried out in northern part of the site adjacent to Skinners Creek at a ratio no less than 1:5 as part of a vegetation management plan which is required to be prepared by the proponent in accordance with the recommended conditions of approval. The conditions also include procedures that are required prior to any tree removal on site, to check for the presence of koalas and their relocation if found on site. The Department is satisfied that these measures will satisfactorily mitigate any impacts on koalas and koala habitat.

6.7 ACOUSTIC AMENITY – ROAD TRAFFIC NOISE

A noise impact assessment was carried out for the proponent in 2004 based on relevant road traffic noise criteria (*Environmental Criteria for Road Traffic Noise*, Environment Protection Authority, 1999). Noise levels were measured over 4 days and 5 nights, including at a location 20m from the site boundary with the Pacific Highway. Existing road traffic noise levels were found to exceed the relevant criteria at locations surveyed. When considering the proposed subdivision layout it was predicted that daytime and night time road traffic noise would exceed the recommended criteria by up to approximately 5dB(A) for residences along the highway side of the development. It was indicated that compliance with the criteria however could be achieved for the majority of the proposed lots by the provision of noise barriers.

Noise mounds, attenuation barriers and fencing are proposed along the western boundary, within the site. These barriers will be up to 3m to 4m in height and include fencing and earth berms or mounds. The proposed barriers will not be continuous due to the existing topography providing a noise barrier to parts of the site boundary. Approximately 20 proposed lots would still be subject to noise levels exceeding the criteria, at levels less than 5dB(A). The proponent's noise consultants therefore recommended that dwellings on these lots be subject to appropriate acoustic treatment, including mechanical ventilation and dwelling designs, with noise sensitive rooms facing away from the Pacific Highway.

Since the proponent's noise assessment was undertaken, the RTA has finalised plans for the upgrade of this section of the Pacific Highway. A noise and vibration assessment has been undertaken on behalf of the RTA, as part of the EA for the highway upgrade project. Measured noise levels and predicted noise contours are generally consistent with those detailed in the proponent's noise assessment for the Glades Estate. Again it was found that road traffic noise criteria are already exceeded in certain locations close to the existing highway. Noise levels are however predicted to fall by 2dBA to 3dBA along this section of the Highway resulting from the Highway upgrade and use of lower noise road pavement surfaces.

The EPA noise criteria specify that in the case of new residential land use developments affected by freeway or arterial road traffic noise, where feasible and reasonable existing noise levels should be reduced to meet the noise criteria via judicious design and construction of the development. Location, internal layout, building materials and construction are specified as means to reduce noise impacts. In this context 'feasible and reasonable' means consideration of best practice taking into account the benefit of proposed measures and their technological and associated operational application. 'Feasible' relates to engineering consideration and what is practical to build. 'Reasonable' relates to the application of judgement in arriving at a decision taking into account mitigation benefits, and cost of mitigation versus benefits provided.

The RTA has recently advised that the proposed development should be designed so that road traffic noise from the Pacific Highway is mitigated by durable materials. The RTA recommends that where EPA external noise criteria would not feasibly or reasonably be met, the following internal noise objectives should be applied for all habitable rooms under ventilated conditions complying with the requirements of the Building Code of Australia:

- All habitable room other than sleeping rooms: 45 dB(A) Leq (15hr) and 40 dB(A) Leq (9hr), and
- Sleeping rooms: 35 dB(A) Leq (9hr).

Consistent with this approach the proponent has proposed that all future dwellings which adjoin the Pacific Highway will be assessed by a qualified Acoustic Engineer. It is proposed that a restriction or covenant be placed on title of affected lots via a sec 88B instrument to implement noise standards for the construction of future dwellings on affected lots. It is generally preferable to ameliorate road traffic noise and achieve the relevant noise standards through the design and planning of a project, rather than placing restrictions or covenants on lots to achieve relevant noise standards. In this case however the proponent has feasibly and reasonably designed proposed measures to reduce the impacts of road traffic noise. The RTA will also have a role in ensuring that the Pacific Highway upgrade project will mitigate road traffic noise impacts, and as advised above the Highway upgrade project is expected to reduce existing noise levels by 2dBA to 3dBA.

Deletion of the proposed access to the Pacific Highway, refer to section 6.2, is also expected to reduce potential road traffic noise impacts as noise attenuation measures can be continued across this section of the Highway frontage of the site, rather than being discontinuous in this area. A revised acoustic assessment will be required to assess this change and any amendments that will be required to proposed noise attenuation measures. This will also take into consideration noise impacts and mitigation measures arising from the RTA's Pacific Highway upgrade project.

A condition of approval requires that the proponent submit a revised acoustic assessment prior to the release of the construction certificates for stages 1, 2, 3 and 9 of the project. The revised assessment must demonstrate that the noise criteria be achieved for "new residential developments affected by freeway / arterial traffic noise", in accordance with Table 1 of the Environmental Criteria for Road Traffic Noise guideline (EPA, 1999), for western and northern perimeter lots in stages 1, 2, 3 and 9 (lots 1-20, 84-96, and 474-47). In accordance with the RTA recommendation where EPA external noise criteria would not feasibly or reasonably be met, the following internal noise objectives should be applied by means of a building covenant on affected lots for all habitable rooms under ventilated conditions complying with the requirements of the Building Code of Australia:

- All habitable room other than sleeping rooms: 45 dB(A) Leq (15hr) and 40 dB(A) Leq (9hr), and
- Sleeping rooms: 35 dB(A) Leq (9hr).

With the imposition of these measures, the Department is satisfied that the adverse impacts of road traffic noise will be satisfactorily minimised for the future residents of the estate, and that this matter can be further dealt with in future applications for the erection of dwelling houses on the land.

6.8 ACIDIC SOILS & ACID SULFATE SOILS

The Moonee Beach acid sulfate soils risk map indicates that the majority of areas to be developed on the site are not within areas with known acid sulfate soils (ASS). In particular, the majority of Stages 1, 2, 3, 4, 7, 8, 10 and 11 are within no risk areas. However, areas of Stages 1, 5, 6 and 9 are in areas mapped as low risk with potential localised occurrences. The Geotechnical Assessment submitted with the Environmental Assessment identified two geological zones on the site:

- **Zone 1** – Topsoil overlying residual soils and weathered rock.
- **Zone 2** – Topsoil overlying alluvial soils of variable depth, with residual soils underlying the alluvial soils in some test pits (refer **Figure 19**).

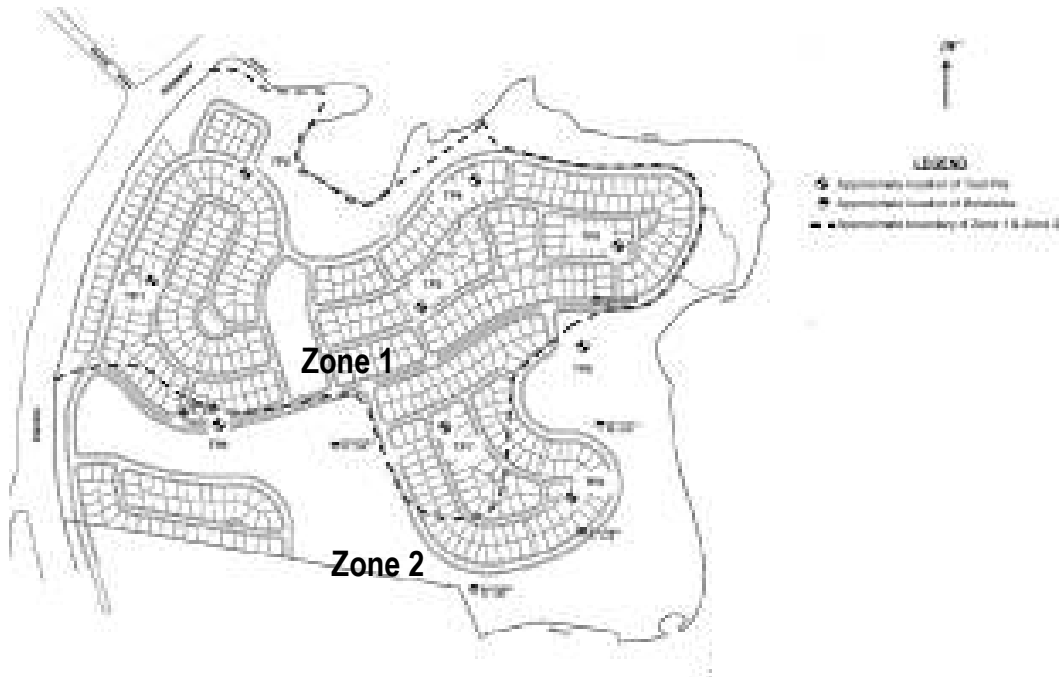


Figure 19: Geological Zones identified through geological assessment (source: ERM, Environmental Assessment).

The area within Zone 1 contains areas mapped as low risk ASS potential. As such, the ASS field investigation was limited to the soils in Zone 2 in Stage 1 as this area was the most likely to contain ASS according to the risk mapping. The investigation concluded that the soils in this part of the site are acidic soils, not ASS. Acidic soils are unlikely to cause significant harm to the environment, as the production of acid is slow and is unlikely to leach from the soils in significant quantities in their natural state. However, should the soils be disturbed and be washed into waterways then acidification of the water can occur. Acidic soils can also have a negative effect on vegetation growth, especially vegetation that is not native to Australia, and concrete footings can also be corroded by acidic soils. As such, the proponent has prepared a revised Construction Environmental Management Plan (ERM August 2008) that sets out the site controls for management of acidic soils.

Despite finding no ASS in the area of Zone 2 in Stage 1, the proponent's ASS assessment report recommended that a more detailed assessment of ASS be undertaken in the remainder of the Zone 2 area in Precincts 2 – 4 (Stages 4 – 11) to address any site specific issues prior to final subdivision design and construction. In particular, the proposed construction of services/excavation/drainage through low lying areas of site required further assessment for presence of ASS.

It is noted that there is a strong correlation between the areas in Zone 2 where ASS may be present and the area where fill material is proposed to be placed to a depth of 2 – 3 metres. Very little excavation (apart from topsoil stripping) is proposed in Zone 2 which means that the likelihood of disturbing any ASS which may be present would be small. Notwithstanding, an ASS and Groundwater Management Plan has been prepared that outlines the requirements for further investigation, management and monitoring of ASS and groundwater, given the important relationship between ASS and groundwater.

The recommended conditions of approval require additional ASS investigations to be undertaken in accordance with the ASS and Groundwater Management Plan prior to any earthworks in the potentially affected areas, prior to the issue of a construction certificate for the relevant stages. If ASS is encountered then the management plan sets out mitigation measure to ensure that they are appropriately managed. The key findings of these management plans are also summarised in the Construction Environmental Management Plan (CEMP). Should ASS be encountered the amount of treatment required is anticipated to be relatively minor.

6.9 GROUNDWATER ISSUES

The Moonee DCP has generally excluded development in areas of potential high water table where there is likely to be adverse impacts on groundwater or surface water quality. The Moonee DCP has identified eastern and southern parts of the site as being subject to high water table and requiring further detailed investigation to determine its suitability for development (Map 5 'Limitations' Moonee DCP – refer to **Figure 20**).

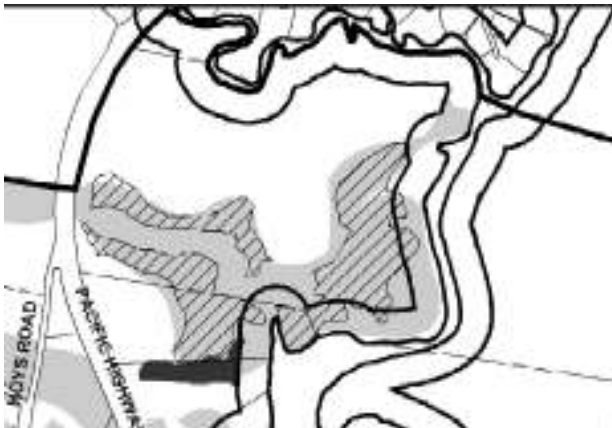


Figure 20: Areas of high water table as defined by the Moonee DCP.

Parts of stages 5, 6 and 9 of the proposed subdivision, are within areas subject to high water table, where the DCP identifies that development is subject to further investigation. These parts of the site are largely within the proposed buffer zones and open space areas and will also contain elements of the proposed stormwater system, such as vegetation filter zones and bioretention zones. These areas of high water table are proposed to be filled to a minimum of RL 4.75mAH.

The proponent has undertaken a geotechnical assessment of the site. The maximum water level recorded in boreholes across the southern portion of the site range from 2.74m to 3.59m, (Coffey Geosciences Report dated 26 June 2008). The proposed finished ground level is therefore a minimum of only 1.16m above the groundwater table at the lowest point. This is considered unacceptable as the proponent's consultant engineer, Auspacific Engineers, advised that to protect the existing water table and surrounding environs it will be necessary for fill platforms to be set at levels 2 to 3 metres above the 1 in 100 year flood level and the water table. As such, to ensure protection of the water table, a condition of approval requires that a minimum of 2 metres of fill above the 1 in 100 year flood level and the water table (whichever is the higher) be placed in those areas of the southern open space that contain stormwater infrastructure.

The proponent was asked to consider the potential impacts of climate change on the water table level and subsequently, impacts on the proposed stormwater infrastructure in the south-east and south-western areas of open space. As a conservative measure of the increase tide level, a sea level rise of 0.91m was considered. The analysis demonstrated that a potential sea level rise of 0.91m by 2100 will have little or no impact on the groundwater regime of the land under the fill zones. This is because the expected discharge zones for the shallow (perched) groundwater table are above the estimated sea level rise. In addition, the water tables at their highest levels are significantly higher than the estimate sea level (refer to **Figure 21**).

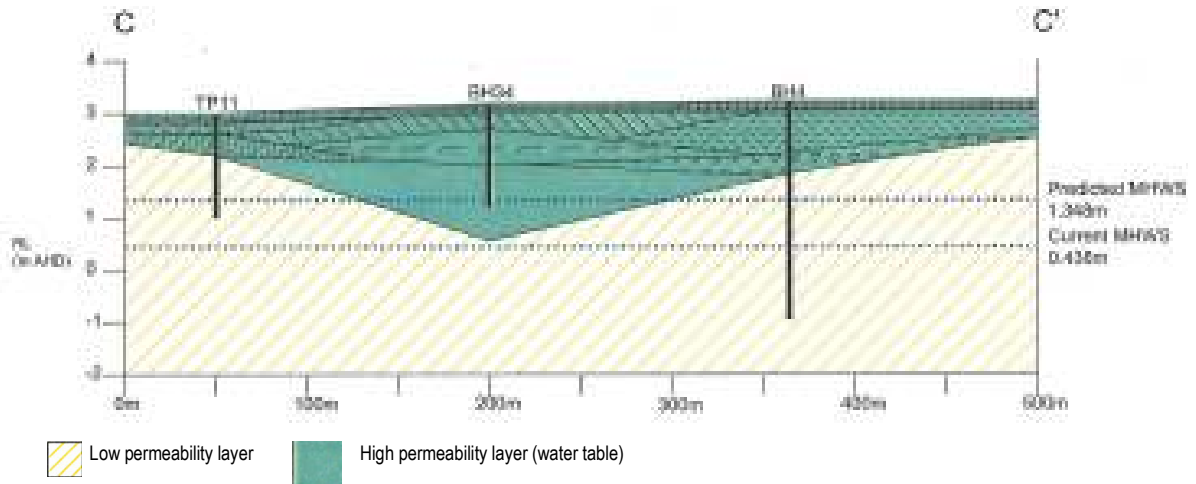


Figure 21: Relationship of indicative current and predicted MHWS and the water table (source ERM, Preferred Project Report as amended December 2008).

6.10 ROAD DESIGN AND LAYOUT

A number of issues have been raised in regard to the internal road design and layout. One of the public submissions requested that there be flexibility in the location of proposed Road 5 to allow for connection to the future road layout for residential subdivisions of adjoining properties. The proponent has generally designed the road layout in accordance with the pattern set out in Moonee DCP. It is noted that proposed Road 5 is located within Stage 9 of the Glades Estate, and not the initial stages of the subdivision. Depending upon the progress of subdivision approvals for adjoining properties there is the possibility of some flexibility in the location of Road 5, subject to approval of any subsequent modification of an approved subdivision layout.

The RTA has recommended that the road network be designed to manage speed and provide appropriate traffic calming and protection where various road users interact. The proponent has advised that the road network will be designed with traffic calming devices with details to be provided at construction certificate stage. While these details should preferably be provided as part of the project application they can be dealt with at the construction certificate stage. The recommended conditions of approval require that these details be provided to certifying authority's satisfaction in accordance with relevant Council standards prior to issue of a construction certificate for each stage of the subdivision. The RTA has also recommended that the location of bus stops, lay-bys and shelters should be provided. The proponent has advised that the road system has been designed to accommodate bus services and details of lay-bys and shelters will be provided at the construction certificate stage. The recommended conditions of approval also deal with this matter.

The original subdivision layout submitted with the EA included a central landscaped island along the full length of Road No. 1. This was not supported by Council due to ongoing maintenance requirements and restricted access for adjacent lots. The Department supports these concerns, particularly in regard to impacts for access to or from adjacent lots and associated potential impacts for traffic using the road. Most of this central landscaped island has been deleted with the preferred project subdivision layout. A shorter section of the central island has been retained, (refer to **Figure 22**). The proponent intends that this will be an entry statement for the estate with details to be provided at construction certificate stage. The central landscaped island however will have little significance as an estate entry statement as the temporary or interim access to the Pacific Highway is to be deleted and the estate access will be provided from the collector road to the south of the site, refer to the discussion in **section 6.2**. Also the central landscaped island will still affect access to or from 13 lots. The Department considers that this central landscaped island should be deleted altogether. Satisfactory landscaping treatment is provided by the areas of open space in these parts of the estate. The recommended conditions of approval require the modification of the subdivision layout to delete this central landscape island from the road layout.



Figure 22: Extract Preferred Project Subdivision Layout - showing central landscaped island (source, ERM, Preferred Project Report).

6.11 BUSHFIRE ASSET PROTECTION ZONES

The site has been partly mapped as being bushfire prone on Council's Bushfire Prone Land Map, relating to vegetation around the site's periphery. The subdivision has been designed so that the outer perimeter roads form a substantial part of the required asset protection zones to adjoining open space areas and areas of potential bushfire hazard. This is consistent with the provisions of *Planning for Bushfire Protection 2006* where asset protection zones can include perimeter roads in new subdivisions. The width of asset protection zones will vary between 22m to 40m. Where proposed riparian buffer zones, habitat areas, and areas of regenerating vegetation would otherwise be affected the width of asset protection zones will be reduced to 22m and will be accommodated within the perimeter roads. Dwellings on allotments adjacent to these 22m wide asset protection zones will require a higher standard of construction (Level 3 construction standards - AS 3959). Elsewhere, outside riparian buffer zones, habitat areas, and areas of regenerating vegetation, the asset protection zones will be up to 40m in width and extend up to 20m into proposed open space areas to be dedicated to Council. This will be satisfactory and no adverse environmental impacts are expected as in most cases this will coincide with managed or mown areas of open space and with areas where stormwater measures such as bioretention basins will be provided.

Planning for Bushfire Protection 2006 indicates that residential subdivisions should not offset bush fire protection measures to neighbouring land. This is largely to avoid circumstances where asset protection zones would impact on adjoining private land, under different ownership. In this case the asset protection zones will partly fall within proposed public open space which will ultimately be managed and maintained by Council. Council has not raised any objections to this, having accepted these areas will be dedicated to Council. The proponent has committed to the establishment of open space areas and their management for a two year period. The recommended conditions of approval require a maintenance period of 5 years. After that time Council will be responsible for the continued management of these areas. The location of parts of the proposed asset protection zones within the perimeter open space is considered acceptable as these areas will be public land dedicated to Council, initially managed by the proponent and then by Council, and will not encompass any adjoining private land.

6.12 DEVELOPER CONTRIBUTIONS

To ensure the growing and changing local community of Coffs Harbour has adequate future public amenities and services, developer contributions under section 94 of the Act and contributions related to sewer and water reticulation under the *Water Management Act 2000*, will be levied on the project, refer to Table 1 which sets out the relevant sec 94 contributions and Table 2 which sets out the sewer and water charges. These contributions and charges are levied for 522 additional lots taking into consideration the two existing lots. The contributions are reviewed from time to time and are subject to adjustments in accordance with the Consumer Price Index.

The Moonee Developer Contributions Plan requires the proponent to pay section 94 contributions of \$23,450.41 per lot, total \$12,241,114.02 for the whole project. The recommended conditions of approval provides for developer contributions for Moonee Local Roads and Transport and Traffic measures to be made in part by 'works-in kind' for the construction of the northern collector road with the balance being paid as a monetary contribution. Council has indicated that the cost of the northern collector road will be approximately \$3,579,690. The proponent is also seeking to credit 'works-in-kind' related to construction of two recreation areas and associated recreation facilities against the contributions required for Neighbourhood Open Space, and this is to be dealt with in a similar manner.

Table 1: Section 94 - Developer Contributions

Moonee Developer Contributions Plan 2008			
Facility	No of Lots	\$ per Lot	Sub-Total
District Open Space	522	4,809.47	2,510,543.34
Neighbourhood Open Space	522	1,192.85	622,667.70
Transport and Traffic.	522	9,711.86	5,069,590.92
Moonee Local Roads	522	4,299.65	2,207,877.30
Stormwater Management	522	30.09	15,706.98
Community Facilities	522	717.77	374,675.94
Urban Planning	522	129.12	67,400.64
Coffs Harbour Regional, District and Neighbourhood Facilities and Services Developer Contributions Plan 2008			
Facility	No of Lots	\$ per Lot	Sub-Total
Co-ordination and Administration	522	333.93	174,311.46
Regional Open Space	522	920.62	480,563.64
Beach Protection Works	522	223.01	116,411.22
Library resources	522	253.59	132,373.98
Surf Rescue Equipment Developer Contributions Plan 2008			
Facility	No of Lots	\$ per Lots	Sub-Total
Surf Rescue Equipment	522	93.62	48,869.64
Coffs Harbour Road Network Developer Contributions Plan 2008			
Facility	No of Lots	\$ per Lot	Sub-Total
Coffs Harbour Road Network	522	804.83	420,121.26
TOTAL CONTRIBUTIONS PAYABLE			\$12,241,114.02
Stage 1 - 60 Lots			1,407,024.60
Stage 2 - 40 Lots			938,016.40
Stage 3 - 47 Lots			1,102,169.27
Stage 4 - 47 Lots			1,102,169.27
Stage 5 - 51 Lots			1,195,970.91
Stage 6 - 61 Lots			1,430,475.01
Stage 7 - 48 Lots			1,125,619.68
Stage 8 - 48 Lots			1,125,619.68
Stage 9 - 50 Lots			1,172,520.50

Stage 10 - 42 Lots	984,917.22
Stage 11 - 28 Lots	656,611.48
Total	12,241,114.02

Table 2: Contributions related to sewer and water reticulation under the *Water Management Act 2000*

Wastewater Treatment and Carrier System DSP 2008			Water Supply DSP 2008	
Stages	Calculation \$	Total \$	Calculation \$	Total \$
Stage 1	4,607.61 x 62	285,671.82	6,747.30 x 62	418,332.60
Stage 2	4,607.61 x 40	184,304.40	6,747.30 x 40	269,892.00
Stage 3	4,607.61 x 47	216,557.67	6,747.30 x 47	317,123.10
Stage 4	4,607.61 x 47	216,557.67	6,747.30 x 47	317,123.10
Stage 5	4,607.61 x 51	234,988.11	6,747.30 x 51	344,112.30
Stage 6	4,607.61 x 61	281,064.21	6,747.30 x 61	411,585.30
Stage 7	4,607.61 x 48	221,165.28	6,747.30 x 48	323,870.40
Stage 8	4,607.61 x 48	221,165.28	6,747.30 x 48	323,870.40
Stage 9	4,607.61 x 50	230,380.50	6,747.30 x 50	337,365.00
Stage 10	4,607.61 x 42	193,519.62	6,747.30 x 42	283,386.60
Stage 11	4,607.61 x 28	129,013.08	6,747.30 x 28	188,924.40
TOTAL		2,414,387.64		3,535,585.20

7 CONCLUSION

The Department has assessed the EA and considered the submissions in response to the proposal.

The Department has considered the key issues raised and has recommended modifications to the preferred project plan, as well as conditions of approval to ensure these issues are satisfactorily addressed and that there are minimal impacts as a result of the proposal. Key modifications and conditions of approval include:

- A requirement that the proponent is responsible for land acquisition, approval, design and construction of the northern collector road and that it be completed to the satisfaction of Council and dedicated as a public road prior to the issue a subdivision certificate for any of the lots.
- Submission of a revised acoustic assessment to take account of the deletion of the access to the Pacific Highway and to take account of the RTA's planned upgrade of the Pacific Highway adjacent to the site.
- Preparation of a Vegetation Management Plan (VMP) for the natural areas of the site including the riparian buffer zones and habitat areas which are to be dedicated to Council. The VMP is also to include rehabilitation works and longer term habitat management and maintenance measures for Wallum Froglet habitat on site.
- Construction of protective fencing to the perimeters of buffer zones, habitat areas and vegetation corridors, and also to areas of Aboriginal cultural heritage significance, prior to the commencement of other construction works.
- Restriction on the release of subdivision certificates beyond the first 149 lots, which are subject to operation of the RTA's planned grade separated interchange at Moonee Beach Road and the Pacific Highway, or a further traffic study of the intersection is undertaken to determine available capacity at the intersection and any improvements to increase that capacity.

- Dedication of open space and public reserve areas to Council at no cost, other than any land subject to the acquisition provisions of clause 20 Coffs Harbour Local Environmental Plan 2000 for land zoned Open Space 6A 'Public Recreation Zone' on the site.

The proposed development will allow for:

- An important contribution toward housing targets for the Coffs Harbour local government area as identified by the *draft Mid North Coast Regional Strategy*;
- Early construction of the northern collector road at Moonee Beach facilitating release of urban land within the Moonee Beach release area, including this site and neighbouring land;
- Provision of 45 ha of open space, riparian buffers and habitat conservation areas which will be dedicated to Council as public land, representing over 45% of the site area;
- Protection of Wallum Froglet habitat and the environment and aquatic habitats of Moonee and Skinners Creeks; and
- Protection of areas of Aboriginal cultural heritage significance.

Furthermore, the project plan application has largely demonstrated compliance with the existing environmental planning instruments.

On these grounds, the Department considers the site to be suitable for the proposed development and that the project is in the public interest. Consequently, the Department recommends that the project be approved, subject to the conditions of approval. This includes the requirement for permanent access to be established via the proposed northern collector road to Moonee Beach Rd, prior to release of any lots.

8 RECOMMENDATION

It is recommended that the Minister:

- (A) consider the findings and recommendations of this Report;
- (B) approve the carrying out of the project, under Section 75J *Environmental Planning and Assessment Act 1979* subject to conditions; and,
- (C) sign the Instrument of Approval.