



ABN 29 057 616 896

ENVIRONMENTAL ASSESSMENT REPORT

PROJECT APPROVAL

179 LOT RESIDENTIAL SUBDIVISION

LOT 172 DP 755923 AND LOT 823 DP 247285 BERRINGER ROAD, CUNJURONG POINT ROAD AND THE SUNSET STRIP MANYANA

Prepared for:

MANYANA ESTATES PTY LTD

SEPTEMBER 2006

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SUBMISSION OF ENVIRONMENTAL ASSESSMENT

Prepared under the Environmental Planning and Assessment Act 1979


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Land on which activity to be carried out	Berringer and Cunjurong Point Roads and The Sunset Strip, Manyana
Project	179 Lot Residential Subdivision
Environmental Assessment	An Environmental Assessment (EA) is attached
Declaration	I declare that I have prepared this Environmental Assessment to the best of my knowledge: <ul style="list-style-type: none">• It has been prepared in accordance with the relevant provisions of the Environmental Planning and Assessment Regulation 2000;• The information which it contains is neither false or misleading information.
Signature	
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EXECUTIVE SUMMARY

This Environmental Assessment Report has been prepared in support of a project application for a residential subdivision at Manyana, located within the City of Shoalhaven. The application is made pursuant to Part 3A of the Environmental Planning and Assessment Act, 1979 (EP&A). The development is a major project given the location of the site within the Coastal Zone, and the scale of this subdivision, which proposes in excess of 25 allotments.

A Preliminary Assessment was submitted to the Department of Planning and this Environmental Assessment considers the issues raised by the Director-General of the Department of Planning in the Environmental Assessment Requirements, issued January 2006.

The plan provides for the development of 179 allotments in a traditional Torrens Title scheme, ultimately allowing for the residential expansion of the existing village in a manner that appropriately considers the relevant issues that apply to the site, including ecological, statutory, social, and scenic.

The development will be undertaken in stages, developed over a number of years dependent on market conditions. In addition, staging is considerate of infrastructure provision, and the provision of progressive clearing in order to meet bushfire risk mitigation requirements and allow for growth of replacement landscaping. It is envisaged that development will take between 7 and 10 years to complete.

In preparing this Environmental Assessment Report, the following separate reports have been prepared to address the Environmental Assessment requirements and are relied upon:

- *Transport Report for Proposed Residential Subdivision, Manyana* – Colston Budd Hunt & Kafes Pty Ltd;
- *Flora and Fauna Assessment* – Bushfire and Environmental Services;
- *Bushfire Protection Assessment* - Bushfire and Environmental Services;
- *Water Cycle Management Report*- Storm Consulting Pty Ltd;
- *Heritage Impact Assessment* – South-East Archaeology Pty Ltd;
- *Draft Design Guidelines* - Malbec Properties Pty Ltd.

In addition, urban design advice has been sought from Cox Richardson, Architects and Planners, who have guided the final subdivision pattern.

Site and Surrounds

The subject site is legally described as Lot 172 DP 755923 and Lot 823 DP 247285. The site has a total area of approximately 20.4 ha.

The site is bounded generally by Berringer and Cunjurong Point Roads to the north and west respectively, and the rear of residential properties along the eastern and southern boundaries. A narrow frontage is provided to the south providing access to The Sunset Strip. The site is located adjoining the north-west of the existing village of Manyana.

Manyana is located on the coast approximately 12 kilometres north in a direct line of the Ulladulla township.

The site is zoned Residential 2(a1) under the provisions of Shoalhaven Local Environmental Plan 1985. The site has been zoned for urban purposes since 1972 when amendment No. 3 to IDO No. 1 zoned the land for Village purposes however development of the site has not been possible in the past due to the lack of reticulated sewer.

The majority of the subject site is currently in its third generation of ownership by the Bertram family, who have owned the site for approximately 70 years. The current owners are the son and grandson of the original purchaser. During ownership by the Bertram's the site has been mostly used to provide weekend and holiday accommodation for the family, however occasional timber felling has taken place.

Environmental Assessment

The proposed development has been designed in response to the environmental constraints that have been identified by the Director-General's Environmental Assessment Requirements and in the reports prepared to accompany the application. It is intended that this will create a sustainable extension to the existing village that will be appropriate in its village setting.

Statutory and Other Requirements

The site and proposed development are subject to a number of State Environmental Planning Policies (SEPP No 71, SEPP Major Projects), the Illawarra Regional Environmental Plan, Shoalhaven Local Environmental Plan 1985, and Development Control Plan No 100 – Subdivision Code. The proposal is considered to be consistent with the relevant requirements however it is noted that 2 of the 179 lots are marginally below Council's requirements outlined in DCP 100 – Subdivision Code.

The development is identified as a Major Project under State Environmental Planning Policy - Major Projects given the location of the property within the Coastal zone and the scale of the project, which proposes in excess of 25 residential allotments, and as such, the provisions of

Part 3A of the Environmental Planning and Assessment Act, 1979 (EP&A) apply to this proposal.

The site is zoned Residential 2(a1) under the provisions of Shoalhaven Local Environmental Plan 1985 (SLEP) and the development is permissible with development consent.

The site is not subject to any area specific, place-based, Development Control Plan adopted by Shoalhaven City Council.

Cumulative Impacts

In preparing this Environmental Assessment Report, consultation has been had with relevant service providers including Shoalhaven Council, the Department of Education and Training, Department of Health (Illawarra Area Health Service), Telstra, Shoalhaven Water and Integral Energy. This revealed that the proposed subdivision can be adequately serviced without significant cumulative impacts.

Traffic and Transport

The proposed subdivision includes vehicular and pedestrian access to Berringer and Cunjurong Point Roads and The Sunset Strip. Accompanying this Environmental Assessment Report is a *“Transport Report for Proposed Residential Subdivision, Manyana”* prepared by Colston Budd Hunt & Kafes Pty Ltd. This report has examined the impacts of the development at a micro level within the site, at a local level within the village, and further afield at the intersection of Bendalong Road and the Princes Highway, including consideration of future growth and holiday peaks.

This report indicates that the development will not have an unsatisfactory impact on local road network or the intersection of Princes Highway and Berringer Road and the proposed access arrangements are satisfactory.

The recommendations of this report are supported in this Environmental Assessment Report.

Bushfire

The subject site is identified as being bushfire prone by mapping prepared by Shoalhaven Council and endorsed by the Rural Fire Service. An assessment of the bushfire threat has been conducted by Bushfire and Environmental Services which recommends the provision of Asset Protection Zones, various levels of construction dependent on proximity to unmanaged bushland, along with staging and access requirements.

The recommendations of this assessment are supported in this Environmental Assessment Report.

Urban Design, Visual Impact and Sustainability

The proposed subdivision layout has been designed in order to provide an arrangement that is permeable for both pedestrians, cyclists and motorists in order to encourage 'out of car' trips.

Accompanying this Environmental Assessment Report are Draft Design Guidelines and these address issues such as the built form, external colours, setback for garages, standardised letterboxes, use of awnings and eaves, and uniform fencing. It is intended to finalise the Design Guidelines and determine the appropriate method to implement these in consultation with Shoalhaven City Council.

Visual impacts to the actual coastline are not significant given the location of the site to the west of the existing village area, and the existence of vegetation which screens views of the site. Visual impacts are therefore limited to public roads and other private properties located closer to the site. A Visual Analysis has been undertaken as part of this Environmental Assessment, in conjunction with a photographic assessment from the key vantage points in the locality.

Mitigation of the local visual impacts is proposed by provision of larger lots to allow greater retention of vegetation, more spacious building setbacks on the perimeter of the site and preservation of vegetation within an Endangered Ecological Community (EEC).

The measures contained in the layout and outlined in the Draft Design Guidelines are supported in this Environmental Assessment Report.

Flora and Fauna

The subject site currently contains native vegetation over its area and its consideration has greatly influenced the final footprint of the development. In this regard, Bushfire and Environmental Services (BES) were engaged to undertake a review of the site in accordance with the Threatened Species Guidelines. In this regard, no specific individual threatened flora or fauna were considered to be a constraint to development, however an Endangered Ecological Community, the *Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions* was identified within a drainage depression in the western portion of the site. The key mitigation measures involve the preservation of this land and a suitable buffer in an allotment having an area of approximately 2.5 ha, appropriately edged by public roads to be dedicated as public reserve. In addition to this, other mitigation measures including the provision of a Vegetation Management Plan for the retained EEC, controlling drainage through the EEC, restricting the removal of other vegetation within the site, prohibiting the keeping of cats within the site and imposing controls

on the keeping of dogs, controlling sediment and the carrying out of appropriate landscaping within the development.

The measures recommended are supported in this Environmental Assessment Report.

Infrastructure (Sewerage and Water)

Shoalhaven Water is the supply authority responsible for water and sewerage for the Shoalhaven Local Government Area. In formulating this Environmental Assessment Report, discussions were held with Shoalhaven Water to establish the adequacy of the existing water supply and sewerage systems to cater for the proposed development.

Water supply is available to service the development however careful consideration is required in the staging of the development to ensure pressure and supply is maintained. It is considered that this can be addressed in further detailed designs in due course.

Having regard to sewerage services, Shoalhaven Water has advised that *“this site has been allowed for in the current design of the Conjola Sewerage Scheme”*.

The supply of water and sewerage services is unlikely to be a constraint to this development.

Stormwater and Water Quality

The site drains generally from the north towards the south through the subject site, thence through the existing village to Manyana Beach via an un-named creek.

Storm Consulting Pty Ltd were engaged to investigate the impact of the proposed development on surface and groundwater and the retained vegetation within the EEC. This report recommended the provision of constructed wetlands to provide a high level of treatment of runoff, gross pollutant traps to allow for the collection of pollution and coarse sediment, the provision of detention on all proposed allotments, the use of swale drains where grades allow, infiltration trenches adjacent to the EEC area to ensure appropriate drainage is maintained and the use of recycled water from the Conjola Regional Sewerage Scheme for outdoor use and toilet flushing. These measures also ameliorate the impacts of increased run off during peak flows.

The recommendations of this report are supported in this Environmental Assessment Report.

Aboriginal and Cultural Heritage

A Heritage Impact Assessment has been undertaken by South-East Archaeology investigating the heritage significance of the site and the presence of indigenous cultural items. This work revealed the existence of two sites, one indigenous (artefact scatter) and one non-indigenous (timber weekender/fisherman's hut). Fieldwork was constrained because of limited visibility due to the dense vegetative cover, extent of leaf litter and sediment deposits, and as such,

whilst a number of potential management strategies were raised, additional field work requiring test excavations was considered necessary to better understand the site. Initial advice is that for the majority of items, the potential is negligible for finding additional items of significance, however some potential does exist due to the limited visibility outlined above. As such, approval under Section 87 of the National Parks and Wildlife Act is being sought to allow further investigations to be carried out.

The recommendations of this assessment are supported in this Environmental Assessment Report.

Contamination

The subject site has continually been owned by the family of the current owner for three generations. The site, apart from a small clearing containing an abandoned timber weekender cottage, contains native vegetation and has not been the subject of any intensive activities, with past use being limited to selective logging, with no on-site milling or treatment of timber. As such, the site is unlikely to be the subject of any site contamination.

Consultation

In preparing this Environmental Assessment Report, the following consultation was undertaken:

Community Consultation

Shoalhaven Council formally acknowledges Principal Consultative Bodies (PCB) which are formally notified of development applications and other relevant information relating to Council business. In relation to Manyana, the Manyana District Citizens Association is the formal PCB. In considering matters such as this development proposal, the Manyana District Citizens Association goes outside of its direct members in order to obtain input and feedback from a wider cross section of the community.

The Project Team met with this group on two occasions, firstly during the infancy of investigations (26th April 2006) and secondly when site constraints were more fully understood and a subdivision layout had been prepared (13th September 2006).

In addition to the local community group, consultation was had with the Jerrinja Local Aboriginal Land Council and Jerrinja Consultants in relation to indigenous cultural issues.

State Government Agencies

In formulating the design, the following consultation was undertaken with State Government Agencies:

- Department of Environment and Conservation – two meetings and one teleconference call with Project Team, plus correspondence providing opportunity for input in relation to

threatened species matters, plus communication with Storm Consulting having regard to drainage and stormwater control;

- Roads and Traffic Authority – consultation by Colston Budd Hunt and Kafes during the preparation of traffic assessment;
- Department of Natural Resources – communication between local office and Storm Consulting during preparation of Water Cycle Management Report;
- Department of Health – written consultation;
- Department of Education – written consultation.

Shoalhaven City Council (SCC)

Shoalhaven Council have been informed of the project throughout its design as follows:

- informal meeting with Council's Subdivision Planner prior to seeking Clause 6 declaration of Major Project Status;
- consideration of Preliminary Assessment and inclusion of SCC requirements in the Director General's Environmental Assessment Requirements;
- meeting with various Council Officers on 25th July 2006 to discuss relevant environmental constraints and the proposed subdivision layout;
- meeting with Subdivision Manager to discuss layout and long-term management of proposed Public Reserve Area on 19th September 2006;
- meetings, telephone conversations and correspondence as necessary with Shoalhaven Water.

Others

In preparing supporting documentation, consultants working on the project have consulted with:

- local public transport providers; and
- medical practitioner.

Further detailed analyses of consultation undertaken in the preparation of this Environmental Assessment are outlined in Section 7.0.

Conclusion

The proposed subdivision has properly addressed the relevant statutory requirements applying to this Major Project in addition to consideration of the relevant environmental, ecological, natural hazards and social constraints that apply to the site and surrounds.

The various sub consultants reports that have been prepared properly address those matters raised in the Director-General's Environmental Assessment Requirements.

The proposal represents a good balance between the reasonable development of a residential resource on lands that have been identified for this purpose for in excess of 30 years, and the appropriate consideration of ecological issues.

The design is well thought out and gives due regard to both modern subdivision design and the established character within the Manyana village and will contribute in a positive sense to the planned expansion of the existing village. The development will also see the use of significant existing infrastructure that has already been invested into the locality to cater for planned additional growth.

Given compliance with the Statement of Commitments, which include, but are not limited to, the preservation of the Endangered Ecological Community; finalisation of the Draft Design Guidelines; use of reclaimed water; provision of water quality control ponds; provision of public open space for dedication to Shoalhaven Council; payment of monetary contributions for public facilities and water and sewerage infrastructure; and the implementation of a landscaping scheme, the subdivision is suitable for approval.

1.0 INTRODUCTION

This Environmental Assessment Report has been prepared in support of an application proposing a residential subdivision into 179 lots of the subject site which has frontage to Berringer and Cunjurong Point Roads and The Sunset Strip located in Manyana, within the City of Shoalhaven. The subdivision proposed is a conventional Torrens Title scheme and it is expected that it will take approximately 7-10 years to complete.

The development is a Major Project as the site is located in the coastal zone and the subdivision proposes in excess of 25 allotments for residential development. Accordingly, the provision of Part 3A of the Environmental Planning and Assessment Act, 1979 (EP&A) apply in the consideration of this application.

In preparing this Environmental Assessment, consideration has been given to the following plans and reports:-

- *Subdivision Sketch Plan and Staging Plans* – Allen, Price and Associates
- *Transport Report for Proposed Residential Subdivision, Manyana* – Colston Budd Hunt & Kafes Pty Ltd;
- *Flora and Fauna Assessment* – Bushfire and Environmental Services;
- *Bushfire Protection Assessment* - Bushfire and Environmental Services;
- *Water Cycle Management Report*- Storm Consulting Pty Ltd;
- *Heritage Impact Assessment* – South-East Archaeology Pty Ltd;
- *Draft Design Guidelines* - Malbec Properties Pty Ltd.

In addition, this report has given consideration to consultation that has been undertaken with a variety of persons and agencies, including State Government Agencies, Shoalhaven City Council, and the local community.

The Environmental Assessment has been prepared in accordance with the Director-General's Environmental Assessment Requirements and addresses those matters considered to have relevance to the proposal include ecological, infrastructure, traffic and visual impacts.

The application is considered to comply with the relevant State, Regional and Local environmental planning policies that apply to the site. The application is generally compliant with the relevant Development Control Plans that apply, however it is noted that minor departure is proposed to Council's Subdivision Code, DCP 100, in relation to the lot sizes associated with two of the 179 lots.

The proposal includes an appropriate lot layout and other measures to mitigate the impacts of the subdivision, including the preservation of all significant ecological areas, provision of open space in accordance with Council's Section 94 Contributions Plan, use of reclaimed waste water and Draft Design Guidelines to control the final built form.

The proposal is recommended for support.

2.0 DEVELOPMENT PROPOSAL AND JUSTIFICATION

2.1 DEVELOPMENT PROPOSAL – PROJECT APPLICATION

This application is seeking consent to the subdivision of the subject site into 179 residential allotments, creating an additional 177 lots, in a traditional Torrens Title scheme. Accompanying this application as **Annexure 1** is a subdivision sketch plan prepared by Allen Price & Associates which shows the following:

- A road pattern loosely based on a traditional grid pattern.
- Larger allotments on the periphery of the site to enable greater front setbacks to improve visual amenity and provide suitable bushfire mitigation.
- A variety of lot sizes ranging in area from 485 m² to 1520 m², with an average size of approximately 720 m².
- Provision of public open space with an area of 2.5 ha to allow the retention of an Endangered Ecological Community (EEC) identified on the site. Such reserve will be edged within the subject site with bollard type fencing and sealed roads. A number of pedestrian/cycle pathways are proposed to be provided in order to control access and to minimise impacts. It is intended to dedicate this land to Shoalhaven City Council for the enjoyment of all residents within Manyana.
- Provision of centrally located playground space with an area of 3,320m² to complement the large area comprising the EEC. It is intended to present this reserve in a more formal structured manner with trees retained where possible, with the site embellished with play equipment to suit a variety of age groups. This reserve is also intended to be dedicated to Council and as such, will be available for the enjoyment of all local residents.
- Water quality control ponds and other drainage infrastructure to manage stormwater prior to its discharge at the south of the site. These features will be designed and constructed in order that fencing will not be required.

In addition to the information depicted on the sketch plan, the proposal provides:-

- Servicing by way of reticulated water and sewerage. It is intended to provide for the reuse of treated wastewater from the Conjola Regional Sewerage Scheme for toilet flushing and garden irrigation by future residents.
- A requirement for on site detention for all proposed allotments to minimise downstream impacts.

- Electricity and telephone are to be provided underground.
- Site landscaping through the planting of street trees and works within the proposed public open space.

In addition to the physical features of the subdivision, it is intended to prepare separate Design Guidelines which will guide the built form on the lots to be created. A copy of 'Draft Design Guidelines' are provided in **Annexure 2**.

The proposed subdivision has been designed to accommodate single dwellings and dual occupancies only. The zoning of the land does not permit higher density housing such as villas, townhouses or residential flat buildings and as such, it is not appropriate to provide larger allotments to accommodate these forms of development.

2.2 STAGING

The development will be completed in stages, contingent on the buoyancy of the residential market and take up rates. Accompanying the subdivision sketch plan in **Annexure 1** is an 'indicative staging plan' which shows the development of 6 stages, each accommodating approximately 30 allotments. It is anticipated that development would commence in the southern portion of the site at its frontage to The Sunset Strip where access to existing services are readily available. It is expected that development would then continue generally in an anti-clockwise direction around the site.

Dedication of the public reserves and drainage infrastructure will occur at various stages throughout the construction of the subdivision as it is not practical, nor desirable, to dedicate all areas up front. Despite this, all essential drainage infrastructure will be in place when required to serve upstream properties, whilst public reserves will be provided incrementally commensurate with growth in the subdivision.

The staging is mindful of the need to provide relevant services for residential development, particularly having regard to water supply pressure, along with appropriate maintenance of Asset Protection Zones in order to mitigate bushfire risk and allow reasonable residential development of lots upon their release.

2.3 JUSTIFICATION

Justification for the proposal is provided as:

- The site has been identified by Shoalhaven City Council as one suitable for residential development for some time and has zoned it entirely Residential 2(a1)

under the provisions of Shoalhaven Local Environmental Plan. Further, the site was zoned Village under IDO No. 1 in 1972.

- The site is well located, being close to the coast in an area experiencing high amenity with a village character.
- Although close to the coast, the site is not prominent from the actual coastline and visual impacts can be properly mitigated.
- The site is in close proximity to important existing community facilities including the community hall (play group/pre-school) and existing active open space (tennis court, basketball and soccer field).
- Shoalhaven City Council and the State Government have already invested in considerable infrastructure in the locality which is necessary for residential development, most recently in the form of sewerage works but more generally in the provision of sealed roads, reticulated water, power, telephone and community facilities.
- The Shoalhaven Local Government Area has limited land available for residential purposes and it is appropriate that lands that are currently zoned for this purpose are properly developed at appropriate densities to provide land for orderly residential development consistent with the established village character.
- The development of additional land into residential allotments will lead to greater availability of land for housing purposes, thereby reducing pressure on housing cost.
- The development of the site for residential purposes will provide appropriate asset protection and bushfire mitigation along the north-western edge of the existing village, and allow for its ongoing management in an appropriate manner.
- It will provide for the implementation of Council's plans for the locality, including LEP and relevant Section 94 projects, achieving growth targets and residential strategies.
- Increased economic opportunities for the region with increased employment in the building and allied industries, and increased demand for building materials, landscaping supplies and white goods.
- The development will provide greater residential population to support the planned commercial facilities for the village, located to the north-east some 150 metres from the subject site, and

- The development can be undertaken in a fashion that is considerate of the relevant ecological and environmental constraints applying to the site.

2.4 CONSEQUENCES OF NOT DEVELOPING

In the event that this development is not undertaken, the generally restrictive nature of the Residential 2(a1) zone that applies to the site is such that other permissible uses are very limited. Demand for other forms of development that are both economically viable and consistent with the requirements of SLEP appears low. Consequently, if residential development is not undertaken, it is likely that this will lead to a valuable community resource remaining idle, leading to a reduced supply of residential land in Manyana and the southern Shoalhaven generally. The effects of this would see further increases in the value of residential land and reduced housing affordability in the locality.

In addition, the full benefit of investment already undertaken to provide significant infrastructure in the locality, in the form of the Lake Conjola Sewerage System, reticulated water, telephone and power, will not be properly realised.

3.0 SITE ANALYSIS

3.1 MANYANA AND SURROUNDS

The subject site is located at Manyana on the south coast of NSW in the City of Shoalhaven, approximately 12 kilometres (straight line) generally north of Ulladulla. Manyana is generally bordered by the coast to the east, bushland to the north and bushland then Berringer Lake (which flows into Lake Conjola) to the west, and bushland thence Cunjurong Point to the south.

Manyana is sited partly on a small headland, Inyadda Point, which projects out into the Pacific Ocean. Inyadda Point is already developed with residential dwellings and is well removed from the land the subject of this application. The remainder of Manyana is developed on land which is more gently sloping or level.

Vehicular access to Manyana is provided via Bendalong Road, which intersects with the Princes Highway approximately 12 kilometres to the west. Bendalong Road has a sealed carriageway and is two lanes in width.

Figure 1 below is an aerial photo of the locality which shows the siting of the property in relation to the existing village and coastline.

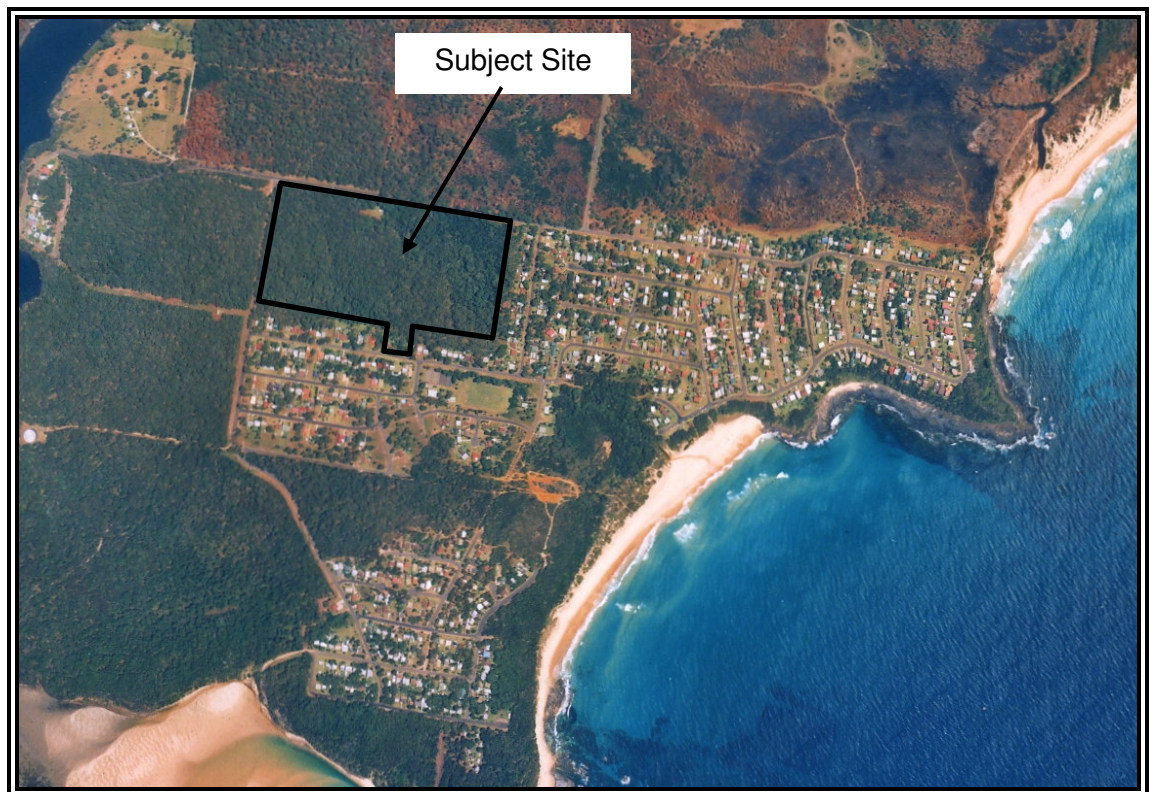


Figure 1 – Aerial Photo of Manyana showing the Subject Site

Figure 2 over page shows the location of the subject site within the region along with the cadastral layout of the Manyana and Cunjurong Point Villages.

Existing development at Manyana consists of predominantly single detached housing. Although principally single housing predominates, a variety of forms are present, from modest weekender type accommodation with simple design finished in light weight materials, through to more substantial two storey dwellings, particularly closer to the actual coast.

Manyana is relatively permeable for pedestrians and motorists alike given the street layout, which is loosely based on a traditional grid pattern, the relatively small size of the village and the location of existing public reserve and foreshore.

Commercial services for the locality are limited to general stores, providing convenience type goods being sited at Cunjurong Point (see **Plate 1**) and Bendalong (see **Plate 2**). The township of Ulladulla provides wider retail and commercial opportunities, with this being approximately 35 kilometres from Manyana by road.

Within Manyana itself, the only commercial property is a Real Estate Agency and **Plate 3** shows this site.

Land zoned for commercial purposes under Shoalhaven Local Environmental Plan 1985 is located at the corner of Inyadda Drive and Curvers Drive at the entrance to town however this is currently undeveloped. **Plate 4** shows the general location of this site. The subject property is sited approximately 170 metres from this land which is expected to provide neighbourhood shopping facilities in the future.

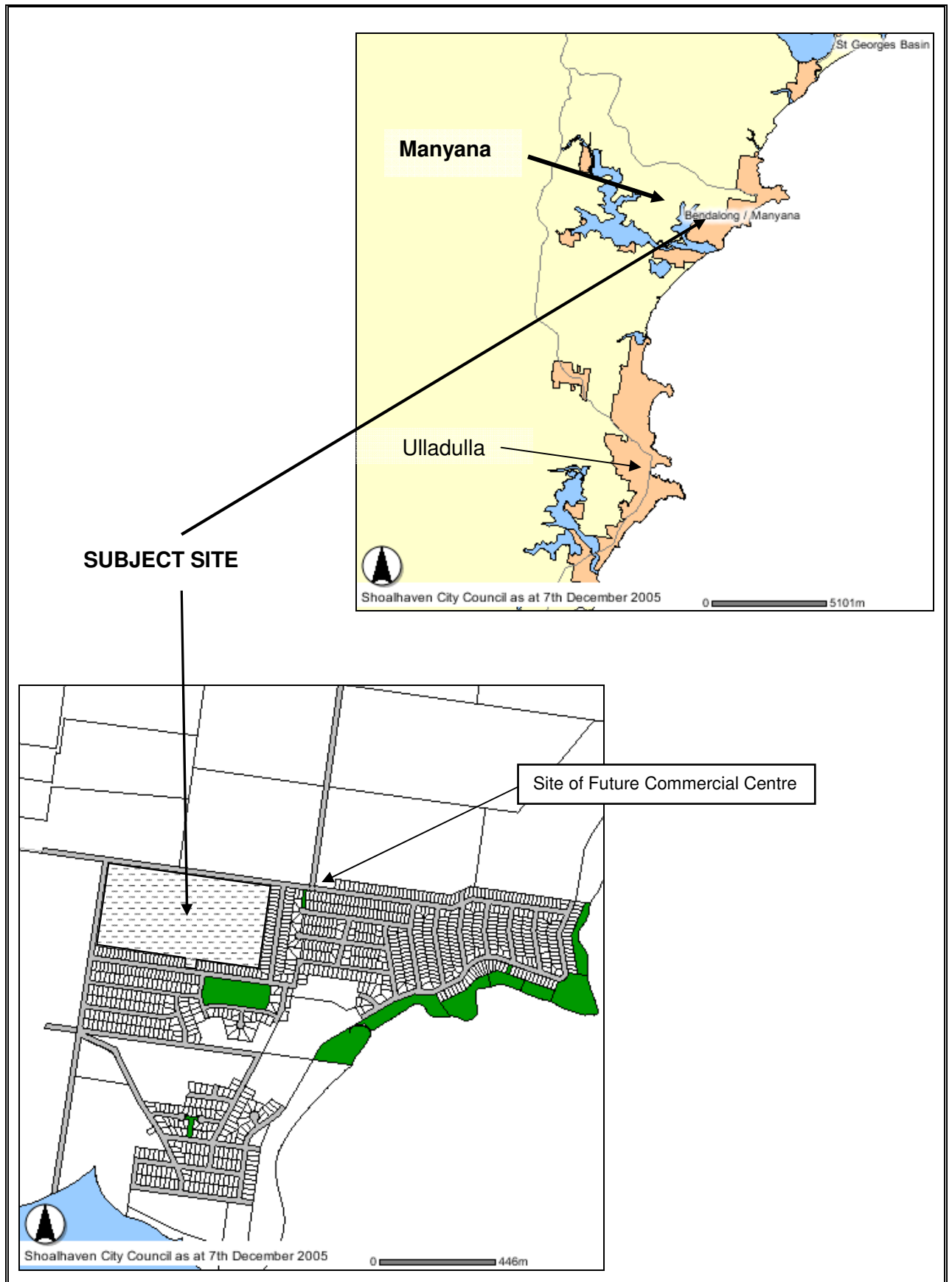


Figure 2: Locality Plan (Extract from SCC GIS)



Plate 1 – Existing Shop at Cunjurong Point



Plate 2: Existing Shop at Bendalong



Plate 3: Existing Commercial Premises – Manyana



**Plate 4: Site of Future Commercial Development.
Corner of Inyadda and Curvers Drives.**

Community facilities for the village are provided in the form of a Community Hall (including pre-school and play group), tennis courts, basketball court and soccer oval in a central area known as Yulunga Reserve, which is bounded generally by The Sunset Strip, The Barbette and The Palisade. **Plates 5 to 7** inclusive show the community facilities available in this area. In addition, a Volunteer Fire Brigade Shed is provided along Cunjurong Point Rd to service both Manyana and Cunjurong Point.



Plate 5: Community Hall – Yulunga Reserve



Plate 6: Playing Fields and amenities – Yulunga Reserve



Plate 7: Tennis Court Facilities – Yulunga Reserve

In addition to the subject site, Manyana contains the following stock of significant land which is vacant and zoned for residential development:

- land to the east of Inyadda Drive owned by Kylor Pty Ltd which is zoned mostly Residential 2(a2) (low-density residential with lot size of 2000m²) and partly 2(c) Residential Living Area;
- land on the south-eastern edge of the Manyana village owned by Vacenta Pty Ltd which is also zoned Residential 2(a1); and
- Crown Land land to the west of the subject site in the catchments of Berringer Lake which is zoned Village.

Manyana is provided with water, power and telephone services. A reticulated sewerage system is not available, however is currently under construction, with development in the village relying on a combination of on-site disposal systems and pump out collections. The reticulated sewerage scheme is expected to be available for connection in mid 2007.

3.2 SUBJECT SITE

The subject site itself is located adjoining the north-west of the existing village, bordered by existing residential allotments on its eastern and southern boundaries, and undeveloped lands to the north and west. The site is generally bordered by Berringer Road to the north, Cunjurong Point Road to the west, the rear of allotments fronting The Sunset Strip to the south and the rear of allotments fronting The Companionway to the east. Photographs of the subject site when viewed from a variety of public places are contained within **Annexure 3**. These photos are also used in the Visual Analysis undertaken in Section 6.5 of this Report. The photos illustrate the remoteness of the site from the actual coast and the generally forested nature of the site.

The subject site has an area of approximately 20.4 hectares, and is made up of two (2) allotments legally described as Lot 172 DP 755923 (20.234282 ha) and Lot 823 DP 247285 (1688 m²).

The land is generally regular in shape and is currently vacant, apart from a rustic timber slab cabin sited in a small clearing in the northern section of the property near Berringer Road, and this building is depicted in **Plate 8**. This has provided basic weekender/holiday accommodation in the past however does not appear to have been recently used.



Plate 8: Existing timber weekender on subject Site

The site has road frontage to both Berringer Road (approximately 630 metres frontage) and Cunjurong Point Road (approximately 322 metres), whilst a narrow frontage of approximately 45 m is provided to The Sunset Strip. All of these roads are public roads, provided with a sealed surface, maintained by the local authority, Shoalhaven City Council.

The site slopes generally from the Cunjurong Point Rd and Berringer Road frontages down to the Sunset Strip. In this regard, the site has a fall of some 25 metres from the highest point along Berringer Rd, and some 19 metres from the highest point along Cunjurong Point Rd.

Drainage channels are located in the central and western portions of the site, running generally in a north-south fashion, joining near the subject property's southern boundary with the Sunset Strip.

The site predominantly comprises a cover of native vegetation which is identified as being bushfire prone, consisting of Category 1 vegetation.

The site is entirely zoned Residential 2(a1) under the provisions of SLEP. The site has been zoned for urban purposes since 1972 when IDO Amendment No 3 zoned the subject site and adjoining lands Village.

The site is located in close proximity to the north-west of Yulunga Reserve which contains active and passive recreation facilities.

The 20.2 ha allotment (Lot 172 DP 755923) is currently in its third generation of ownership by the Bertram family, who have enjoyed ownership of the site for approximately 70 years. The current owners are the son and grandson of the original Bertram purchaser. During ownership by the Bertram's the site has been used to provide weekend and holiday accommodation for the family. The other property has been added to the development property in order to provide a preferable subdivision layout which allows an alternative access point and provision of additional drainage opportunities.

4.0 KEY ASSESSMENT REQUIREMENTS

The Director-General in correspondence dated January 2006 has identified the following key issues requiring assessment:-

- Statutory and Other Requirements,
- Cumulative Impacts,
- Traffic Impacts (Construction and Operational),
- Bushfire,
- Urban Design, Visual Impact and Sustainability,
- Threatened Species and Matters of National Environmental Significance,
- Impact on Sewerage and Water Infrastructure,
- Impacts on Water Quality and Drainage,
- Aboriginal and Cultural Heritage, and
- Contamination.

A full copy of the Director-General's Environmental Assessment Requirements is provided as **Annexure 4**.

5.0 STATUTORY FRAMEWORK

The following section considers the various statutory matters requiring consideration in the assessment of this proposal.

5.1 STATE LEGISLATION/POLICIES

NSW Coastal Policy

The NSW Coastal Policy applies:

- three nautical miles seaward of the mainland and offshore islands;
- one kilometre landward of the open coast high water mark;
- a distance of one kilometre around:
 - ⇒ all bays, estuaries, coastal lakes, lagoons and islands;
 - ⇒ tidal waters of coastal rivers to the limit of mangroves, as defined by NSW Fisheries (1985) maps or the tidal limit whichever is closer to the sea.

The subject site is located within the coastal zone and as such the NSW Coastal Policy 1997 applies. The Policy guides the management and planning of the coastal zone and has a strong emphasis on ecologically sustainable development. The Policy essentially brings together all policies, programs and standards that apply to the coastal zone into the one document. In addition, the Policy seeks to co-ordinate the multiple agencies and authorities, and various levels of government, to ensure consistency in application of the Policy, outlining who is responsible for implementing the Policy, and at what stage in the development process. The Coastal Policy culminates in a series of Strategic Actions and objectives. In relation to the consideration of Development Applications is Strategic Action 3.2.4 which requires:-

*“In preparing and amending regional and local environmental plans and development control plans and when assessing **development applications**, consideration of the design and locational principles contained in the Coastal Policy (Appendix C Table 3) will be required.”*

Table 3 in Appendix C of the Coastal Policy outlines a number of principles that require consideration when development applications are considered. These principles are outlined as follows:-

- *Only developments which do not compromise the natural and cultural values of the area will be permitted on beaches and frontal dunes.*

Comment – the site the subject of this subdivision proposal does not contain a beach or frontal dune and as such, this principle will not apply.

- *Works to protect, restore and rehabilitate beaches and frontal dunes may be permitted where appropriate.*

Comment – this proposal does not include works to protect, restore or rehabilitate beaches as the site does not contain these features. In addition, the property itself is sited well clear of these features. As such this principle has no further implications for this project.

- *Undeveloped headlands will be preserved.*

Comment - the site does not contain a headland.

- *Any developments on headlands already developed should be strictly limited to height and scale no greater than existing buildings and will require an environmental assessment, including an assessment of visual impact from adjoining beaches.*

Comment – the subject property is located in excess of 500 metres west of a headland, and separated by existing residential development within the Manyana village. The site is however, not prominent from the beach due to its separation, local topography, the extent of existing vegetation behind the beach along with the well developed nature of Manyana. Visual impact from the coastline is addressed in Section 6.5 of this Environmental Assessment.

It is considered that the development of the site will not lead to an unsatisfactory impact for the following reasons:

- The site is well setback from the actual headland,
 - The site is not prominent from the coastline,
 - The site is not visible from beaches near the site,
 - The property is sited behind existing residential development when viewed from the coastline, and
 - Shoalhaven City Council has adequate policies in place to control future residential development.
- *Beaches and waterfront open space will be protected from overshadowing. The standard to be applied will vary according to local circumstances, however generally the standard to be applied is:*
 - *in cities or large towns, no overshadowing before 3pm midwinter and 6:30pm Summer Daylight Saving Time;*
 - *elsewhere, no overshadowing before 4pm midwinter and 7pm Summer Daylight Saving Time.*

Comment – this proposal is for the subdivision of land only and will not result in the overshadowing of beaches or waterfront open space. Furthermore, the site is well clear of beaches and water front reserves such that overshadowing of these features will not occur when the site is ultimately developed.

- *Public setback lines will be set for every new development that immediately adjoins coastal lakes, estuaries, beaches, foreshores and cliffs. The amount of setback will be determined by consent authorities taking into consideration specific details of public access requirements, local topography, scenic factors (including the impact of the development as viewed from the waterway and foreshore area), coastal hazards (including sea level rise considerations), building design criteria and pollution and siltation management measures. No new development will be permitted to impede public access to foreshore areas.*

Apart from facilities essential to surf life saving, community facilities, works to protect property and environmental restoration measures, no development will be permitted seaward of this setback line and developers will be required to dedicate this land for public use or enter into a satisfactory agreement for ensuring public access, use and maintenance of the area to a suitable standard, as a condition of the development.

Comment – the subject site does not include a coastal lake, estuary, beach, foreshore or cliff and as such, this requirement does not have implications for the proposal. The proposal does make provision for open space to preserve ecologically sensitive locations within the site, along with the establishment of appropriate buffers and drainage works to maintain current hydrology.

- *As a continuation of existing practice, any tourist or recreational development which is adjacent to, or proposes to utilise the natural assets of, a National Park, Nature Reserve or State Recreation Area must not compromise the natural values of the area. Any tourist developments adjacent to areas reserved or dedicated for conservation purposes must be consistent with the “Guidelines for Tourist Developments in Proximity to Major Natural Areas in the North Coast Region” prepared by the Department of Urban Affairs and Planning or other conservation oriented design controls adopted in an LEP or DCP.*

Comment – the proposal does not include any tourist or recreational use and as such, this has no further implications for the development.

It is considered that the proposal is consistent with the requirements of the Coastal Policy 1997.

Coastal Design Guidelines 2003

The Coastal Design Guidelines for NSW were prepared by the NSW State Government with reference to the NSW Government’s Coastal Policy 1997 and complement the

Government's Coastal Protection Package (which included SEPP No. 71). The Coastal Design Guidelines are based upon the principles of ecologically sustainable development. The Guidelines provide additional direction to supplement the limited design matters contained in the Coastal Policy and are broad brush guidelines that support the place-based planning approaches espoused in PlanFirst, the NSW Government's plan making reform package released in 2002.

The Guidelines operate by applying the hierarchy of coastal settlements, which provides seven different settlement types ranging in size from Coastal Cities down to isolated coastal dwellings on large rural allotments.

Part 1 of the Guidelines outlines the relevant issues, opportunities, and desired future character which apply to each of the seven settlement types.

Part 2 of the Guidelines outlines the 5 Design Principles that should apply to each of the Settlements, providing a series of 'desirable' and 'undesirable' practices that are to be applied to coastal settlements. The 5 Design Principles relate to:

- defining the footprint and boundary of settlements;
- connecting open spaces;
- protecting the natural edges;
- reinforcing the street pattern;
- appropriate buildings in a coastal context.

Part 3 concludes the document and outlines how the Guidelines are to be implemented.

The following addresses the 5 Design Principles contained with the NSW Coastal Design Guidelines that are considered to have relevance to this proposal:-

Principle 1 - Defining the Footprint and Boundary of Settlements

The subject property is sited adjoining existing residential development to the east and south, undeveloped land zoned for rural purposes to the north, and undeveloped lands zoned for Village purposes (deferred from Shoalhaven LEP) to the west. The subject site has been identified by Shoalhaven Council for urban development since 1972.

It is considered that development of the subject site would form an appropriate northern extension to the village, on a site that has been zoned for such purposes, which is presently bordered by the existing sealed road network, and which has been catered for in the provision of relevant infrastructure.

The proposal allows for the following:

- Retention of vegetation within the site along riparian corridors;
- Provision of a permeable subdivision pattern allowing for pedestrian and cycle movements both within and beyond the site to places of importance, such as the community facilities and future neighbourhood shopping site;
- Utilisation of existing public infrastructure;
- Connection of all relevant services.

Principle 2 - Connecting Open Space Networks

The subdivision provides for the provision of open space in the following locations:

- Within a forested portion of the site, having a minimum area of 2.5 ha and remaining forested with native vegetation. This will provide passive recreation opportunities as well as maintaining visual amenity through the provision of a large expanse of green space;
- Near the centre of the site in a more formal park setting, having an area of 3,320 m². This area is to be embellished with playground equipment, and is also to contain a water quality control facility for visual interest, and it is anticipated that this will provide play space in a formal park like setting for local children to complement the more natural reserve provided above;
- A series of formal and informal pathways providing connectivity for pedestrians and cyclists.

Principle 3 - Protecting the Natural Edges

The subject site does not have direct frontage to the actual coastline or foreshore areas. The edge of the subject site is provided by established sealed public roads and adjoining residential development, which form an appropriate edge treatment themselves.

The site contains an Endangered Ecological Community (refer to Section 6.6) which is contained within a proposed open space reserve within the site which is proposed to be edged by a suitable buffer, bollard fencing and then sealed public roads. It is considered that this is an appropriate way in which to treat this natural area to ensure that impacts are minimised.

Principle 4 - Reinforcing the Street Pattern

The proposal seeks to reinforce the prevailing street pattern utilised within Manyana by:

- Building on the established street pattern which is loosely based on a grid arrangement.

- Having a road system that encourages lower speeds, culminating in a more pedestrian friendly environment.
- Linkages to all potential road frontages.
- Appropriate widths of roads; and
- Permeability for motorists, cyclists and pedestrians.

Principle 5 - Appropriate Buildings for a Coastal Context

Although no buildings are proposed as part of this application, it is important that the allotments that are created allow for the development of appropriate buildings in accordance with that espoused in the Coastal Design Guidelines. In this regard, it is considered that the proposal allows for suitable residential development due to:-

- the larger size of the allotments;
- the proposed orientation of lots;
- suitable road pattern;
- due regard to natural hazards;
- preservation of reasonable native vegetation within the site.

In addition to this, it is also intended to require compliance with the Design Guidelines that have been prepared and accompany this application, shown as **Annexure 2**, subject to further consultation with Shoalhaven City Council. This is further discussed in Section 6.5.

Finally, it is noted that Shoalhaven City Council has controls relating to future residential development on the resultant allotments (Policy to Control Building Height and Amenity in Residential Areas) and this is expanded upon in Section 6.5 of this report.

It is considered that the proposal is generally consistent with and will result in development that will comply with the requirements of the NSW Coastal Design Guidelines 2003.

South Coast Draft Regional Strategy

The Draft South Coast Regional Strategy applies to the Local Government Areas of Shoalhaven, Eurobodalla and Bega. The Draft Strategy was recently released and the period for public comments concluded on 31st May 2006. At the time of completing this Environmental Assessment, the Strategy has not been finalised.

According to the Introduction of the document, the *“primary purpose of the Regional Strategy is to ensure that significant natural and scenic assets that define the region’s character and underpin its economy are not compromised by growth”*. The Strategy is to *“be implemented primarily through LEPs, development control plans and the State Infrastructure Strategy and funds collected through developer contributions”*.

In relation to residential growth, the Draft Strategy provides background information and a series of goals for each of the relevant Local Government Areas that culminate in a number of ‘Outcomes’ and ‘Actions’ relating to various themes including the natural environment, natural hazards, housing and settlement, economic development and employment growth.

Natural Environment

Having regard to the natural environment, the Strategy makes a number of recommended actions, the majority of which relate to future local environmental plans. The site contains an Endangered Ecological Community and the subdivision layout has proposed the preservation of this area, including an appropriate buffer and drainage works, to ensure its long term preservation within the subdivision. The proposal is considered to be consistent with the natural environment objectives of the Draft South Coast Regional Strategy. Consideration of the Endangered Ecological Community is undertaken in Section 6.6.

Natural Hazards

The relevant actions proposed for the consideration of natural hazards relate to the preparation of flood investigations, consideration of climate change, the consideration of coastal erosion in LEPs, and consideration of proper risk assessment when rezoning land. This has no consequences for this Major Project given that it is sited on land that is already zoned for urban development. Despite this, the proposal adequately considers natural hazards as:

- the site is not flood liable;
- a bushfire risk assessment has been undertaken and recommendations incorporated into the subdivision layout;
- the site is relatively high and above many residential lots in Manyana, located 20 - 30 m above sea level providing scope for sea level rise.

Housing and Settlement

In relation to Housing and Settlement, the Strategy estimates 45 600 new dwellings will be required throughout the Region by 2031. Within the Shoalhaven local government area, the Strategy makes the following specific approximations:

An additional 26 300 dwellings will be required in the Shoalhaven over the next 25 years, of which 23 900 can potentially be accommodated by existing vacant urban land and existing investigation areas. A majority of this land is located around the major centre of Nowra–Bomaderry and the major towns of Ulladulla and Vincentia (includes the Jervis Bay–St Georges Basin area). The 2400 dwelling ‘supply gap’ will be accommodated by medium-density development within the town centres.

Having regard to actions to achieve these goals, the Strategy outlines the following:-

Other residential development in more isolated and sensitive locations as specified in Appendix 2 will be subject to a priority review by an expert panel to determine suitability and scale of any release, to be undertaken in consultation with the local council, land owner, Department of Environment and Conservation, Department of Lands, Roads and Traffic Authority and other relevant agencies.

In relation to the subject site, it is noted that it is NOT identified in Appendix 2 as being Sensitive Urban Lands. Whilst there is certain land within and near Manyana that is so identified, these do not affect the subject site.

A land release staging program shall be developed to ensure the orderly release of new housing. The program should use the delivery of key infrastructure such as electricity, water and sewer as a tool to implement the staging program.

The site is provided with key infrastructure including water and electricity, whilst sewer will be available for connection in mid 2007. Consultation has been had with the relevant supply authorities and no objection is raised to the proposal (refer to Section 6.7). Staging will be considerate of servicing constraints.

Urban investigation areas which are/will be identified in the following final NSW Government-endorsed documents are supported:

- > *Nowra–Bomaderry Structure Plan*
- > *Sussex Inlet Settlement Strategy*
- > *Jervis Bay Settlement Strategy*
- > *Milton–Ulladulla Structure Plan*
- > *Eurobodalla Settlement Strategy.*

Additional development sites will only be considered if demand for additional subregional housing supply can be demonstrated. Any such additional investigation areas shall adjoin a major regional centre or major town and shall be consistent with the Sustainability Criteria in Appendix 1.

The subject site has already been identified for future urban development due to its current Residential 2(a1) zone and as such, does not require further investigations. Consequently, this action has no implications for this application.

No new towns or villages will be supported.

This Major Project does NOT propose a new town or village, being part of the planned extension to the existing village of Manyana which has been provided for since 1972.

Appropriate housing mix targets shall be developed between councils and the Department of Planning to ensure that new housing meets the needs of future households, in particular the needs of smaller households and an aging population.

Planning provisions shall ensure that the appropriate housing mix targets can be achieved, in particular the need to provide medium-density housing in and around major regional centres and major towns.

Shoalhaven City Council has zoned the subject land Residential 2(a1) under the provisions of SLEP, 1985. Under this planning instrument, residential development is limited to single detached dwellings and dual occupancies. It is considered that implementation of this action is more appropriate during any further local environmental plans Shoalhaven City Council may choose to pursue and as such, has no ramifications for this Major Project.

Councils shall undertake a strategic review of lands for seniors living developments in accordance with the principles provided in State Environmental Planning Policy (Seniors Living) 2004 and ensure that sufficient sites are identified.

Shoalhaven Council commissioned Dr Judy Stubbs to prepare a study to examine the provision of aged accommodation within the entire City. This culminated in document “A Place for Aging? An Assessment of the Social Impacts of an Aging Population in the Shoalhaven: Implications for Housing, Services and the Community”, which was released in April 2004. Whilst this study recognised the need for additional aged care developments in the north (Nowra/Bomaderry) and south (Milton/Ulladulla/Mollymook) of the Shoalhaven, service provision is preferable in larger towns rather than small villages, where more effective utilisation of resources can be achieved. Regardless, it is considered that this is a matter for further consideration by Shoalhaven City Council when examining future local environmental plans.

LEPs shall include appropriate urban design and land use objectives such as:

- > sustainability principles, e.g. walkable neighbourhoods, compact centres, water and energy efficiency, and transit oriented development*

- > *promoting community development and wellbeing, e.g. through the provision of adaptable housing, accessibility, safety and crime prevention, quality public domain and facilities that provide opportunities for social interaction*
- > *quality architecture and character, e.g. coastal design, streetscape and heritage*
- > *promoting community health and wellbeing through a clean and healthy environment and a built form that affords people a variety of recreation options, (e.g. through the provision of green spaces) and transport alternatives (e.g. walking and cycling).*

The above urban design and land use objectives are considered to be very worthwhile in creating suitable residential localities. It is noted that the objectives are for implementation when preparing LEPs, however despite this, a variety of these objectives have been introduced in the design of the subdivision and the accompanying design guidelines. Features include more walkable neighbourhoods, improved recreational opportunities through the provision of green space, water efficient development (reuse of treated effluent and stormwater), and Draft Design Guidelines that encourage appropriate architecture.

A range of affordable housing strategies shall be considered and agreed between councils and the Department of Planning such as low-cost forms of housing, suitable zonings and development controls to improve housing choice and specific schemes (e.g. inclusionary zonings, joint projects, planning agreements and incentives). Strategies will be consistent with the NSW Affordable Housing Strategy.

The NSW Affordable Housing Strategy is currently being prepared and is due for completion this year. Although not specifically designed as low-cost housing, the allotments proposed in this application will assist in maintaining housing affordability by continuing the reasonable supply of residential land.

Economic Development and Employment Growth

This section of the Strategy seeks to preserve economic growth and employment opportunities by:

- protecting lands that are currently zoned for employment;
- adding to the supply of employment lands in existing economic centres;
- monitoring the supply of employment lands;
- ensure provision of tourism infrastructure in new LEPs.

These actions relate to additional considerations required in the preparation of LEPs and as such, have no major bearing on this proposal.

Water, Energy and Waste Resources

This Section relates to the provision of essential services in an efficient and secure fashion and culminates in the following actions:

- Council shall identify suitably located and appropriately zoned land for new water supply, waste water treatment and recycling, energy, waste avoidance and resource recovery infrastructure, to support growth in major regional centres and major towns.
- Councils will be encouraged to reduce town water demand through water conservation such as replacement of potable water use with harvested stormwater and/or highly treated waste water for non-potable uses.
- Suitable locally generated and/or renewable energy projects such as wind, solar, bio-waste and wave power, shall be supported.
- Councils will be encouraged to promote waste avoidance and resource recovery in demolition and building work as well as in the design and occupancy of residential, commercial and industrial development.

The site is within the catchment of the Conjola Regional Sewerage Scheme which is currently under construction and will be available to accept effluent waste from this subdivision. This scheme is a \$53 million project aimed at servicing 2200 dwellings within nine villages in the vicinity of Lake Conjola including Manyana, Bendalong, Cunjurong Point, Fishermans Paradise and Lake Conjola. The scheme provides for the tertiary treatment of effluent and allows for the reuse of reclaimed water within new subdivisions for toilet flushing and garden watering. It is the intention to install the requisite infrastructure to cater for this and allow the reuse of reclaimed water within the subdivision, thereby reducing reliance upon the potable water supply. Such water will be available for toilet flushing and garden watering, thereby reducing demand for potable water. This is further discussed in Section 6.7.

Having regard to the waste generation, Shoalhaven Council has adopted DCP 93 – Waste Minimisation and Management which aims to reduce the extent of waste generated by all phases of development, and requires the submission of a Waste Minimisation and Management Plan for all development applications, including single dwellings and development that is defined as Complying Development. This will assist in controlling the amount of waste, along with its storage and disposal, that is generated by this development.

The provision of alternative power energy sources are outside the scope of this development however Integral Energy, who supply electricity in the Shoalhaven Local Government Area, allows its customers to select renewable energy as an option under its 'INgreen' programme, and this will be available to future residents of the site.

Concluding Comment on Draft South Coast Regional Strategy

The Draft South Coast Regional Strategy is a strategic document to guide future decisions, principally in relation to LEPs and DCPs, however it is considered that the proposal is consistent with its aims and objectives given that:

- the development is on land zoned for the planned expansion of the existing village and has been so identified for in excess of 30 years.
- the layout is of good design that properly considers ecological constraints and opportunity;
- the development provides for the re-use of treated effluent;
- the subdivision proposes significant quantities of open space;

Rural Fires Act

The subject site is identified by mapping prepared by Shoalhaven Council in conjunction with the Rural Fire Service as being bush fire prone, with the entire site containing Category 1 vegetation. A Bushfire Safety Authority is not required however given that this proposal is to be considered under Part 3A of the EP&A. Despite this, a separate Bushfire Protection Assessment has been prepared by Bushfire and Environmental Services to address the threat of bushfire and to address the requirements of Planning for Bushfire Protection and this report accompanies the Environmental Assessment. This concludes that the following measures are required to address the bushfire hazard:

- A 30 m APZ to the west and north of the development to be maintained at an IPA standard.
- A 20 m APZ to the EEC to be maintained at an IPA standard.
- APZ can include existing and proposed roadways.
- Appropriate level of vehicular access be provided.
- Various levels of construction in accordance with AS 3959 dependent upon setback to unmanaged bushland.
- The staging of the development to provide an interim APZ of 80 m in width in order to protect development during the construction period of the development.

- The development will provide suitable mitigation measures to protect against bushfire.

The subdivision layout has been designed to accommodate the recommendations.

This will be discussed further in Section 6.4 of this report.

Threatened Species Conservation Act

This legislation was introduced with the objectives of conserving threatened species, populations and ecological communities of animals and plants. The Act amends the Environmental Planning & Assessment Act and the National Parks & Wildlife Act. Strict compliance with this legislation is not required given the Part 3A nature of the application however notwithstanding this consideration has been given to threatened flora and fauna. Accompanying this application is a report that addresses flora and fauna issues affecting the site.

This is further addressed in Section 6.6 of this report.

Native Vegetation Act

The Native Vegetation Conservation Act 2003 (NVC) came into force on 11th December 2003 to control the removal of native vegetation. The associated Regulations came into force on 1st December 2005. This legislation operates separately to the Environmental Planning and Assessment Act, 1979 (EP&A), and requires that approval be obtained for the clearing of remnant native vegetation or protected regrowth unless the clearing is a permitted activity. Schedule 1 of the NVC outlines those areas where the Act does not apply, and clause 14 of this schedule outlines the following:-

“Land within a zone designated “residential” (but not “rural-residential”), “village”, “township”, “industrial” or “business” under an environmental planning instrument or, having regard to the purpose of the zone, having the substantial character of a zone so designated, not being land to which a property vegetation plan applies.”

In relation to the subject site, it is zoned Residential 2(a1) under the provisions of Shoalhaven LEP 1985, and as such, the NVC will have no further implications for this development proposal.

5.1.1 State Policies

State Environmental Planning Policy (SEPP) No. 11 – Traffic Generating Developments

The proposal entails the subdivision of the site into 179 allotments. Under the provisions of Schedule 2 of SEPP 11, development involving:

“(g) subdivision of land into 50 or more allotments”

requires consideration by the Local Traffic Committee.

Accompanying this Assessment is a Transport Report prepared by Colston Budd Hunt and Kafes which has concluded that the proposed subdivision will not adversely impact on the efficiency of the local road network, whilst current access arrangements are satisfactory. Traffic is further addressed in Section 6.3 of this Environmental Assessment.

State Environmental Planning Policy No 55 – Remediation of Land

SEPP No. 55 aims essentially to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health and other aspects of the environment. In particular clause 7 of the SEPP requires that a consent authority must not consent to any development unless:

- it has considered whether the land is contaminated;
- if the land is contaminated whether the land is suitable in its contaminated state (or will be suitable after remediation) for the purpose for which the development is proposed; and
- if the land requires radiation to be made suitable, it is satisfied that the land will be remediated before the land is used for that purpose.

Furthermore, if a change of use of land for residential purpose is proposed, where,

- there is no knowledge (or incomplete knowledge) of past uses;
- on which it would have been lawful to carry out such past uses during any period in respect of which there is no knowledge (or incomplete knowledge).

The consent authority is required to consider a report specifying the findings of a preliminary investigation of the land.

Past development and uses have been investigated and are further discussed in Section 6.10 of this Environmental Assessment.

State Environmental Planning Policy No. 71 - Coastal Protection

The site is located entirely within the coastal zone, and as such, the provisions of SEPP 71 require consideration. The Policy was made to ensure that:

- development in the NSW coastal zone is appropriate and suitably located;

- there is a consistent and strategic approach to coastal planning and management;
- there is a clear development assessment framework for the Coastal Zone.

The aims of the SEPP are as follows:

- (a) to protect and manage the natural, cultural, recreational and economic attributes of the New South Wales coast, and*
- (b) to protect and improve existing public access to and along coastal foreshores to the extent that this is compatible with the natural attributes of the coastal foreshore, and*
- (c) to ensure that new opportunities for public access to and along coastal foreshores are identified and realised to the extent that this is compatible with the natural attributes of the coastal foreshore, and*
- (d) to protect and preserve Aboriginal cultural heritage, and Aboriginal places, values, customs, beliefs and traditional knowledge, and*
- (e) to ensure that the visual amenity of the coast is protected, and*
- (f) to protect and preserve beach environments and beach amenity, and*
- (g) to protect and preserve native coastal vegetation, and*
- (h) to protect and preserve the marine environment of New South Wales, and*
- (i) to protect and preserve rock platforms, and*
- (j) to manage the coastal zone in accordance with the principles of ecologically sustainable development (within the meaning of section 6 (2) of the Protection of the Environment Administration Act 1991), and*
- (k) to ensure that the type, bulk, scale and size of development is appropriate for the location and protects and improves the natural scenic quality of the surrounding area, and*
- (l) to encourage a strategic approach to coastal management.*

The provisions of Clause 8 of the SEPP require consideration of additional matters by the consent authority when assessing development applications. These additional matters are as follows:-

- (a) the aims of this Policy set out in clause 2,*
- (b) existing public access to and along the coastal foreshore for pedestrians or persons with a disability should be retained and, where possible, public access to and along the coastal foreshore for pedestrians or persons with a disability should be improved,*
- (c) opportunities to provide new public access to and along the coastal foreshore for pedestrians or persons with a disability,*

- (d) *the suitability of development given its type, location and design and its relationship with the surrounding area,*
- (e) *any detrimental impact that development may have on the amenity of the coastal foreshore, including any significant overshadowing of the coastal foreshore and any significant loss of views from a public place to the coastal foreshore,*
- (f) *the scenic qualities of the New South Wales coast, and means to protect and improve these qualities,*
- (g) *measures to conserve animals (within the meaning of the Threatened Species Conservation Act 1995) and plants (within the meaning of that Act), and their habitats,*
- (h) *measures to conserve fish (within the meaning of Part 7A of the Fisheries Management Act 1994) and marine vegetation (within the meaning of that Part), and their habitats*
- (i) *existing wildlife corridors and the impact of development on these corridors,*
- (j) *the likely impact of coastal processes and coastal hazards on development and any likely impacts of development on coastal processes and coastal hazards,*
- (k) *measures to reduce the potential for conflict between land-based and water-based coastal activities,*
- (l) *measures to protect the cultural places, values, customs, beliefs and traditional knowledge of Aboriginals,*
- (m) *likely impacts of development on the water quality of coastal waterbodies,*
- (n) *the conservation and preservation of items of heritage, archaeological or historic significance,*
- (o) *only in cases in which a council prepares a draft local environmental plan that applies to land to which this Policy applies, the means to encourage compact towns and cities,*
- (p) *only in cases in which a development application in relation to proposed development is determined:-*
 - (i) *the cumulative impacts of the proposed development on the environment, and*
 - (ii) *measures to ensure that water and energy usage by the proposed development is efficient.*

The proposal is considered to be consistent with the requirements of Clause 8 for the following reasons:

- The proposal will not adversely affect public accessibility to and along coastal foreshores given the location of the site away from the actual coastline and the site

does not have frontage to a beach, estuary, coastal lake, headland, cliff or rock platform. The proposal includes the provision of publicly accessible lands throughout the subdivision within road reserves, drainage reserves and open space areas, thereby improving legal public accessibility over the site.

- The development is considered suitable given it adjoins the existing residential village and forms a reasonable extension to the north-west.
- The assessment has considered the impacts on Aboriginal cultural heritage and further information is provided in Section 6.9.
- The site is located behind existing development when viewed from the coast.
- The proposal includes measures to maintain water quality by the provision of water quality control ponds and other drainage infrastructure. Refer to Section 6.8 for further details.
- The site does not contain any rock platforms.
- The proposal is for the subdivision of land only and does not result in the construction of buildings, whilst Shoalhaven City Council has appropriate policies to control the scale of further development. In addition, separate Draft Design Guidelines will be finalised and are intended to be implemented in order to encourage design that is compatible with the village character.
- The site is well away from the coastal foreshore and the height limits that would be imposed on residential development would ensure that there is no overshadowing of the coastal foreshore.
- View loss from public places would not be significant.
- The site is surrounded by urban development on its eastern and southern boundaries and is NOT identified as a wildlife corridor under mapping prepared in support of the Illawarra Regional Environmental Plan.
- The site does not contain any areas of heritage, archaeological or historic significance.
- Give the nature of the development and the sites location, it is unlikely to cause conflict between land based and water based activities.
- It is proposed to utilise reclaimed water from the Conjola Sewerage Scheme for reuse in toilet flushing, garden watering and the like to reduce reliance upon the potable water supply.

- BASIX will ensure that all new development on the resultant allotments will meet the relevant energy and water saving targets that are stipulated.

Clauses 14 - 16 of the SEPP require consideration of the following additional matters when determining development applications:

14 Public access

A consent authority must not consent to an application to carry out development on land to which this Policy applies if, in the opinion of the consent authority, the development will, or is likely to, result in the impeding or diminishing, to any extent, of the physical, land-based right of access of the public to or along the coastal foreshore.

The property does not have frontage to a coastal foreshore area. As such, this clause is not considered to have implications for the proposal.

15 Effluent disposal

The consent authority must not consent to a development application to carry out development on land to which this Policy applies in which effluent is proposed to be disposed of by means of a non-reticulated system if the consent authority is satisfied the proposal will, or is likely to, have a negative effect on the water quality of the sea or any nearby beach, or an estuary, a coastal lake, a coastal creek or other similar body of water, or a rock platform.

It is intended that the site will be connected to the reticulated sewerage system which is currently under construction and will be available for connection mid 2007.

16 Stormwater

The consent authority must not grant consent to a development application to carry out development on land to which this Policy applies if the consent authority is of the opinion that the development will, or is likely to, discharge untreated stormwater into the sea, a beach, or an estuary, a coastal lake, a coastal creek or other similar body of water, or onto a rock platform.

The site drains into the ocean at Manyana Beach via an un-named creek. As part of this development, it is intended to provide water quality control devices, plus on-site detention, in order to mitigate impacts and improve water quality. This is addressed in the report prepared by Storm Consulting and is further discussed in Section 6.8 of this Environmental Assessment. The development is considered to be consistent with the requirements of Clause 16.

SEPP Major Projects

The project is affected by the provisions of the Major Projects SEPP due to the location of the site within the Coastal Zone, and the nature of the application, being the subdivision of land into more than 25 allotments. In this regard, the Director-General of the

Department of Planning formed the opinion on 22 November 2005 that the provision of Part 3A of the Environmental Planning and Assessment Act would apply.

In relation to this project, the SEPP aims to identify development to which the development assessment and approval process under Part 3A of the Act applies, and to facilitate the development, redevelopment or protection of important urban, coastal and regional sites of economic, environmental or social significance to the State so as to facilitate the orderly use, development or conservation of those State significant sites for the benefit of the State.

SEPP Building Sustainability Index (BASIX)

This SEPP was introduced in order to ensure consistency throughout the state in applying the BASIX scheme which aims to encourage sustainable residential development.

At this time, the SEPP currently has no direct implications for the subdivision of land, however residential development on the resultant allotments will need to comply with the required targets applicable at the time of development.

5.2 REGIONAL PLANNING PROVISIONS

The subject site is affected by the provisions of the Illawarra Regional Environmental Plan No 1, 1986 (IREP).

The objectives of the Regional Plan that apply to living areas are:

- *to ensure that urban expansion is orderly and efficient having regard to the constraints of the natural environment and that sufficient land is available to prevent price rises resulting from scarcity of land,*
- *to ensure that new residential land or land for higher density development is only developed where there are adequate utility and community services available or there is a commitment from the relevant authorities or developer to provide those services,*
- *to provide for a range of lot sizes, dwelling types and tenure forms to cater for varying household needs in all local government areas,*
- *to ensure that residential development does not take place on hazard-prone lands, and*
- *to minimise bush fire risks to urban development.*

It is considered that the application is consistent with these objectives as follows:

- the land has been identified for at least 30 years to provide for additional residential accommodation;

- the project appropriately considers the natural hazards applying to the site, principally restricted to bushfire risks from the north and west;
- the site is well located in close proximity to the established community facilities;
- the site is well located in close proximity to those lands zoned for commercial purposes;
- all relevant services are or will be available and can be connected to the proposed lots.

A series of maps are attached to the Plan, which identify localities where specific policy issues apply. In relation to these maps, the subject land is:

- NOT identified as containing rainforest vegetation.
- NOT identified as a wildlife corridor.
- NOT Identified as land with prime crop and pasture potential.
- NOT identified as containing extractive resources.
- NOT Identified as land with landscape or environmental attributes.

In addition, it is noted that the site is NOT identified in Schedule 1 of IREP as containing an item of environmental heritage. Furthermore, as no property in the Manyana Village is listed in Schedule 1, the site is not within the vicinity of an item of environmental heritage.

5.3 LOCAL PLANNING PROVISIONS

5.3.1 Shoalhaven Local Environmental Plan (SLEP) 1985

Zoning

The subject site has been zoned for urban purposes since 1972 when Amendment No 3 of the Shire of Shoalhaven IDO No 1 zoned the land Village. An extract of IDO No. 1 Amendment No 3 is shown as **Figure 3** over page which shows the entire zoning map and the subject site is clearly visible as being zoned Village.

The site is currently zoned Residential 2(a1) under the provisions of Shoalhaven LEP 1985. **Figure 4** following is an extract from Council's GIS which shows the location of the relevant zones.

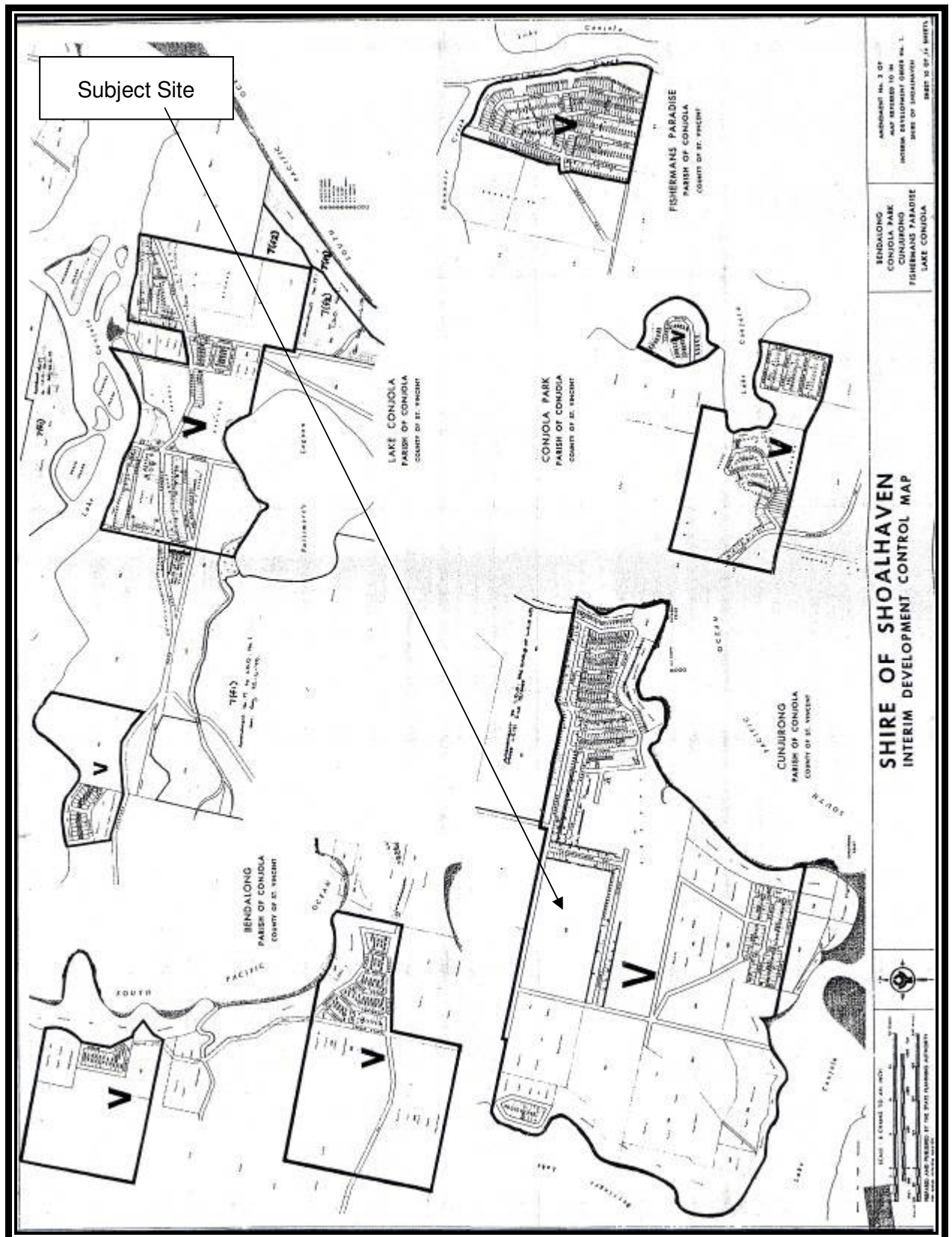


Figure 3: Copy of Sheet 10 from Shoalhaven IDO No 1 Amendment No 3

The objectives of the Residential 2(a1) are:-

“to provide an environment primarily for detached housing and to ensure that the range of development permitted in a residential area is compatible with the residential environment.”

The development of the proposed subdivision will provide allotments for future development with single detached housing and as such, is entirely consistent with these objectives.

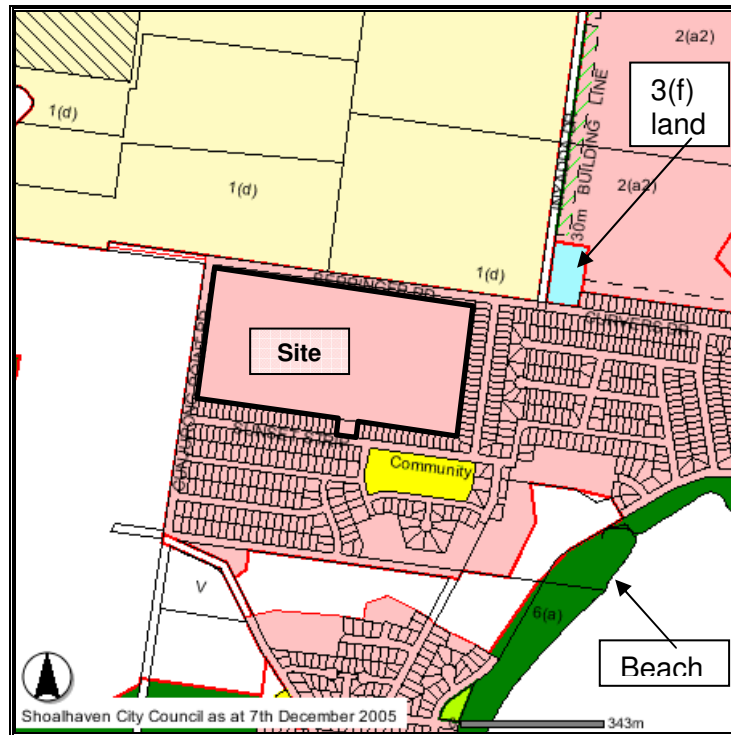


Figure 4: Extract from Council's GIS showing location of relevant zones

Shoalhaven LEP does not include any development standards applying to the subdivision of residential land, with the controls for subdivision being contained in Development Control Plan 100 – Subdivision Code.

Environmental Management – Division 5

Shoalhaven LEP at Division 5 relates to the environmental management of certain lands, contingent on certain locational criteria. The majority of these apply only to land zoned for rural or environmental protection purposes and as such will not be relevant to this proposal. The following addresses those matters that may apply or have relevance to this proposal.

Clause 21 – Land of Ecological Sensitivity

This clause applies to those lands that are identified on the accompanying LEP map with distinctive hatching. The relevant mapping does NOT identify the subject site with distinctive hatching.

Clause 21A – Vegetation Linkage

This clause applies to land identified on mapping with a broken black line and lettering noting “vegetation Linkage”, but does not apply to land zoned for residential purposes, and as such, has no further implications for this proposal.

Clause 24 – Water Catchment Areas

The site is not within a water catchment area and as such, Clause 24 has no further implications for the proposal.

Clause 26 – Soil, Water and Effluent Management

This clause requires the following:

- “1) A person must not carry out development that relates to the habitation of land by humans unless and until arrangements satisfactory to the Council have been made by the applicant (and if the applicant is not the owner, the owner also) for the provision of a water supply, facilities for the removal of sewage, and for the drainage of stormwater and other surface water from the land.*
- (2) In deciding whether arrangements for drainage of stormwater and other surface water and the treatment and disposal of effluent are satisfactory, the Council must take into account whether the proposed systems can be accomplished in a manner which meets the following objectives:*
 - (a) economical feasibility and practicality in terms of design, installation and maintenance,*
 - (b) protection of public health,*
 - (c) protection of surface water,*
 - (d) protection of ground water,*
 - (e) encouragement of the utilisation of wastewaters as a resource rather than a waste for disposal, and*
 - (f) protection of community amenity.*
- (3) Despite any other provision of this plan, except clauses 2, 9 (3) and 21 and the objectives of the zone in which development the subject of this clause is proposed, the Council may consent to the construction of*

devices which, in the opinion of the Council, are to be used principally for the purpose of soil and water management or water pollution control.

It is intended that the development connect to the reticulated water and sewerage supply. This is further discussed in Section 6.7 of this Environmental Assessment.

Issues pertaining to stormwater and water quality are addressed in Section 6.8 of this Environmental Assessment.

Clause 27 – Acid Sulfate Soils

Clause 27 of SLEP specifies:

- “(1) This clause applies to land identified as having high probability to be affected by acid sulfate soils on the map prepared by the Department of Land and Water Conservation entitled Acid Sulfate Soil Risk Map dated December 1997 and available for public inspection at the office of the Council.*
- (2) Despite any other provision of this plan, the consent of the Council is required for any development which involves or is likely to involve, through drainage, earthworks, or any other means, the exposure to the atmosphere of any part of soil which contains iron pyrites within land to which this clause applies.*
- (3) The Council must not consent to development described in subclause (2) unless it is satisfied that measures can and will be taken to avoid or mitigate the actual or potential contamination of waterways in the vicinity of the land concerned by acid from acid sulfate soils.”*

Plans show that the site does NOT have a high probability of acid sulphate soils and as such, this clause has no further implications for the proposal.

Clause 28 – Bushfire Prone Land

The site is identified as being bushfire prone by mapping prepared by Shoalhaven Council and signed by the RFS. Clause 28 requires:

- (1) The Council must not grant consent to the carrying out of development on bush fire prone land if it is of the opinion that:*
 - (a) the development may have a significant adverse effect on the implementation of:*
 - (i) any strategies for bush fire hazard reduction or risk management adopted by the Council, or*
 - (ii) any relevant provisions of [the Act](#) or the [Rural Fires Act 1997](#), and*
 - (b) the development, including the arrangements for access to and from the development, may constitute a significant threat to the lives of residents, visitors or emergency services personnel, and*

- (c) *the development may give rise to an increased demand for emergency services during bush fire events that will result in a significant decrease in the ability of the emergency services to effectively control major bush fires.*

Note: [Section 146 of the Act](#) provides that bush fire prone land is land recorded by the Council as such on a map certified by the Commissioner of the NSW Rural Fire Service as a bush fire prone land map for the area of the Council.

- (2) *The Council must not grant consent to the carrying out of development on bush fire prone land unless it is satisfied that adequate measures are proposed to avoid or mitigate the threat from bush fire, having regard to:*
 - (a) *the siting of the development, and*
 - (b) *the design of, and the materials used in, any structures involved in the development, and*
 - (c) *the clearing of vegetation, and*
 - (d) *the provision of asset protection zones, landscaping and fire control aids (such as roads and water supplies).*
- (3) *Before deciding to grant consent to any development on bush fire prone land, the Council:*
 - (a) *must have regard to the requirements set out in Planning for Bushfire Protection (ISBN 0 9585987 8 9) , prepared by Planning & Environment Services, NSW Rural Fire Service in co-operation with the Department of Planning (as it then was), and published in December 2001, and*
 - (b) *must be satisfied that those requirements will be met as far as is practicable in the circumstances.*

Accompanying this application is a Bushfire Protection Assessment prepared by Bushfire and Environmental Services. This addresses the requirements of *Planning for Bushfire Protection* and has recommended the provision of APZ, appropriate levels of construction and the like. The proposed layout considers the recommendations. This is addressed further in Section 6.4 of this Environmental Assessment.

Clause 29 – Development of Flood Liable Land

The site is located on higher lands that are not identified as being flood liable. As such, Clause 29 has no further implications for this proposal.

Clause 31 – Items of Environmental Heritage

The subject site is not identified as having an item of environmental heritage. Furthermore, no property in the vicinity of the site is identified as having heritage significance.

Draft Local Environmental Plans

Draft LEP 264 – Heritage LEP

Shoalhaven LEP currently has a limited number of properties that are actually identified as items of environmental heritage. Council has commissioned a study of the whole Local Government Area to identify additional properties that may have heritage significance. This resulted in the release of Heritage Study 1995 – 1998 (dated February 2003) by Peter Freeman Pty Ltd Conservation Architects and Planners in association with JCR Planning Services and the preparation of a Draft LEP (DLEP 264) to formally list the relevant items. This study, along with the DLEP 264, has not identified the subject property, or any property in Manyana village for that matter, as containing an item of environmental heritage.

Development Control Plans

DCP 93 – Waste Minimisation and Management

The DCP is implemented by a requirement to provide a Waste Minimisation and Management Plan (WMMP). Each WMMP is required to outline the amount of waste expected to be generated, its storage, and future re-use or disposal method. It is ordinarily the case that such information is provided before actual construction works commence and a condition of consent can be imposed requiring such plan for further consideration. The provisions of this DCP can be addressed.

DCP 100 – Subdivision Code

The proposal, being for the subdivision of the site into residential allotments, is subject of DCP 100 – Subdivision Code which applies when the subdivision of land is proposed. The aims of the DCP are:

- *To encourage high quality urban design and residential amenity;*
- *To set appropriate environmental criteria for subdivision development;*
- *To provide a comprehensive design approach for residential, rural, industrial and commercial subdivision;*
- *To provide a user friendly document with flexible performance-based criteria to guide*
- *development; and*
- *To provide for the ecologically sustainable subdivision of land.*

The DCP outlines a number of Performance Criteria with objectives that need to be met in the subdivision of land, along with Acceptable Solutions that may be examples of what is considered acceptable in complying with the Performance Criteria. The Acceptable Solutions are generally numerically based, and in this include issues relating to minimum allotment size, along with width and depths.

In relation to this subdivision, the following compliance table addresses the Acceptable Solutions that are considered to have relevance to this proposal.

Table 1
DCP No. 100 - Subdivision Code

<i>Issue</i>	<i>Compliance</i>	<i>Comments</i>
Lot Size <i>Minimum lot size of 500 m²</i>	Yes (except for 2 lots below 500m ²)	<p>The application proposes 179 allotments, 177 of which exceed the 500m² minimum with the smallest lot being 580m² and increasing up to 1520m².</p> <p>Average size of the 179 lots is approximately 720m², which is 44% above the minimum allotment size.</p> <p>Two of the lots however sited near Sunset Strip have areas of 485 m², and 490 m² which are marginally below the 500 m² requirement.</p> <p>This is further discussed below.</p>
Dimensions <ul style="list-style-type: none"> Rectangular non-corner lots <i>Minimum width of 16 m and depth of 30 m.</i> Rectangular corner lots <i>Square width of 20 m depth of 30 m</i> Irregular shaped lots <i>Square width of 12 m</i> <i>Width at building line of 16 m</i> <i>Mean width 18 m</i> <i>Depth of 30 metres</i> 	<p>Yes (except for 1 lot non-compliant)</p> <p>Yes (except for 1 lot non-compliant)</p> <p>Yes</p>	<p>The proposed regular shaped allotments are all of a reasonable shape with width and depth that exceeds the minimum requirements.</p> <p>The exception to this is one lot near the Sunset Strip which is smaller and has a depth of 26.5 metres.</p> <p>This is discussed below.</p> <p>The proposed corner allotments are all of a reasonable shape with width and depth that exceeds the minimum requirements.</p> <p>The exception is one lot on the corner of Proposed Road No 1 and the Sunset Strip, which is smaller and has a depth of 26.5 metres and a square width of 18.5 m at the building line.</p> <p>This is discussed below.</p> <p>All irregular shaped allotments are of a size and shape that exceed the minimum requirements.</p>

<i>Issue</i>	<i>Compliance</i>	<i>Comments</i>
<ul style="list-style-type: none"> Corner Splays 4 metres 	Yes	Splays are provided to all corner allotments.
Energy efficiency Allotments Design to achieve 5 star rating in accordance with Council's Energy Efficiency Policy	Yes	<p>The allotments are all located on either an east-west or north-south axis which maximise opportunities of achieving good levels of solar access to future dwelling houses.</p> <p>The exception to the above are allotments located to the north-east of the EEC. These allotments are more generous in their proportions with a minimum width of 19.5 m which will be sufficient to provide acceptable direct solar access.</p>

The subdivision layout departs from the requirements of Council's Subdivision Code in respect of two of the allotments sited towards Sunset Strip. The design of the subdivision in this location has been constrained by the shape of the subject site and the overall desire to have an access road onto Sunset Strip in order to improve accessibility and to properly distribute both vehicular and pedestrian access around the site. As a result, two lots in this location are constrained by the need to provide a road reserve to link with the Sunset Strip, which has the effect of restricting the depth of the allotments. These two allotments represent approximately 1% of the overall subdivision yield.

The allotments have areas of 485 m² and 490 m², which is 15 m² or 3% and 10 m² or 2% respectively, below the DCP requirements. These allotments have a width of 18.5 m and depth of 26.5 metres, are of a regular shape, are developed along an east-west axis, and are otherwise unconstrained such that a suitable dwelling would be able to be constructed. Indeed if anything, it is considered that the lots add some greater variety to the subdivision by providing a limited alternative to the very generous proportions of the remaining 177 lots.

Furthermore, this location will provide an important entry feature to the subdivision. It is considered preferable from an urban design perspective to have two east-west orientated lots facing onto the proposed road over one large corner lot which will have no proper relationship with the subject site.

The objectives of Council's Subdivision Code as it relates to Allotment Layout are contained within Element RE 14 as follows:-

Objectives

- 01** *To provide a range and mix of lot sizes to suit a variety of dwellings and household types, with areas and dimensions to meet user requirements.*
- 02** *To provide lots that are oriented where practicable to enable the application of energy conservation principles.*
- 03** *To provide lots of sufficient size to protect environmental features and take into account site constraints.*
- 04** *To provide for smaller lots in locations adjacent to neighbourhood centres, public transport stops and adjacent to higher amenity areas.*

The Performance Criteria applying to the Allotment Layout (and minimum lot size) is as follows:-

- P1** *Lots have the appropriate area and dimensions for the siting and construction of a dwelling and ancillary outbuildings, the provision of private outdoor space, convenient vehicle access and parking.*
- P2** *Lot areas and dimensions take into account the slope of the land and the desirability of minimising earthworks / retaining walls associated with dwelling construction.*
- P3** *Lot areas and dimensions enable dwellings to be sited to:*
 - *Protect natural or cultural features*
 - *Acknowledge site constraints including soil erosion and bushfire risk*
 - *Retain special features such as trees and views*
- P4** *Lot frontages are oriented to streets and open spaces so that personal and property security, deterrence of crime and vandalism and surveillance of footpaths and open spaces are facilitated.*
- P5** *Lot design precludes the need to reverse onto a major or minor distributor road.*
- P6** *Lots to provide appropriate dimensions for the siting and construction of residential development and ancillary outbuildings or facilities*
- P7** *Adequate provision to be made for access to the property.*
- P8** *Suitable building envelope, of relatively flat land that can be developed.*
- P9** *Minimise overshadowing and privacy impacts on adjoining residents.*
- P10** *Provide opportunity for future dwellings to have good solar access.*
- P11** *Retain character of location by preserving existing mature trees or provide opportunities for future planting.*

It is considered that the proposed allotments are reasonable despite the minor variation to Council's minimum lot size, for the following reasons:

- The overall subdivision layout provides a wide variety of allotment sizes, most of which are well in excess of Council's minimum requirements,
- The proposed allotments are of a suitable size and are provided with adequate width to allow for the construction of a dwelling with a reasonable footprint that would be able to comply with Council's setback requirements,
- The proposed allotments are of a reasonable shape which will not constrain the construction of a dwelling,
- The proposed lots run along an east-west axis which will provide good level of direct solar access to any future dwelling allowing application of energy conservation principles,
- Future dwellings are most likely to be sited towards Proposed Road No. 1 which will ensure maximum setback from an existing allotment to the west, thereby minimising impacts from overshadowing on that property. In other directions in the vicinity of these allotments are the road reserve of Sunset Strip to the south, Proposed Road No 1 to the east and Proposed Public Reserve to the north and overshadowing of these areas is not problematic,
- The portion of the site where these lots are sited is not constrained by excessive slope, natural features or the need to preserve view lines or the like and the development of these proposed lots with a dwelling will not lead to unsatisfactory impacts.

In addition to the specifics relating to the allotments themselves, it is worth noting that the average allotment size for the entire subdivision is approximately 720m², which far exceeds the minimum allotment size outlined in DCP 100. On balance, it is considered that the variation of up to 15m² or 3% is minor and the layout is suitable for approval notwithstanding this minor departure to the Subdivision Code.

Area Specific Development Control Plans

The site is not subject to any specific area based DCP adopted by Council.

Contributions Plan

Section 94 Contributions Plan

The site is subject to Shoalhaven Council's Section 94 Contributions Plan. For the most part, this will result in a requirement to pay a monetary contribution to the provision of services and amenities off-site that will be used by future residents.

In addition however, Project 05OREC0004 requires the provision of 8,304m² of passive open space within the subject site for the use by residents of the subdivision. The subdivision layout proposes the provision of a total of 2.8 ha of open space comprising a combination of formal play space, forested lands containing an endangered ecological community, and drainage infrastructure. The total amount of open space provided is approximately 3.5 times the minimum area required by Shoalhaven City Council in its Section 94 Contributions Plan. It is noted that the subject site is located in close proximity to Yulunga Reserve which provides a large expanse of level playing field and residents of this site will have good accessibility to this space, and as such, it is not necessary to replicate such an area in this development.

Retention of the EEC has been proposed to satisfy the requirements of the Department of Environment and Conservation (DEC) and to have proper regard to the ecological constraints of the site. This will be further discussed in Section 6.6 of this Report.

The provision of modern drainage infrastructure incorporating wetlands and the like is necessary to maintain the integrity of the EEC and downstream watercourses as required by both DEC and the Department of Natural Resources and also the Performance Criteria established in Council's Subdivision Code DCP 100.

This leaves approximately 1.1 ha of area for public reserve purposes in a combination of structured play space in a centrally located park, with the balance comprising more natural forested areas.

The proposal is considered to be consistent with the requirements of Council's Section 94 Plan.

General Council Policies

Shoalhaven Cycleway Strategy

Shoalhaven Council adopted a Cycleway Strategy on 16th December 1997 in order to recognise the needs of cyclists, to ensure that the Shoalhaven is a 'cycle friendly' city and to identify a realistic network of cycleways for implementation. A series of maps

accompanies the strategy in order to identify appropriate routes for cycleways, and the nature of the facility to be provided.

In relation to the settlements of Manyana, Cunjurong Point or Bendalong, the policy has no effect as no facilities have been identified as being required.

Notwithstanding this, the subdivision does include a series of formal and informal opportunities for cyclists within the property and the goal of a 'cycle friendly' city is enhanced by the proposal.

Reflective Building Materials - Use in Coastal and Rural Areas

Shoalhaven Council has adopted a policy to control the use of reflective materials in locations where the natural landscape is of such quality it should be pre-eminent, structures should not strongly contrast with the background and highly reflective materials are not permitted in such locations. The Draft Design Guidelines discourage the use of highly reflective materials such as galvanised iron and as such, compliance with this policy will be achieved in future residential development.

Policy to Control Building Height and Amenity in Residential Areas

Shoalhaven Council on 3 April 1990 adopted this policy which controls the height and floor space of residential dwellings in order to preserve residential amenity. This policy includes, amongst other things, requirements relating to overall height (8.5 metres) and a maximum of two storeys, building height plane (projected at 45° from a height of 5 metres) and a floor space ratio (0.6:1).

It is expected that future development will comply with this policy.

5.4 CONCLUSION OF STATUTORY CONTROLS

To conclude this section on statutory controls, it is considered that this subdivision proposal is generally consistent with the relevant State, Regional and Local environmental planning instruments, Development Control Plans and local policies adopted by Shoalhaven Council.

Whilst the subdivision layout includes a variation to the minimum lot size outlined in DCP 100, this relates to only 2 of the proposed 179 lots, and the extent of departure is limited to a maximum of 3% or 15 m². The overall result of this minor non-compliance is an improved streetscape design at the main entrance to the subdivision. Despite this minor variation, the proposal is considered to comply with the applicable Performance Criteria and as such, is considered a reasonable departure.

6.0 ASSESSMENT

As outlined in Section 4, the Department of Planning identified key issues in the consideration of the Preliminary Assessment as follows:

- a) Statutory and Other Requirements;
- b) Cumulative Impacts;
- c) Traffic Impacts (Construction and Operational);
- d) Bushfire;
- e) Urban Design, Visual Impact and Sustainability;
- f) Threatened Species and Matters of National Environmental Significance;
- g) Impact on Sewerage and Water Infrastructure;
- h) Impacts on Water Quality and Drainage;
- i) Aboriginal and Cultural Heritage;
- j) Contamination.

6.1 STATUTORY AND OTHER REQUIREMENTS

Section 5 of this report provides a thorough assessment of the relevant statutory framework applying to the subdivision of the subject site. This assessment concluded that the proposal is consistent with all relevant State Environmental Planning Policies, Regional Environmental Plans and Local Environmental Plans. The application does propose a minor departure to the minimum allotment requirement outlined in Council's Subdivision Code DCP 100 however the proposal is considered to be consistent with the relevant performance criteria contained within that document.

6.2 CUMULATIVE IMPACTS

Within the villages of Manyana, Bendalong and Cunjurong Point, undeveloped land zoned for residential purposes under Shoalhaven LEP 1985 is limited to the following locations outline in **Table 1** over page:

Table 1
Manyana and Surrounds: Existing and Future Residential Land Supply

Site	Location	Approximate Area	Current Zoning	Possible Future Zoning	Lot Yield
¹ Subject Site	Berringer Road & Cunjurong Point Roads, Manyana	20.40 ha	Residential 2 (a1)	N/A	Proposed 179
² Vacenta Pty Ltd	Sunset Strip and The Barbican, Manyana	9.54 ha	Residential 2 (a1)	N/A	Proposed 71
³ Kylor Pty Ltd		77.98 ha	Residential 2 (a2) Residential 2 (c) Commercial 3 (f)	Residential 2 (a1) Residential 2 (c) Commercial 3 (f)	Potentially 156
⁴ Crown Land	West Manyana	104.31 ha	Residential (Deferred)	N/A	Nil
⁵ Crown Land	Bendalong	24 ha	Residential (Deferred)	N/A	Nil
⁶ Crown Land	North Bendalong	46 ha	Residential (Deferred)	N/A	Nil
⁷ Berringer Road Pty Ltd	Inyadda Drive & Berringer Road, Manyana	40 ha	Rural 1(d)	N/A	Nil
Total					406

Figure 5 below shows the general location of these sites.

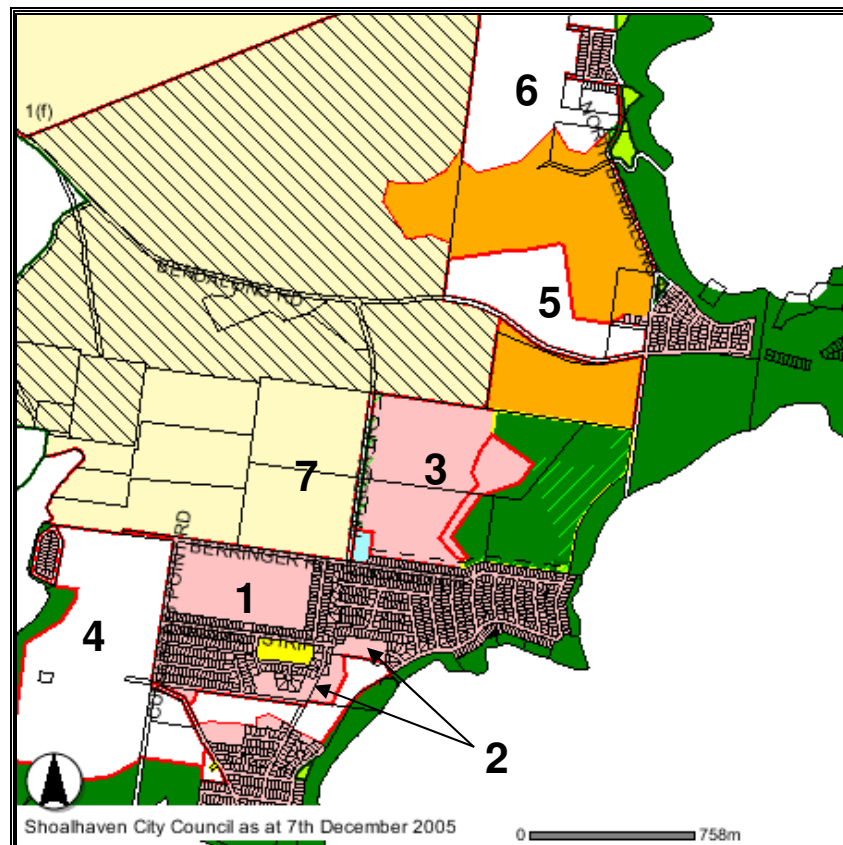


Figure 5 – Villages of Manyana, Cunjurong Point and Bendalong showing location of potential development sites

- Site 1 - subdivision of this land is the subject of this current application which proposes the creation of 179 residential allotments.
- Site 2 - this site is the subject of a Major Project application for the development of 71 allotments. At this time, the application is currently with the Department seeking the Director-General's Environmental Assessment Requirements.
- Site 3 - the owners of this property have sought to have the land rezoned for a combination of zones however a substantial portion of the site is proposed to be zoned Residential 2(a1) and 2(c) under SLEP in order to allow subdivision of the site at standard residential densities (minimum 500m² lots). At this time, Shoalhaven City Council has not resolved a final position on this proposal and a Planning Consultancy, Parsons Brinckerhoff, has been engaged by Council to investigate the matter and prepare a report for Council's consideration. At the time of writing, this report has not been made publicly available and Council's position on these lands has not been finalised.

Based on current zonings, Shoalhaven City Council have made provision for 156 allotments in its Developer Service Plan adopted in December 2005.

- Site 4 - this land is the subject of an aboriginal land claim and it has also been identified in Appendix 2 of the Draft South Coast Regional Strategy as a 'sensitive site' which is subject to review by an expert panel established by the Department of Planning. The development of these lands may be constrained due to the sensitive nature of the site, its location and relevant ecological restrictions. This may ultimately see this land, or a portion thereof, 'down-zoned' to one that places greater emphasis on ecological conservation, over the current village zone. As such, potential yield from this site is unknown at this stage.
- Sites 5 - this site is identified in Appendix 2 of the Draft South Coast Regional Strategy as a 'sensitive site' that is subject to a review of the current zoning provisions. It should be noted that Shoalhaven City Council has not made any provision for servicing this land in the design and construction of the Conjola Regional Sewerage Scheme. Consequently, development potential of these sites would appear limited at this time.
- Site 6 – this site is also identified in Appendix 2 of the Draft South Coast Regional Strategy as a 'sensitive site' that is subject to a review of the current zoning provisions. As for site 6, Shoalhaven City Council has not made any provision for servicing this land in the design and construction of the Conjola Regional Sewerage Scheme. Consequently, development potential of these sites would appear limited at this time.
- Site 7 - this land is owned by Malbec Properties Pty Ltd and is currently zoned Rural 1(d) under the provisions of Shoalhaven LEP. As such, this land has no potential for residential development at this time. Notwithstanding this, a request has been made to Shoalhaven City Council for this site to be considered suitable for a rezoning to Residential 2(a1). Council has deferred consideration of this until after completion of its City Wide Settlement Strategy, however development of these lands could yield up to 330 allotments.

Based on the above, there appears little certainty regarding the development of most of the lands which are currently zoned for residential purposes given the sensitive nature of these lands, ecological constraints and the ability to properly service the properties. Table 1 above illustrates the reasonable potential lot yield from each of the sites. Those lands where some development for residential purposes is likely are limited to the subject site (179 lots), the Vacenta site (71 lots) and the Kylor site (possibly up to 156 lots), totalling

406 lots. However, given the uncertainty surrounding the future of the Kylor lands, it has not been possible to predict potential yield resulting from the development of this site. Consequently, our assessment has been limited to the Vacenta land where probable lot yield is known.

We are not aware of any other existing approvals or current applications for substantial development that are likely to impact on the infrastructure and services including water supply, electricity, waste disposal, gas, and social infrastructure such health care and public schools. Despite this, investigations have been made with the relevant service and infrastructure providers and the following sections address the cumulative impacts of development.

6.2.1 Water and Sewerage Services

Shoalhaven Water is the supply authority for water and sewerage services for the Shoalhaven Local Government Area. Shoalhaven Water has been approached to obtain their advice regarding their capabilities of servicing the site. Although there are some constraints with respect to water pressure, the site can be adequately serviced. Consideration will be required to properly stage the development in order that water pressure is maintained. Having regard to sewerage services, the Lake Conjola Sewerage Scheme is currently under construction and will be available for connection mid 2007. According to Shoalhaven Water, *“this site has been allowed for in the current design of the Conjola Sewerage Scheme”*.

This matter is discussed in further detail in Section 6.7.

6.2.2 Electricity

The supply authority for electrical power in the Shoalhaven Local Government Area is Integral Energy. Integral Energy were originally consulted by the Department of Planning when the initial Project Application was made in 2005 and a written response was provided at that time. Integral Energy indicated:

- “1. The proposed load has been assessed to be 1.3 MVA.*
- 2. Subject to the following conditions, there is spare capacity in the network to supply the increase in load –*
 - The Yatte Yattah Zone Substation would require augmenting*
 - In order to maintain the existing end of feeder voltage levels at Bendalong a voltage regulator would be required after the Fishermans Paradise township.*

3. *The subdivision would need to be reticulated via underground high voltage and low voltage cables in accordance with Integral Energy's General Terms and conditions."*

Based on the above it is clear that the proposed development is capable of being serviced with a reticulated power supply.

6.2.3 Waste Disposal

The existing village is already serviced by Shoalhaven City Council, who undertake a kerb side collection for all residential properties through its contractor, SITA. At the time of writing, this service consists of a weekly household garbage collection service, a fortnightly household recyclables collection service, an annual chemical collection day for household chemicals and the provision of a community recycling centre on the western side of Inyadda Drive at the northern approach to Manyana. Consequently, Council already has considerable infrastructure in place to serve Manyana, Cunjurong Point and Bendalong.

Council encourages waste reduction by offering a variety of bin sizes for weekly collection, and imposing fees based on bin size, with smaller bins incurring a smaller service charge.

In preparing this Environmental Assessment, discussion was had with the Waste Services Manager of Shoalhaven Council who advised that:

- All waste from the local government area was taken to Council's waste facility at West Nowra.
- The West Nowra Depot has a life span of 15 years, however Council is already planning for the possibility of Stage 4 extensions to this facility.
- Council is exploring opportunities for waste reduction at source and through improved technologies.
- In designing the proposal, consideration should be had for road widths that are sufficient to allow for the manoeuvring requirements of garbage trucks.

In light of the above, it is considered that the impacts of the subdivision on waste disposal will be satisfactory given that:

- The design of the subdivision will facilitate easy movement of garbage trucks and adequate manoeuvrability has been provided with no cul-de-sacs proposed.
- Council is currently exploring ways to reduce waste, and any programmes that are implemented would require appropriate participation by all residents of the Shoalhaven, including future residents of this subdivision.

- Council already services the local area with its garbage collection service.
- Council is planning for the future by examining its waste requirements and exploring opportunities for expansion of the existing Waste Depot.

The subdivision is unlikely to have any significant cumulative impacts on the provision of waste services.

6.2.4 Gas

The Eastern Gas Pipeline (EGP) was completed by Duke Energy in 2000 and runs from Longford in Victoria, generally up the east coast of NSW, to Sydney. The nature of the EGP is that the pipeline infrastructure has been provided, with separate companies being able to tender for the operational aspects, supplying reticulated gas to consumers within various towns and villages along its path. Telephone contact has been made with Charles Devine, the Network Development Manager of Agility (previously AGL) who have undertaken feasibility studies along the EGP which have determined that unless significant populations exist, or large gas users such as industries are active, there is no financial incentive to build the infrastructure necessary to draw gas from the pipeline. Given the population of Manyana and surrounding villages, and the lack of any industry, this is likely to be the case for Manyana.

Manyana, like many small coastal villages, is however provided with bottled LPG, and this is readily available for residents who desire this fuel source for cooking, heating and the like. There are a number of companies that offer rental of storage containers and home delivery of gas.

This proposal is unlikely to have any adverse impacts on the supply of bottled gas in the locality.

6.2.5 Social Infrastructure

In order to consider the likely impacts on social infrastructure, it is necessary to establish the likely population increase resulting from the additional development proposed. The following section analyses the likely population increase as a result of this subdivision and other current known applications and the impacts such will incur on social infrastructure.

6.2.5.1 Population Increase

This subdivision proposes the creation of 179 allotments, which is an increase of 177 lots over that currently existing. Shoalhaven City Council has produced a “Population Profile 2001”, based on information contained in the Australian Bureau of Statistics 2001 census. This document places Manyana in Area 5 Planning District, which covers the southern

part of the Shoalhaven. In some circumstances, the profile provides specific information for Manyana/Cunjurong, whilst other information relates solely to Planning District 5. The following statistics are relevant to consider potential population expansion resulting from this subdivision:

- Manyana and Cunjurong have an unoccupied dwelling rate of 70.7%, therefore permanent occupation is limited to 29.3%.
- Occupancy rates for Planning Area 5 are an average of 2.36 persons per dwelling, with an average of 2.44 persons per detached house.

In addition, it is worth noting that the current (2001) population of Manyana/Cunjurong is 488 and that the Shoalhaven currently experiences a growth rate of 1.72% p.a., although it has experienced higher growth of 4% p.a. over the 1986-1991 period. It is also worth noting the population breakdown of the area and **Table 2** shows this information for Planning Area 5.

Table 2
Population Breakdown for Area 5 Planning District

Age	Percentage of Overall Population
0-4	5.7%
5-12	11.7%
13-17	6.9%
18-24	4.4%
25-39	15.0%
40-54	20.5%
55-64	13.4%
65-74	13.3%
75+	9.1%

It is likely that Manyana and Cunjurong Point experience high levels of unoccupied dwellings given their location close to the coast, which makes properties attractive for weekenders and holiday accommodation. It should be noted that higher levels of unoccupied dwellings is relatively common in coastal villages of the Shoalhaven, and the rates for Bendalong (70.9%), Currarong (53%), Hyams Beach (73%) and Bawley Point (53%) for example, illustrate this.

It is possible to make population projections based on the above profile. As outlined above, this proposal provides for a total of 179 allotments and, assuming an occupied dwelling rate of 30% as is currently the case for this locality, it is expected that approximately 54 dwellings (179 x 30%) will be occupied. Given that this development

will provide for detached dwellings only, it is appropriate to use the occupancy rate of 2.44 persons per dwelling rather than the lower average figure of 2.36 and as such, the 54 occupied dwellings are likely to generate an additional population of 132 persons (54 x 2.44) when completed. As the subdivision is proposed to be developed in stages, it is anticipated that this increase will occur over a 7 to 10 year period. The consequences of this would result in approximately 19 additional persons per year, which equates to a growth rate of approximately 3.8% p.a. to the existing village population. This is not considered significant however given the limited population to begin with, whilst it is noted that this rate of growth is lower than that experienced for the whole Shoalhaven during the 1986-91 period.

In addition to an anticipated overall population growth of 132 persons **Table 3** below shows the projected additional population, divided into the various age categories assuming current age distribution rates for Area 5 as contained in Table 2 above.

Table 3
Projected Additional Population

Age	No. of Additional Persons
0-4	7.5
5-12	15.4
13-17	9.1
18-24	5.8
25-39	19.8
40-54	27
55-64	17.8
65-74	17.5
75+	12
TOTAL	132

In addition to the population projected by this application, consideration has been given to the cumulative impacts associated with the other proposal which is the subject of a Preliminary Assessment currently before the Department of Planning. That application proposes 71 allotments, which is an additional 68 over that currently existing, however for the purposes of this Environmental Assessment, the *total* number of proposed lots has been used in calculations. Assuming the occupancy rates outlined above, the 71 allotments are likely to result in 21.3 permanently occupied dwellings (71 x 30%), and at 2.44 persons per dwelling, a total additional permanent population of 51.9, say 52 persons.

The impacts of other potential sites has not been undertaken as the likely yield from these lands is unknown at this time.

To conclude this section, the total additional permanent population for this application, and the other known site, is 184 persons.

6.2.5.2 Current Social Infrastructure

Social infrastructure within the village is limited given its current size, and also the significant extent of unoccupied dwellings which limits the viability of providing services directly into the village. In this regard, there are no schools, dedicated doctor's surgeries or medical facilities. These facilities are however provided at larger nearby centres such as Milton/Ulladulla, which is approximately 35 kilometres away by road to the south, and also within Nowra to the north. This is a similar situation to many coastal villages in the Shoalhaven such as Hyams Beach, Currarong and Myola.

Social infrastructure which is provided directly to the village is principally centred within the Community Hall in Yulunga Reserve, and **Plate 5** in Section 3 show this area. Yulunga Reserve is well sited in relation to the subject property being approximately 50 m from its frontage to The Sunset Strip.

The Community Hall is used for a variety of regular activities including:

- play group;
- consultation facilities for a doctor who visits the village once a week;
- the base for a Mobile Preschool; and
- meeting place for Senior Citizens.

In addition, the hall is available for booking on an "as needs" basis for community events and functions by clubs and locals alike.

It is unrealistic to expect that significant social infrastructure is available given the limited population of the village, along with a high proportion of short term (tourist) occupancies, and the combined population of the villages. It is noted that this is not necessarily seen as a bad thing by some residents as this is what often appeals and indeed appeared to initially attract many residents to the area.

During discussions with the community group responsible for considering development proposals, it appears as though the community itself has mixed opinions on what additional infrastructure it considers necessary for the locality, with some residents considering that the locality should provide a more full range of facilities, similar to that

provided to residents in larger centres, including greater medical and aged care facilities, for example. As a counter to this however, other residents expressed a preference for the existing more limited conditions at the village to remain.

It is envisaged however that development of the subject site would increase the demand for commercial facilities within the locality.

6.2.5.3 Other Community Infrastructure

In addition to the facilities provided by the Community Hall in Yulunga Reserve, the following facilities are provided within the community:

- Yulunga Reserve which contains playground equipment, tennis courts, basketball court, and soccer oval and soccer club amenities. (See **Plate 6** and **7** in **Section 3**) This area is managed on behalf of Shoalhaven City Council by the Yulunga Reserve Management Committee who maintains and care for the facilities and arrange for the hire of the hall;
- Volunteer Fire Shed in Cunjurong Point Road (see **Plate 9**);
- general store sited within the village of Cunjurong Point to the south of Manyana;
- general store sited at Bendalong to the north of the Manyana village.



Plate 9: Existing Volunteer Fire Shed – Cunjurong Point/Manyana Brigade

Commercial development within Manyana is limited to a Real Estate office sited in Curvers Drive near the entrance to the village. **Plate 10** shows this premises.



Plate 10: Existing Commercial Premises - Manyana

In addition to the above infrastructure, the locality is provided with abundant natural areas including a relatively accessible foreshore, the provision of high-quality access to the areas natural resources including the ocean, lakes, and Conjola National Park, and boat ramps to access waterways.

6.2.5.3 Schools

Public schools are currently available in Milton and Ulladulla, which are accessible by road via Bendalong Rd and the Princes Highway. Currently, Kellam's Bus Lines Pty Ltd operates bus services from the Manyana village to access these schools. In addition to public schools, non-government schools exist locally at Milton.

Further to schools available in the southern Shoalhaven, a number of government and non-government schools are available close to Nowra which provide additional choice in educational facilities.

Correspondence was sent to the Department of Education and Training (DET) in relation to this proposal and advice was received that the *“Department of Education and Training does not expect that the subdivision will adversely impact on the local schools within the vicinity of the development.”*

Based on the population projections outlined in Section 6.2.5.1 of this Environmental Assessment and by reference to **Table 2** in particular, the full development is likely to

result in an additional 15.4 primary school aged children, and 9.1 high school aged children residing in Manyana.

Furthermore, development of the 71 lots in the other Major Project is expected to accommodate an additional 6 primary school aged (11.7% of total population), and 3.6 high school aged (6.9% of total population) .

As such the *entire* additional school aged population generated by the cumulative total of 245 additional lots based on current population distribution, amounts to 21.4 primary school aged children, and 12.7 high school aged children.

As outlined above, this application is proposed to be staged such that the full impacts will not be felt immediately, with total population growth being experienced over an expected 7-10 year period. Despite this, examining the total numbers, and the response of the DET, it is unlikely that the subdivision will have a significant impact on the ability to provide educational services.

6.2.5.4 Health

The villages of Manyana, Bendalong and Cunjurong Point do not have a medical practitioner practicing full-time within the local area. This is likely to be attributed to the small size of the village, along with the high number of properties that are used for weekender or holiday accommodation, and therefore its limited population.

A part-time facility (currently Tuesday afternoons) is offered by Dr Philip Hayden, a General Practitioner from the Milton Medical Centre who operates out of the Community Hall sited with Yulunga Reserve. A discussion with the practice has revealed that the books are not closed to new patients located within Manyana wishing to utilise this service.

This service is supplemented by a number of General Practitioners who operate from within the larger centres of Milton and Ulladulla/Mollymook.

Milton-Ulladulla Hospital, located on the Princes Highway at Milton, would provide the closest public hospital to the subject site, approximately 35 km by road and this hospital has been the subject of a recent multi-million dollar upgrade to improve the level of facilities offered. This hospital provides a range of medical services, including an Emergency and Maternity Departments. In addition to Milton-Ulladulla, public and private hospitals are located at Nowra, which is approximately a 50 minute drive from the site.

Consultation was had with the Department of Health (South Eastern Sydney Illawarra Area Health Service) who advised in writing that:

“SESAHS CSSP (Clinical Services Strategic Plan) includes considerable enhancements to clinical services for Shoalhaven residents, including enhancements at both Milton-Ulladulla and Shoalhaven District Memorial Hospitals. Given the small expected impact on services due to the small scale of the Manyana development, these enhancements should more than ensure that our health infrastructure can adequately service the proposed development.”

At the time of consulting with the SESAHS, details of the other 71 lot Major Project were not known, however it is noted that the SESAHS has assumed a population growth of approximately 300 persons in providing their comments. As outlined in Section 6.2.5.1 above, using the most recent population distributions, the 179 lots proposed in this subdivision will result in an increase of 132 permanent persons. In consideration of the 71 lots subdivision which is also proposed, this will increase total proposed allotments to 250, which will have an expected permanent population increase of 183 persons (250 lots x 30% occupancy x 2.44 persons per dwelling). This is well below the 300 persons the SESAHS has accounted for in its correspondence.

Whilst it is acknowledged that visitors and holiday makers may also require some form of emergency medical attention, it is unlikely that this would place a significant burden on medical resources as planned procedures are more likely to be performed nearer their place of permanent residence.

Consequently, the development is unlikely to significantly impact on the provision of health services.

6.2.5.5 Other Community Infrastructure

It is not desirable to provide significant community infrastructure on the subject site given the zoning of the land Residential 2(a1). Notwithstanding this, the proposal does include substantial Public Reserve for the entire community to enjoy. Such is a combination of both natural forested areas incorporating the EEC, and more structured play space which will be embellished with play equipment and the like.

It is expected that Council will impose a requirement to make a monetary contribution under Section 94 towards community facilities that it deems are appropriate for future residents.

Council's clear direction is that greater commercial facilities for the locality should be provided near the entry to Manyana at the corner of Inyadda Drive and Curvers Drive, and SLEP has zoned an area of land in this location Business 3(f) Village specifically for this purpose. The area of this zone measures approximately 130 m by 80 metres, and as

such, has a land area of approximately 1 hectare. The objectives of the Business 3(f) Village zone are:

"to provide for village retail and business development to serve the needs of the village community and which is compatible with the village environment."

This zone permits a variety of commercial and retail activities provided they are compatible with a village environment. Clause 9 of SLEP outlines that the following forms of development are prohibited, and everything else is permissible with Council's consent:

"bed and breakfast accommodation; bulky goods retailing; caravan parks; cluster housing; dual occupancy development; dwelling-houses and dwellings (other than those attached to shops or commercial premises); industries referred to in Schedule 5; intensive animal husbandry; junk yards; liquid fuel depots; sexual services premises; turf farming."

Although being zoned for this purpose since 1992, no commercial development has been undertaken to date. The provisions of SLEP are relatively flexible as they apply to the commercial site and development of these lands could result in whole range of additional retail and commercial facilities including a small-scale supermarket, specialty shops such as butcher, bakery, chemist, doctor's surgery/medical centre, bottle shop, take-away or café/restaurant and professional offices. This could result an area that would serve as a focal point for the community, as well as providing a greater range of goods and services that would support the needs of locals and visitors alike. Suitable development of this area could also assist in reducing the dependence on car travel and reliance upon larger towns for basic consumer items.

The additional population brought to the village by this proposed development, and other residential subdivisions that may eventuate, will assist in providing additional demand for such commercial facilities and may expedite their delivery to the community.

In light of the above, the development is unlikely to have any significant impact on the provision of other community infrastructure.

6.3 TRAFFIC

Vehicular access to the subject site is available via Bendalong Road which runs generally east-west and intersects with the Princes Highway some 12 km to the west of Manyana. **Plates 11** and **12** show the available sight distances at this intersection. Bendalong Road is two lanes in width, provided with a sealed surface and is maintained by Shoalhaven City Council. Inyadda Drive intersects with Bendalong Road to service Manyana and Cunjurong Point. **Plates 13** and **14** show the available sight distances at this intersection. Inyadda Drive is two lanes in width and is finished in a bitumen seal.



Plate 11: View to the south along Princes Highway from intersection with Bendalong Road



Plate 12: View to the north along Princes Highway from intersection with Bendalong Road



**Plate 13: view along Bendalong Road to the west from the intersection
with Inyadda Drive**



**Plate 14: View along Bendalong Road to the east from the intersection
with Inyadda Drive.**

The subdivision layout proposes the following:

- one access to the south onto The Sunset Strip;
- two intersections to the north with Berringer Road, one near the western end of the site, the other near the eastern edge of the property;
- three intersections to the west with Cunjurong Point Road equally distributed along this boundary.

The proposed number and location of new roads will encourage the even distribution of traffic, rather than a concentration of vehicular movements along a specific route given the layout and varied opportunities available for entering/leaving the subdivision. It is considered that in general, the proposed layout provides a suitable local road network in that:

- it is simple, clear and distinct, that builds on the already established basic grid pattern;
- it provides for motorists a number of alternative routes that are generally direct and allow reasonable access to all desired destinations;
- it is permeable for pedestrians, allowing a variety of alternative routes through the site allowing pedestrians to filter through along roads, open space and drainage corridors and the like and not concentrate along specific pre-determined routes.

This Environmental Assessment is also supported by a Transport Report carried out by Colston Budd Hunt & Kafes Pty Ltd (CBHK), a copy of which is provided as **Annexure 5** to this Environmental Assessment. In accordance with the Director-General's Environmental Assessment Requirements, this report has specifically addressed:

- Council and RTA traffic codes;
- intersection modelling including an assessment of AM and PM peaks, holiday peaks;
- 10 year projections; and
- ameliorative measures.

The following section of this report is based on the findings of the CBHK report.

6.3.1 Existing Traffic Conditions

6.3.1.1 Existing Traffic Volumes

Vehicular access to the area is provided via Bendalong Road which runs generally east-west and intersects with the Princes Highway some 12 km to the west of the subject site. Bendalong Road is two lanes in width, provided with a sealed surface and is maintained

by Shoalhaven Council. Inyadda Drive intersects with Bendalong Road to service Manyana and Cunjurong Point. Inyadda Drive is two lanes in width and is finished in a bitumen seal.

In order to obtain an indication of the existing level of service of the road network adjoining the subject site, CBHK undertook a survey of the Princes Highway, Bendalong Road, Inyadda Drive, Berringer Road, Curvers Drive, the Companionway, The Sunset Strip and Cunjurong Point Road. This found that the Princes Highway carries some 450 to 500 vehicles per hour, two way, during the morning and afternoon peaks. Flows along all other roads, including Bendalong Road and local roads within the village of Manyana, were much lower and generally less than 100 vehicles per hour two way.

6.3.1.2 Current Intersection Operation

In order to estimate the existing efficiency of the surrounding local road network, a SIDRA analysis was undertaken by CBHK of all intersections surveyed. SIDRA is an analytical tool to evaluate alternative intersection designs in terms of capacity, level of service, a wide range of performance measures including delay, queue length and the like. A useful measure is the average delay per vehicle which results in the allocation of a level of service (LOS), ranging from A to F with A representing a good LOS, and F indicating an unsatisfactory LOS that requires additional capacity.

Based upon the above modelling, CBHK indicates that:

- The operation of the intersection of the Bendalong Road and the Princes Highway is operating at Level A/B,
- The intersections of Inyadda Drive with Bendalong Road and Berringer Road/Curvers Drive, The Companionway with Berringer Road and The Sunset Strip and Cunjurong Point Road with Berringer Road and Sunset Strip have a LOS of A/B, which represents a good level of service.
- For the intersection of the Princes Highway and Bendalong Road, accounting for peak holiday periods, the level of service reduces to B, which represents a reasonable level of service.

6.3.1.3 Amenity

In addition to the physical capacity of the local road network capacity, the Roads and Traffic Authority “Guide to Traffic Generating Developments” has outlined the acceptable environmental performance of local streets and suggests a maximum flow of 200 vehicles

per hour is an acceptable environmental goal. The existing traffic flows are well below that as outlined in Table 2.1 of the CBHK report.

6.3.2 Projected Traffic Conditions

6.3.2.1 Traffic Generation

The Roads & Traffic Authority's *Guide to Traffic Generating Developments* publication has illustrated trip generation rates for a variety of uses and activities based on surveys of existing developments. In relation to residential subdivisions, the RTA indicates that trip generation equates to 8.5 trips per allotment per day. Council's Subdivision Code DCP 100 indicates a higher rate at 10 trips per allotment. For the purposes of the study, CBHK utilised the higher Council rates.

Based upon the above guidelines, CBHK estimates that the proposal will generate 180 two way trips during morning and afternoon peaks. Of these total trips, 70% have been assigned to outbound traffic in the mornings, and 70% inbound in the afternoons, which are based on current traffic counts at the intersection of Bendalong Road and the Princes Highway. This additional traffic would be fairly concentrated along Inyadda Drive and Berringer Road however would evenly distribute once on the Highway.

In order to gauge the impact of the traffic projected to be generated by the proposed development on the local road network, it is necessary to determine the impact on surrounding intersection efficiency. The objective being to distribute the traffic generated by the proposed development along the major approach routes before it dissipates throughout the general road network. This has been determined by CBHK by based on counts of existing traffic and likely traffic routes once the subdivision is developed.

6.3.2.2 Projected Intersection Performance

Utilising the SIDRA analysis, the study of CBHK found that:

- The intersection of Bendalong Rd and the Princes Highway will operate at level of service B, which is good with minimal delays and spare capacity, even accounting for future growth and holiday traffic peaks.
- The intersections of Inyadda Drive with Bendalong Road and Berringer Road/Curvers Drive, The Companionway with Berringer Road and The Sunset Strip and Cunjurong Point Road with Berringer Road and Sunset Strip will have a level of service A/B.
- Additional traffic will not cause reasonable environmental capacity to be exceeded, and

- during the construction of residential development, construction traffic is expected to peak at 200 trips per day, which based on an eight hour day would equate to an average of 25 two way trips per hour.

6.3.3 Traffic Conclusion and Recommendations

According to the findings of CBHK, the only decrease in performance is the intersection of Bendalong Road and the Princes Highway which decreases from an A/B to a B level of service. During peak holiday periods however, the level of service at that intersection remains unchanged at B. All other intersections remain unchanged, even accounting for the additional traffic generated by this development and other growth in traffic volumes.

This study would indicate therefore that the intersections are currently performing satisfactorily, and that they will continue to do so even accounting for additional traffic generated by this development, general growth in traffic volumes, and increased traffic volumes expected during holiday periods. As a result, no work on existing intersections would be necessary. Furthermore, no adverse impacts result on the environmental performance of existing or proposed local roads and as such, no ameliorative measures are required.

The Transport Report undertaken by CBHK makes the following conclusions with respect to this proposal at Section 3.33:

- *the proposed residential subdivision comprises 179 lots;*
- *vehicular access to the proposed subdivision will be via new roads from Berringer Road, Cunjurong Point Road and Sunset Strip;*
- *the proposed access arrangements are considered appropriate;*
- *internal roads will be provided in accordance with the principles in Council's Subdivision Code and AMCORD;*
- *the proposed development would have a peak period traffic generation of some 180 vehicles per hour two-way during peak hours; and*
- *the road network will be able to cater for future traffic growth including traffic from the proposed development.*

The Transport Report addresses the matters raised in the Director-Generals Environmental Assessment Requirements and the recommendations of this Report are supported by this Environmental Assessment.

6.4 BUSHFIRE

The site is the subject of bushfire risk, particularly from the north and west where significant areas of bushland exist opposite Berringer Rd and Cunjurong Point Road respectively. Accompanying this Environmental Assessment as **Annexure 6** is a Bushfire Protection Assessment prepared by Bushfire and Environmental Services that considers the bushfire threat, applies the provisions of *Planning for Bushfire Protection* (PBP) and makes recommendations for the implementation of appropriate mitigation measures.

This report has advised that:

- the bushfire risk to the property is identified in PBP as Group 1 vegetation to the west and north, however mitigated by extensive residential development to the south and east;
- bushfire risk will be reduced by clearing undertaken in conjunction with the proposed development;
- the vegetation retained on site within the EEC can be classified as remnant vegetation Group 3 on the basis of its reduced size, shape and proximity to managed urban lands;
- the vegetation off site is all located upslope of the subject property;
- the site is serviced with a reticulated water supply; and
- a perimeter road surrounds the property on its northern and western edges where the bushfire threat is most pronounced.

6.4.1 Recommended Mitigation

The BES report concludes that development should be satisfactory subject to compliance with a number of issues, including, but not limited to the following:

- The provision of APZ to an Inner Protection Area standard at a distance of 30 m to the north and west of the subject site.
- The provision of APZ to an Inner Protection Area standard at a distance of 20 m to the EEC.
- The APZ is to be managed as an Inner Protection Area (IPA) in accordance with the following specifications:

- existing larger trees (at least 150 mm in diameter measured at chest height) will remain within the APZ provided that:
- no part of their crown occurs within 5 m of any building (significant habitat trees can remain 2 m out from the building line);
- canopies are discontinuous, ie. canopies are separated by at least 2 m;
- they are smooth barked species or, if rough barked, are maintained free of hanging bark and other ladder fuels; and
- low branches holding fine fuel (ie. leaves and twigs of <6mm in diameter) are pruned to 2 m from the ground;
- smaller trees (ie. less than 150 mm in diameter), shrubs, fallen trees and tree-limbs and stumps are to be removed and continually suppressed;
- any landscaping or plantings should preferably be local endemic mesic species or other low flammability species. The presence of a few shrubs, vegetable gardens or fruit trees is also acceptable provided that all plantings and residual vegetation are well spread out, do not form a contiguous pathway to the dwelling and do not constitute more than 5% of the total APZ area;
- a minimal ground fuel is to be maintained to include either mown grass, paving, concrete, bare ground, or less than 3 tonnes per hectare of fine fuel (ie. material of < 6 mm in diameter);
- any structures (e.g. fences, garden sheds, decks, pergolas etc) within the APZ are to be non-combustible (ie. non-combustible under Australian Standard 1530.1 and not deemed combustible pursuant to clause C1.12 of volume 1 of the Building Code of Australia);
- any structures storing combustible materials such as firewood (e.g. sheds) must be sealed to prevent entry of burning debris; and
- gutters, roofs and roof gullies shall be kept free of leaves and other debris.
- A variety of Construction Standards contingent on the separation provided to unmanaged bushland ranging from no special requirements, up to Level 2 where lots are in the closest proximity. Although level 3 has been specified for certain lands, these are all within the front setback of proposed lots and as such, will not need to be applied.

Based on the assessment undertaken by Bushfire and Environmental Services, it is considered that the threat to the proposed subdivision by bushfire can be properly

mitigated though implementation of the recommendations in the Bushfire Assessment Report, which are also supported by this Environmental Assessment Report. The Report also addresses the matters pertaining to bushfire raised in the Director-Generals Environmental Assessment Requirements.

6.5 URBAN DESIGN, VISUAL IMPACT AND SUSTAINABILITY

Manyana is a small coastal village with development generally limited to single detached residences, both single and two storey in height. Existing development varies considerably from modest fibro/lightweight single storey cottages, to large two storey masonry dwellings, particularly close to the coast where water views are available.

Manyana has an informal coastal feel due to its close proximity to the coast and surrounding bushland. Evidence of this informality exists in the lack of formal landscaping for most properties and no consistency in street plantings, minimal kerb and gutter, no formal footpaths or cycleways, coupled with the mixed nature of the existing housing stock.

The subject property is sited further away from the actual coastline and foreshore areas than the established village and as such, its visual relationship with the coast is not as strong as existing development. The site itself is not prominent from the coastline due to its location and the siting of existing development, much of which is located on a headland. The site is not visible from Manyana Beach due to the topography and existing vegetation growing immediately adjacent to it.

The development is consistent with sustainability principles and the following points are made:

- the land is zoned Residential 2(a1) under Shoalhaven Local Environmental Plan;
- the site will be provided with adequate infrastructure to allow its residential development;
- the site is provided with adequate public road infrastructure and the development will not adversely impact on the performance of local roads, Bendalong Road or the Princes Highway;
- the development will positively impact on the provision of housing supply and choice given that vacant blocks will allow future owners to build suitable development to meet their needs;

- the township of Ulladulla is accessible to the locality, identified in the Draft South Coast Regional Strategy as providing regionally significant employment lands and infrastructure;
- the subdivision adequately plans for natural hazards that are expected in this locality;
- capacity has been made in Shoalhaven City Council's water and sewer infrastructure planning for the development of the site;
- the layout avoids the development of areas identified as containing resources, such as prime crop and pasture lands or mineral resources;
- spare capacity exists in the electricity infrastructure to service the development,

The final layout has been guided by Cox Richardson Architects who considered the existing character of Manyana and recommended an approach to build on the loose grid pattern established within the Village due to its desirability for creating walkable neighbourhoods and more permeable localities that reduce dependence on car transport and provide good pedestrian and cycle accessibility to desired locations.

Having regard to those matters specifically raised in the Director-General Environmental Assessment Requirements, the following comments are provided:

6.5.1 BASIX

At this time, BASIX does not apply to the initial subdivision of land, however the development of the resultant allotments will need to comply with the water and energy efficiency targets established in the BASIX SEPP. Given the reuse of water from the Conjola Regional Sewerage Scheme for non-potable purposes, BASIX may not mandate the collection and storage of rainwater. As such, it is proposed to require rainwater tanks for all dwellings regardless of BASIX requirements, in order to maximise sustainability of the development.

The subdivision has been designed with appropriate allotment orientation to ensure that future dwellings can be designed to comply with energy efficiency requirements.

6.5.2 Coastal Design Guidelines and NSW Coastal Policy

The project has been assessed against the requirements of the Coastal Design Guidelines and SEPP 71 – Coastal Protection in Section 5.0 above. The proposal is considered to be consistent with the requirements of the Coastal Design Guidelines and the NSW State Coastal Policy.

6.5.3 Safety

The proposal adequately considers Safer by Design principles in that:

- residential allotments face proposed public open space areas providing good opportunities for natural surveillance. In particular, the proposed formal play equipment is sited in a reserve totally open to public space and visible from many adjacent residential properties;
- well defined boundaries between public versus private space;
- pedestrian pathways are minimised and designed to limit length, avoid blind corners and entrapment spaces; and
- appropriate street lighting in compliance with Council's requirements will be provided.

6.5.4 Relationship to Surrounding Areas

The subject site immediately adjoins the existing village on its southern and eastern boundaries. This development will have a suitable relationship with the surrounding areas as:

- the established streetscape prevalent within the village will be continued;
- future development will be subject to the policy requirements of Shoalhaven City Council that has overseen the development of the existing village, whilst additional measures to provide suitably designed development will be encouraged;
- the proposed subdivision pattern builds upon that established in the existing village.

6.5.5 Visual Impacts and Analysis

Provided with this Environmental Assessment as **Annexure 3**, is a series of photographs that show the site and its relationship to the coast, the existing village and surrounding areas.

Having regard to the photos contained within Annexure 3, the subject site is not considered to be prominent from the actual coastline or foreshore reserves due to a variety of factors including local topography and the siting of the property to the west of the township, which places much of the existing village between the site and the coastline.

Plates 1 to 5 in Annexure 3 have attempted to view the property from near the coastline in a range of settings including on the actual sandy beach and rock outcrop at Manyana Beach, on a foreshore reserve adjacent to the beach, and on higher land at Inyadda

Point. These photos demonstrate that the site is well screened by either vegetation close to the shore, other vegetation or existing residential development contained within Manyana. The only part of the site that may be visible from beyond the immediate area surrounding the site is tree canopy which projects above surrounding dwellings.

In the main, views of the site are therefore limited to the public road network immediately surrounding it, where the property is sited behind existing development along the Sunset Strip and the Companionway given that the canopies of trees project up beyond the roofscape of existing dwellings, and other incidental glimpses between dwellings or over vacant allotments. **Plates 6 to 15 in Annexure 3** show the site when viewed from existing public roads surrounding the site. Visual impacts will result from the loss of vegetation, and the replacement of this with a more urban environment, most particularly along the western and northern edges.

Mitigating these impacts are the following features of this subdivision:

- 10 m building setbacks that are proposed on the western (Cunjurong Point Rd) and northern (Berringer Road) edges of the site which will not only provide a more open, spacious streetscape than ordinarily provided in urban locations, yet will also allow greater retention of vegetation;
- maintenance of a significant portion of the site as open space allowing for the retention of trees and maintenance of all natural habitat. The width of the public reserve abutting the southern edge of the site is approximately 230 metres in length, whilst this entire boundary is 630 m long, and as such, retained vegetation will comprise some 35% of the southern boundary;
- the provision of larger allotments throughout the entire subdivision that will allow the greater retention of existing vegetation;
- the clearing of the site in a staged fashion in order that trees can be established on the earlier stages prior to the clearing of vegetation associated with the later stages;
- the policies of Shoalhaven City Council which limit the height, bulk and scale of development;
- the additional Draft Design Guidelines proposed with this subdivision which will encourage development to maintain the village character that currently prevails in Manyana;
- the landscaping which is proposed to be undertaken within the public sphere in conjunction with this subdivision; and

- the adoption of an incentive scheme as outlined within the Draft Design Guidelines to encourage home owners to quickly establish landscaping and to landscape using selected species for consistency and ecological grounds.

The visual impacts anticipated by this development are not unexpected given the zoning of the land for residential purposes. Despite this, it is clear that these impacts will be local in their effects, and will in no way effect the visual amenity of the coastline. Furthermore, it is considered that the mitigation measures proposed having regard to both the design/layout of the subdivision, and the other ameliorative measures outlined above, will ensure that the local impacts are not unreasonable.

6.5.6 Pedestrian and bicycle movements

The subdivision layout is very permeable in that it allows pedestrians and cyclists to filter through the site along a variety of routes to reach their destination. This has been constrained to some extent by the limited road frontages available to the subject site, particularly along The Sunset Strip, whilst the site does not have any frontage to The Companionway. Notwithstanding this, it is considered that the layout provides allotments that are reasonably accessible along the road reserves to and from the desired destination points.

In addition to the permeable layout, it is proposed to provide a series of pedestrian/cycle pathways in the subdivision to improve accessibility to the desired local destinations to promote active transport options (cycling and walking), thereby reducing reliance on the motor car for short trips. Locally, the desired destinations are considered to be to:

- the east and south-east which contains Manyana Beach, Yulunga Reserve and community hall;
- the north east which is the siting of the future neighbourhood shopping facility and Inyadda Beach; and
- the on-site open space areas proposed within the subdivision.

The subdivision is to include the construction of pedestrian/cycle pathways within the property that:

- skirt around the edge of the EEC (note that the pathway is located outside of the identified buffer zone of this EEC);
- go to the south to link with Yulunga Reserve and community hall facilities;
- access the proposed playground area;

- go to the north-east to link with the zoned commercial area.

To the east, direct access is limited as the site does not have direct frontage to The Companionway. Despite this, the layout includes pedestrian cycle/pathways linking the majority of the site via The Sunset Strip to the south east which are relatively direct for the features outlined above. To the north-east, a pathway/cycleway is proposed which will link with a number of pathways from the remainder of the subdivision and The Sunset Strip.

Shoalhaven Council has adopted a Bicycle Strategy at its meeting of 16th December 1997 which examined the entire City and identified cycle routes for further implementation, however Manyana does not feature in this document. As such, no specific pathways are required in this Strategy.

6.5.7 Staging and Existing Infrastructure

Existing facilities and services (public reserve, sewer, water, drainage, public roads) are concentrated near the southern and eastern boundaries of the site where the site meets existing residential development.

The development will be staged in order to account for market conditions and take up rates. However despite this, a staging plan has been developed in order to account for the siting of existing infrastructure and to provide for the economic development of the site. Mindful of this, the development is expected to be completed over 7 to 10 years in six (6) stages and an Indicative Staging Plan is shown as **Annexure 1**. This Plan shows the subdivision commencing in the southern portion of the site at its frontage to The Sunset Strip where access to existing services are available. It is expected that development would then continue generally in an anti-clockwise manner around the site.

The staging also recognises the need to provide relevant infrastructure for residential development (particularly having regard to water supply pressure), along with appropriate maintenance of Asset Protection Zones in order to mitigate bush fire risk and allow reasonable residential development of lots that are released.

6.5.8 Indicative FSR, Site Coverage, Heights and Built Form

This application proposes the subdivision of land only and no buildings are proposed at this time. Future development on the resultant allotments will be subject to the requirements of Shoalhaven Council's Policy to Control Building Height and Amenity. This will see development restricted to an overall height of 8.5 metres and a maximum of two storeys, a floor space ratio of 0.6:1, along with reasonable setbacks established by

implementing the building height plane. The generous allotment sizes proposed in this application provide the opportunity for future dwellings to be designed in accordance with these requirements.

The controls ordinarily imposed by Shoalhaven Council when considering subsequent development applications from time to time have forged the established character and it is likely that they will continue to do so. As such, an argument exists that there is no particular need for specific controls applicable to this subdivision. Notwithstanding this fact, separate Design Guidelines have been prepared to encourage appropriate design in order to enhance the aesthetic appeal and more appropriately maintain the coastal village character. This document is only in Draft form at this time for reasons that will become clear below. A copy of this draft document is provided as **Annexure 2**.

The main components of the Draft Design Guidelines are:

- encourage the use of appropriate light weight materials and discourage brick and concrete structures, particularly those mocking past periods (eg Federation);
- compliance with BASIX principles regarding reduced water and energy consumption;
- garages that are setback an additional 1 metre behind the front façade to reduce their visual dominance on dwelling design;
- encourage the use of a mix of materials to reduce apparent height and bulk;
- use of gabled roofs to create consistency in roofscape, thereby unifying development;
- common letterbox design;
- all designs to include eaves;
- consistent fencing material and colour (Colorbond “Grey Ridge”); and
- adoption of a scheme with local nurseries to encourage the prompt landscaping of sites, use of consistent landscaping and planting of species that will grow to a suitable height in order to soften development.

Implementation of the above Draft Design Guidelines is intended to be achieved through a series of educational and promotional tools with purchasers, along with regulatory controls that are available. Consideration has been given to implementing the requirements through restrictions on the title however the additional burden such restriction could place on Council staff assessing future development applications is acknowledged. As such, it is considered that further consultation with Shoalhaven City

Council will be required before finalising the Guidelines and addressing how such is to be implemented.

It is considered that the controls espoused in the Draft Design Guidelines, working hand in hand with Council's Building Height and Amenity Code requirements, will ensure that future residential development will have a suitable aesthetic quality that will be consistent with the established and future desired character of the Manyana village.

6.6 THREATENED SPECIES AND MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE

The subject site is predominantly covered in native vegetation, and as such Bushfire and Environmental Services were originally engaged in May 2004 to investigate the site with a view to undertaking an 'eight part' test under the provisions of the Threatened Species Conservation Act. Prior to this work being completed, and a subdivision layout prepared, the legislative requirements altered with the introduction of Part 3A. Despite this, the fieldwork provided essential information to assist in determining the species of significance requiring greater analysis.

Since the introduction of Part 3A, it has been necessary to consider the impacts of the development on the threatened species and their habitats in accordance with the Threatened Species Assessment Guidelines and matters of national environmental significance under the Commonwealth's Environment Protection and Biodiversity Conservation Act, 1999. BES has undertaken an assessment to address these requirements and this is shown as **Annexure 7**. This section is based on the findings contained within this report.

The work undertaken by BES included search of relevant existing data, field work involving random and targeted surveys, spotlighting and call playback, stagwatching, trapping and habitat analysis. Fieldwork involved 27.5 person hours on flora surveys, and 61.75 hours and 231 trap nights on fauna surveys.

This work revealed that the site provides potential habitat for a variety of threatened fauna and flora species, and those species requiring further investigations included the Leafless Tongue-orchid *Cryptostylis hunteriana*, Greater Broad-nosed Bat, Gang-gang Cockatoo, Square-tailed Kite and Powerful Owl. Furthermore, migratory species including the Black-faced Monarch and Rufous Fantail were recorded at the site. In addition, some vegetation within the site is consistent with an Endangered Ecological Community (EEC) known as "Swamp sclerophyll forest on the coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions" (NSW Scientific Committee 2005).

Flora Species

In relation to the Leafless Tongue-orchid *Cryptostylis hunteriana*, BES undertook 9.5 hours of random survey and 16.5 hours of targeted survey work during the known flowering season which failed to detect this species on the site.

As outlined above, the site contains EEC being “Swamp sclerophyll forest on the coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions”. This vegetation community is sited within a depression which drains the western portions of the site and has an area of approximately 0.92 ha. This proposal however is unlikely to have any impacts on this EEC given that the subdivision layout provides for the preservation of this area in its entirety, the provision of buffers, and the implementation of a hydrological regime to ensure that stormwater flows through the EEC mimic current conditions. Section 6.7 of this report addresses stormwater through the site in order to mitigate impacts on the EEC.

Based on this, it is considered that the proposal is unlikely to have an impact on the EEC.

Fauna Species

Having regard to the Greater Broad-nosed Bat, the study area provides potential foraging resources and roosting habitat. Despite targeted surveys involving 13 hours of stag watching, BES failed to detect this species using the site as roosting habitat. Although the proposal will result in the loss of some potential habitat, the highly mobile nature of this species is such that BES conclude that the development is unlikely to cause significant impacts.

In relation to the Gang-gang Cockatoo, the site provides potential foraging and nesting resources. Targeted surveys failed to detect the presence of any nests on the site or surrounds. As this species is highly mobile, BES conclude that it is unlikely that the development will cause significant impacts despite the small loss of some foraging habitat.

In relation to the Square-tailed Kite, this migratory species was detected flying over the site and foraging in nearby properties and no nests were detected on the subject site by BES.

Having regard to the Powerful Owl, a single example was detected on two occasions during the survey work. Although call playbacks were used during the survey work, no response was received, leading BES to conclude that the bird was not ‘territory holding’. Furthermore, the small quantity and lower quality of habitat for prey species is such that better quality habitat is available for the Powerful Owl elsewhere in the locality.

Although the site provides potential habitat for a variety of species, work undertaken by BES indicates that the site is used only foraging by threatened fauna species. Furthermore, the site does not contain individual threatened flora species. Consequently, impacts are limited to the EEC.

In order to mitigate the impacts of the project, BES have made a number of recommendations in Section 1 of their report. These include preservation of the EEC, and in this regard the subdivision layout incorporates a large public reserve centred around the western drainage depression which will comprise the entirety all of the vegetation identified within the EEC. In conjunction with this is a buffer of retained vegetation, generally a minimum of 10 m in width to further mitigate the potential impacts. In addition, works to control the quality and quantity of stormwater draining through this area has been addressed by the report of Storm Consulting to ensure that current hydrology is maintained, and this has resulted in some improvement in water quality, and acceptable flows through the site. This public reserve is to be edged within the subject site by sealed public roads, which will minimise the edge impacts. As this proposal will result in unmanaged lands having a reasonable size, relevant APZ have been provided to this area for allotments in the vicinity.

Habitat Corridor

The Department of Environment and Conservation has expressed concern in relation to the wider ramifications associated with the removal of vegetation and its impacts on habitat connectivity. This issue is discussed by BES in their assessment and is given further consideration in Section 7.2.1.1 of this report which deals with consultation.

Matters of National Environmental Significance

BES has addressed the provisions of the Commonwealth Environment Protection and Biodiversity Conservation Act and have concluded that the development is unlikely to have any significant impact in matters of national environmental significance.

Concluding Comments

The mitigation measures recommended by BES are supported in this Environmental Assessment Report.

The work undertaken by BES is considered to address the Director-General's Environmental Assessment Requirements.

6.7 IMPACT ON SEWERAGE AND WATER INFRASTRUCTURE

6.7.1 Water Infrastructure

The subject site is provided with reticulated water supply along the frontage of the site to Cunjurong Point Road and The Sunset Strip. In addition to this, reclaimed water from the Conjola Sewerage Scheme will be available for reuse at the site, with such water being treated to a level whereby it can be used for toilet flushing and garden irrigation. This will be delivered in a 'third' pipe which would require appropriate plumbing upon construction of future dwellings to enable its use.

Initially, Shoalhaven Water advised that a detailed water supply hydraulic analysis strategy would be required in order to determine whether adequate supply, and pressure, could be provided to the entire subdivision. The principle concern of Shoalhaven Water appeared to be the impact such a subdivision would have on the available water pressure and the ability of the existing system to meet the peak demands. These concerns can be overcome with the provision of additional infrastructure constructed to service the subdivision, such as storage tanks and pumps, and this will be subject to detailed design when necessary.

Subsequent to this, and after consideration of additional information in relation to the proposed staging of the development, Shoalhaven Water has indicated by letter dated 12 July 2006 that they withdraw the requirement to undertake an hydraulic analysis, which can be done by them as part of their investigations into the use of reclaimed water supply at the development.

In addition to this, it is expected that the use of reclaimed water within the subdivision for toilet flushing and garden watering, will have benefits in reducing the demand for potable water.

Based on this advice, it is considered that adequate water supply exists and the subdivision will not have an unanticipated impact.

6.7.2 Sewer Infrastructure

Sewer is currently unavailable and existing properties presently rely on either the on site disposal of waste water, or its storage within pump out tanks prior to collection.

However, the Lake Conjola Sewerage Scheme is currently under construction and will ultimately provide a reticulated sewerage scheme for a number of villages within the Lake Conjola area, including Manyana, Cunjurong Point and Bendalong. This is a \$53 million dollar project and it is expected that individual properties will be able to connect to the

system from mid 2007. At this time, construction of the sewerage treatment plant is underway, and this is located south of Bendalong Road.

This system has been designed to accept additional effluent waste generated by the subdivision of the subject site.

Given this timing, this proposed subdivision will be in a position to connect directly into the Lake Conjola Sewerage Scheme.

This opinion has been supported by Shoalhaven Water who have advised by letter dated 30th May 2006 that *“with respect to sewerage services this site has been allowed for in the current design of the Conjola Sewerage Scheme”*.

Given the above, it is expected that the subdivision will have no unintended impacts on the sewerage supply scheme.

6.8 IMPACTS ON WATER QUALITY AND DRAINAGE

In support of this application is a report prepared by STORM Consulting which has examined the impacts on water quality and drainage, a copy of which is included as an **Annexure 8**. This report was prepared in consultation with the Department of Natural Resources having regard to the management of drainage lines, and the Department of Environment and Conservation with respect to hydrologic regime through the EEC area in order to maintain the integrity of the vegetation. The assessment undertaken by STORM Consulting included modelling the impacts of the development on total suspended solids, total phosphorous and total nitrogen.

STORM Consulting have recommended a number of measures aimed at minimising the impacts of the subdivision, and mimicking the hydrologic regime through the EEC as closely as possible. Works proposed include the provision of:

- infrastructure to allow the use of reclaimed water from the Lake Conjola Sewerage Scheme for outdoor use and toilet flushing;
- 5000 litre rainwater tanks to collect roof water off every dwelling;
- onsite detention within every allotment, to ensure pre-development flows off the site are not exceeded;
- infiltration with a volume of 2m³ for each allotment;
- road side swales and biofiltration trenches adjacent to the EEC to maintain soil moisture;
- a gross pollutant trap to allow the collection of pollutants and coarse sediment; and

- 4 constructed wetlands to provide a high level of treatment of runoff.

According to the modelling undertaken by STORM Consulting, the measures proposed to mitigate impacts within the EEC will see a reduction in total suspended solids and total phosphorous leaving the site over that occurring on the current undeveloped lands, whilst total nitrogen will slightly increase from 34.3 kg/y to 36.6 kg/y. It is noted however that these results meet the Best Management Practice targets which have been established for the site.

For the entire site after discharge through the final wetland, water quality will meet the Best Management Practice guidelines for 80% reduction in total suspended solids, and 45% reduction in total phosphorous and total nitrogen loads.

The infrastructure proposed by STORM is entirely consistent with the Performance Criteria contained in DCP 100. As such, the location of these facilities on land to be dedicated to Council is reasonable.

Having regard to the capacity of the downstream stormwater system, it is noted that the detention measures required will limit peak flows off the site, ensuring no increase in runoff, and consequently, no additional burden on the drainage system is anticipated.

Based on the findings of the STORM Consulting report, it is considered that the proposal provides adequate ameliorative measures to ensure that impacts within both the EEC and beyond the site are acceptable.

The STORM report also addresses the assessment requirements contained within the Director-General's Environmental Assessment Requirements. The ameliorative measures recommended in the STORM report are supported by this Environmental Assessment Report.

6.9 ABORIGINAL AND CULTURAL HERITAGE

In support of this application is a Heritage Impact Assessment (HIA) prepared by South East Archaeology Pty Ltd which has examined the proposal and its impacts on Aboriginal and cultural heritage. A copy of this report is included as **Annexure 9**. This section is based on the findings and recommendations of the HIA.

In relation to European Heritage issues, the subject site and surrounding lands have not been identified in either SLEP, draft LEP 199 or the Shoalhaven Heritage Study 1995-1998.

The HIA was prepared in accordance with the guidelines established by the Department of Environment and Conservation and involved the following:

- consultation with relevant government agencies;
- consultation with relevant Aboriginal stakeholders;
- review of relevant existing information including heritage registers, LEPs and the like;
- field inspection, accompanied by representatives of the registered Aboriginal stakeholders; and
- preparation of a final report incorporating input from the registered Aboriginal stakeholders.

The HIA found that visibility of the site was limited due to dense vegetation and substantial leaf litter, restricting visibility to a major portion of the site. Despite this, two sites were found as follows:

- one indigenous site, comprising an artefact scatter (identified as Site Manyana 1) was located in the south-eastern portion of the site;
- one non-indigenous site was found, comprising a timber weekender (identified as Site Manyana 2) located within an existing clearing.

The likelihood of finding additional non-indigenous items is low as these are likely to be visible despite vegetation and leaf litter.

There remains some potential for other indigenous items to be found should additional investigations, including sub-surface excavations be undertaken. Despite this however, the nature of the site with no reliable water supply, limited food source coupled with its relative remoteness from the coast, is such that other sites in the immediate vicinity located closer to the coast would have been considered more attractive.

Site Manyana 1

Site Manyana 1 comprises thirteen artefacts including several flakes, including those which may have been used as stools, and flake fragments. Preliminary assessment of the site's significance considers the site to have little significance in relation to aesthetic, educational or historic criteria due to the unobtrusive nature of the find. In relation to scientific significance, Site Manyana 1 is considered to have a low to moderate significance in a local context.

The level of significance has been difficult to establish given that visibility is limited over much of the site. As such, it has been recommended that additional investigations be undertaken in order to clarify the level of significance, as well as provide greater contextual information to allow further assessment.

Various options are available for the management of the site, however additional investigation is the preferred method recommended in the report to more fully understand the significance of the property.

Site Manyana 2

Site Manyana 2 is a small timber hut, constructed by the forefathers of the current owner of the site and used for weekender/holiday accommodation purposes. According to the report, the *“site is of moderate integrity, being mostly intact but having been partially modified over the past 50 years for upgrades, maintenance and repairs”* and the *“heritage significance of this site is assessed as little (low)”*.

The proposal will result in the removal of this hut, however due to the low significance of this building as assessed in the report, this is considered a reasonable approach.

Conclusion

Assessment of potential Aboriginal sites has been hampered by the low levels of visibility over much of the property and as such, it has not been possible to determine the full impacts of development with certainty. The HIA outlines a number of potential “Mitigation and Management Strategies” which could be adopted, however has recommended that additional investigations, including sub-surface excavations, be undertaken to better understand the significance of the site. In order to undertake this additional work, a Section 87 Preliminary Research Permit is required to be issued by the Department of Environment and Conservation (DEC) under the National Parks and Wildlife Act is required to authorise these works. At this time, application is being made to the DEC for issue of a Section 87 permit and additional survey work will be undertaken.

The HIA prepared by South East Archaeology addresses the Director-General’s Environmental Assessment Requirements and its recommendations are supported in this Environmental Assessment Report.

6.10 CONTAMINATION

One of the current owners has been visiting the site for in excess of 50 years. Prior to his ownership, it was owned by his father, and before that his grandfather. Consequently, the family has a relatively long and continuous history with the subject site and local area.

The site is currently forested with native vegetation, and in the past has been logged, with that use limited to the felling of trees for their processing off site. The site did not contain a mill or any other plant to treat or process timber. Consequently, it is very unlikely that

the site has been used for any purpose that would potentially lead to its contamination and, as such no further action is required.

7.0 CONSULTATION

In preparing this Environmental Assessment, the Director-General specified that “*an appropriate and justified level of consultation with relevant local, State and Commonwealth government agencies, service providers, community groups, and affected landowners*” be undertaken. It should be noted that the Department did not consider that a Planning Focus Meeting was necessary in this instance before proceeding with the preparation of this Environmental Assessment Report.

Having regard to the “appropriate and justified” consultation requirements, different forms of consultation were necessary based on the particular issue for consideration and the agency concerned. As such, it was considered that no one form of consultation would meet all community and agency needs. Consequently, consultation was had in a variety of ways, including formal written correspondence, telephone conversations and meetings, or a combination thereof. The following details the consultation processes that were had with the relevant authorities and groups conferred with.

7.1 THE COMMUNITY

Shoalhaven City Council officially acknowledges Principal Consultative Bodies which are formally notified of applications and other relevant information relating to Council’s affairs. In relation to Manyana, the Manyana District Citizens Association is the formal group that is identified. Meetings were arranged through the Secretary of this Association. In considering matters such as this development proposal, the Manyana District Citizens Association goes outside of its direct members in order to obtain input and feedback from a wider cross section of the community. This session involved members of various groups within the community including Manyana District Citizens Association, Playgroup, Local Environment Group, Bush care, Local Rural Fire Service Brigade, and sporting clubs including Fishing, Soccer and Board-riders.

The Project Team met with this expanded group on two occasions, firstly before any detailed planning had been undertaken on 26th April 2006, and secondly, on 13th September 2006 when site constraints were more fully understood and a detailed subdivision layout was presented.

In relation to the initial meeting, the community expressed concern with the subdivision of the site having regard to issues such as impacts on social infrastructure, densities, road widths, visual amenity, stormwater control, lack of existing facilities including recreational and social infrastructure, and limited public transport. The community encouraged the preservation of large areas for public reserve purposes and the retention of vegetation,

the use of grey-water in the subdivision and the provision of affordable housing. After this initial meeting, commitment was given to a further meeting once the constraints to development were more fully realised and a subdivision design was available for discussion.

The issues raised by the community that have relevance to the design of the subdivision have guided the final layout, particularly having regard to:-

- the more generous size of the allotments proposed,
- the extent of public reserve and areas of retained vegetation,
- drainage design and infrastructure,
- the reuse of treated wastewater, and
- road design for fire/garbage and removalist's trucks with no cul-de-sacs.

In addition, other mitigating measures include implementation of Draft Design Guidelines and landscaping incentive scheme, all of which will assist in maintaining the village character of the locality.

In relation to the second meeting, the proposed layout was discussed after the Project Team outlined the relevant constraints to the subdivision. In general, the community group approved of the extent of open space provided, the large lot sizes and the use of reclaimed waste water. Concern was expressed in relation to the impact of the proposal on social infrastructure, the isolated nature of the village and the possibility of additional residential development in the locality.

7.2 STATE AGENCIES

7.2.1 Department Of Environment and Conservation

7.2.1.1 *Flora and Fauna Matters*

With regard to consultation with DEC, the Project Team met with staff from DEC in Nowra on the 13 June 2006 whereby they were briefed on the results of the survey undertaken by BES, and the key ecological constraints. At that time, the layout had not been finalised and consideration was being given to the removal of the EEC. Written correspondence was sent by BES to DEC on 20th June 2006 to gauge their views on this approach. This correspondence was discussed with staff from DEC in a teleconference call with the Project Team on 13 July 2006 whereby DEC outlined concern with the removal of vegetation, and indeed considered that additional vegetation beyond that comprising the EEC should also be retained in order to provide

connectivity from Crown land adjoining Berringer Lake to the south east of the subject site to lands to the north, as well as providing added protection for the EEC. Formal written response was provided by letter dated 27th July 2006 and a copy of this is included in **Annexure 10**.

Based on their response, concerns of DEC can be summarised as follows:

- Impact of residential development on the Endangered Ecological Community “Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions” by way of drainage works, pollution from urban and agricultural run-off, weed invasion and rubbish dumping; and
- The site is in the vicinity of a large tract of Crown land which is currently linked, through lands which include the subject site, to the Conjola National Park. According to DEC, the impacts of this development would see the corridor reduced to little more than 100 metres, and it would be better to maintain a width of 225 metres to ensure greater ecological integrity and function of this link. DEC also advised that they are required under the Draft South Coast Regional Strategy to prepare a Regional Conservation Plan to guide implementation of conservation outcomes. This process has identified the retention and enhancement of vegetated corridors as regionally important conservation outcomes.

In relation to the first matter raised by DEC, the proposed subdivision layout has maintained all of the EEC, along with the following measures aimed at ensuring its integrity:

- an appropriate buffer, generally a minimum of 10 m in width;
- drainage works to mimic existing flows and improve existing water quality;
- bollard fencing to discourage inappropriate access;
- preparation of a vegetation management plan for ongoing implementation.

This has been addressed in detail in Section 5.3 of the Flora and Fauna Assessment prepared by Bushfire and Environmental Services.

Given that the subject site has been identified for urban development for in excess of 30 years, it is considered that the approach adopted, that is the preservation of this area, and implementation of appropriate buffers is a reasonable one that balances ecological issues with efficient use of this residential land resource.

With respect to the second matter raised by DEC, this too has been addressed in the Flora and Fauna Assessment prepared by BES in Section 5.5 of that report. Their

assessment concludes that the actual width of the corridor would decrease from 400 m to 250 m, in excess of the 225 m outlined by DEC. In relation to threatened fauna species, this is unlikely to cause any impact given the highly mobile nature of these. Furthermore, having regard to general habitat connectivity, BES consider that the provisions of a 250 m corridor will be suitable to connect and sustain flora and fauna. This is supported by a study referred to in the BES report which considers that corridors with a width of between 80-100 metres have been shown to provide suitable habitat connectivity.

Consequently, it is considered that the development will not impose unreasonable impact on habitat connectivity and the maintenance of a 250 m corridor that will result is acceptable.

7.2.1.2 Aboriginal Cultural Matters

In relation to DEC input into the Heritage Impact Assessment prepared by South-East Archaeology consultation was had with the Department of Environment and Conservation in formulating the relevant consultative groups and this is outlined in detail in their report.

7.2.2 Roads and Traffic Authority

In preparing the Transport Report, Colston Budd Hunt and Kafes considered the prior comments of the Department of Planning and the Roads and Traffic Authority (RTA). In this regard, their analysis addressed:

- traffic modelling utilising the SIDRA analytical tool;
- holiday peaks;
- 10 year projected volumes;
- adequacy of intersections and performance.

As a result of this, additional consultation with the RTA was not necessary.

7.2.3 Rural Fire Service

The Bushfire Protection Assessment prepared by Bushfire and Environmental Services was prepared strictly in accordance with the provisions of Planning for Bushfire Protection. As such, further detailed consultation beyond that undertaken in the preparation of the Director-General's requirements, with the RFS was not considered necessary in this instance.

7.2.4 Department of Health

In undertaking this Environmental Assessment, the views of the Department of Health was sought through the South Eastern Sydney and Illawarra Health Service (SESAIHS) on the potential impacts of the subdivision, and their ability to meet the health needs of residents. A copy of their response is provided in **Annexure 10**. In consideration of this matter, the SESAIHS have advised that they plan for population growth in their service delivery and consider that enhancements of clinical facilities will *“more than ensure that our health infrastructure can adequately service the proposed development”*.

7.2.5 Department of Education

The Department of Education and Training were consulted in the preparation of this Environmental Assessment with a formal letter. In their response, they advised that they do *“not expect that the subdivision will adversely impact on the local schools within the vicinity of the development”*. Their full letter is contained within **Annexure 10**.

7.2.6 Department of Planning

Two meetings were held with the Department of Planning in their offices in Sydney to discuss the project. Firstly with Mr David Mutton and Ms Sri Soreono on 19th August 2005 to discuss the process to be followed having regard to the recently enacted Part 3A legislation.

Secondly, a meeting was held with Mr David Mutton and Mr Eng-Joo Ong on 10th September 2006 to discuss the relevant constraints and the process for consideration of the application.

7.3 SHOALHAVEN CITY COUNCIL

Various staff Shoalhaven City Council have been informed of the project throughout its design as follows:

- meeting with Council’s Subdivision Planner prior to seeking Clause 6 declaration of Major Project Status;
- consideration of Preliminary Assessment and inclusion of its requirements in the Director General’s Environmental Assessment Requirements;
- meeting with various Council Officers on 25th July 2006 to discuss relevant environmental constraints and the proposed subdivision layout; and
- meeting with Council’s Subdivision Manager on 19th September 2006 to discuss final lot layout and the provision and long-term management of public open space.

7.4 INFRASTRUCTURE SERVICE PROVIDERS

Shoalhaven Water

Shoalhaven Water were consulted on a number of occasions and copies of their correspondence is provided in **Annexure 10**.

Initially, Shoalhaven Water corresponded on 30 May 2006 and advised that in regard to sewerage services, it has been indicated that the “site has been allowed for in the current design of the Conjola Sewerage Scheme”. However, in relation to water supply, queried whether spare capacity existed within the system and whether augmentation was necessary. Shoalhaven Water also urged consideration of the use of reclaimed water for non-potable purposes.

Following on from this, Shoalhaven Water advised on 12 July 2006 that conceptually at least, the site can be serviced, however further details will ultimately need to be provided. The additional information is in relation to the precise staging of the development. It is anticipated that Shoalhaven Water would impose conditions in relation to this matter in any notice they prepare in the determination of the proposal.

In consideration of Shoalhaven Waters comments, along with the desire to develop a sustainable subdivision, the use of reclaimed is a feature of the project. It is noted that this will reduce reliance upon potable water for outdoor uses, toilet flushing and the like.

Integral Energy

Integral Energy were formally approached and their response is included in **Annexure 10**. Integral Energy considers that there is spare capacity in the system to service the subdivision.

Telstra

Telstra have been notified of the application in accordance with usual practices. Telstra raised no issues that require further investigation at this time. A copy of their response is provided in **Annexure 10**.

7.5 OTHERS

In preparing supporting documentation, consultants working on the project have consulted with:-

- local public transport providers; and
- medical practice servicing Manyana.

7.6 CONCLUDING COMMENTS

In conclusion, it is considered that consultation undertaken with the community, Shoalhaven City Council, infrastructure providers and relevant State Government Agencies is justified and appropriate given that it:

- has been considerate of the relevant key issues requiring resolution;
- has provided opportunities for feedback and consideration in final design of the subdivision and other ameliorative and mitigating measures; and
- has resulted in the provision of information allowing consideration and analysis of the key issues.

8.0 STATEMENT OF COMMITMENT

The commitments listed below have been compiled based on the Environmental Assessment undertaken and the constraints and opportunities available at the site. They provide a commitment from the developer indicating their responsibilities in developing the site as proposed to ensure that the development is environmentally, socially, and economically sustainable.

In developing the subdivision, the developer gives the following commitments in order to minimise the impact on the environment:

Item	Commitment	Timing
General	The developer will carry out the development in accordance with this Environmental Assessment Report (EAR), prepared by Cowman Stoddart dated September 2006, plans prepared by Allen Price & Associates and supporting reports.	For the duration of the subdivision.
Legislative Controls/Requirements	<p>The developer will obtain and maintain the following licences, permits and approvals for the residential subdivision:</p> <ul style="list-style-type: none"> • Shoalhaven City Council - Construction Certificates for engineering works for each stage of the subdivision. The application for Construction Certificates will contain Design Drawings submitted containing, where relevant, detailed designs relating to earthworks, drainage, Soil erosion and Sediment Control and site rehabilitation, tree clearing and site stability, roadworks, footpaths/cycleways, water supply (both potable and use of reclaimed water) and sewerage works, and landscaping. • Shoalhaven City Council - Road Opening Permit from Shoalhaven City Council as required; • Shoalhaven City Council - Section 138 Consent for roadworks (Roads Act 1993); • Integral Energy - Design Certification; • Integral Energy - Notification of Arrangement; • Telstra - Compliance Certificate; • Shoalhaven Water - Compliance Certificate; • Shoalhaven City Council – Subdivision Certificates for each stage; • Department of Land and Property Information - registration of the subdivision. 	For the duration of the subdivision.

Item	Commitment	Timing
Final Plan of Subdivision	The developer will prepare a final plan of subdivision and Section 88B instrument for each stage of the development in accordance with the recommendations of the Environmental Assessment and requirements of Shoalhaven City Council.	Prior to the release of Subdivision Certificates.
Ecological	Endangered Ecological Community	
	The developer will prepare a Vegetation Management Plan in relation to that part of the site containing the Endangered Ecological Community for approval by Shoalhaven City Council.	Prior to the release of the Construction Certificate for that stage of the development.
	The developer will implement the recommendations and prepare the site in accordance with the VMP prior to its dedication to Shoalhaven Council.	Prior to the release of the Subdivision Certificate which creates the lot(s) containing the EEC.
	Other	
	The developer will impose a restriction on the title of each allotment requiring that any dogs or cats are kept only within the curtilage of a dwelling house, however dogs may be kept outside of the curtilage if secured on a leash.	Prior to the release of the Construction Certificate for that stage of the development.
Public Open Space	The developer will prepare and embellish all public reserves in accordance with the Vegetation Management Plan (for EEC) and detailed landscape design plans to be approved by Shoalhaven Council as part of the Construction Certificate.	Prior to release of certificate for subdivision for each stage/s containing public reserve.
	The developer will dedicate all public reserves to Shoalhaven City Council.	Prior to release of Subdivision Certificate and dedicated upon registration.
Waste Minimisation and Management	The developer will prepare a Waste Minimisation and Management Plan for subdivision construction works in accordance with Development Control Plan No 93 for approval by Shoalhaven City Council for implementation.	Prior to the release of the Construction Certificate for each stage.

Item	Commitment	Timing
Construction	The developer will prepare a Construction Management Plan for approval by Shoalhaven Council including education of workers in the approvals and conditions requiring compliance (including soil erosion and sediment controls, flora and fauna and aboriginal archaeological issues), details of the environmental management procedures during the development and measures relating to waste minimisation and management.	Prior to the commencement of construction and for the duration of the development.
Urban Design	The developer will finalise the form and implementation strategies regarding the Draft Design Guidelines in consultation with Shoalhaven City Council.	Prior to the release of the Construction Certificate for each stage.
Bushfire Management	Provision of Asset Protection Zones	
	The developer will establish and maintain Asset Protection Zones (APZs) in accordance with the Bushfire Assessment, January 2006, prepared by Bushfire and Environmental Services Pty Ltd.	Prior to the release of the Subdivision Certificate for each stage.
	The developer will install relevant infrastructure as required, including fire hydrants.	Prior to the release of the Subdivision Certificate for each stage.
	Restriction as to User	
	The developer will impose a Section 88B Restriction as to User on the title of relevant allotments specifying a Level of Construction in accordance with Figure 3 in the Bush Fire Assessment prepared by Bushfire and Environmental Services.	Prior to the release of the Subdivision Certificate for each stage.
Water Quality Management and Soil Control	The developer will design, install and maintain water quality control measures in accordance with the Construction Certificate Plans approved by Shoalhaven City Council.	Prior to the release of the Subdivision Certificate for each stage.
	The developer will prepare a soil and water management plan to control run off during construction in accordance with the principles of the Landcom publication Managing Urban Stormwater (MUS): Soils and Construction Volume 1, 4 th Edition and Construction Certificate Plans approved by Shoalhaven City Council and DCP 100.	Prior to release of the Construction Certificate for each stage.

Item	Commitment	Timing
Cultural Heritage	The developer will undertake further assessment as recommended in the report prepared by South East Archaeology Pty Ltd, and implement its findings.	For the duration of the development.
	The developer will inform the Jerrinja Local Aboriginal Land Council of progress of the development.	Ongoing through the construction of the subdivision.
Infrastructure	Roads	
	The developer will construct all roads and intersections with Berringer Rd, Cunjurong Point Rd and The Sunset Strip in accordance with DCP 100 and approved Construction Certificates.	Prior to the release of the Subdivision Certificate for each relevant stage.
	The developer will provide a minor street drainage system to accommodate the 5 year A.R.I. storm event in accordance with plans approved by Shoalhaven City Council with the Construction Certificate.	Prior to the release of the Subdivision Certificate for each relevant stage.
	The developer will provide a major street drainage system to accommodate the 100 year A.R.I. storm event in accordance with plans approved by Shoalhaven City Council with the Construction Certificate.	Prior to the release of the Subdivision Certificate for each relevant stage.
	The developer will construct footpaths and cycleways as shown on the plans prepared by Allen Price and Assoc and approved Construction Certificates.	Prior to the release of the Subdivision Certificate for each relevant stage.
	The developer will provide street signs in accordance with the requirements of Shoalhaven City Council.	Prior to the release of the Subdivision Certificate for each stage.
	Electricity and Telecommunications	
	The developer will provide underground power to each residential lot in the subdivision accordance with the requirements of Integral Energy	Prior to the release of the Subdivision Certificate for each stage.
	The developer will provide underground telecommunications infrastructure to each lot in the subdivision in accordance with requirements of Telstra.	Prior to the release of the Subdivision Certificate for each stage.

Item	Commitment	Timing
Infrastructure (continued)	Water and Sewer Services – Residential Allotments	
	The developer will provide reticulated water and sewerage services to each lot in the subdivision in accordance with the requirements of Shoalhaven Water	Prior to the release of the Subdivision Certificate for each stage.
	The developer will provide infrastructure to allow each lot in the subdivision to allow the reclaimed water from the Conjola Regional Sewerage Scheme.	Prior to the release of the Subdivision Certificate for each stage.
	Water and Sewer Services - Public Reserves	
	Within the public reserves, the developer will provide access to both the potable water and reclaimed water supplies.	Prior to the release of the Subdivision Certificate for each stage/s containing public reserve
Landscaping Plans	The developer will use native species, endemic to the locality in the preparation of landscaping plans, and subsequent works undertaken in conjunction with this subdivision.	For the duration of the subdivision
Geotechnical	The developer will provide a lot classification geotechnical report to Shoalhaven City Council for each stage of development prior to the release of the final plan of subdivision for that stage.	Prior to the release of the Subdivision Certificate for each stage.
Staging	The developer will construct the subdivision in accordance with the Proposed Staging Plan prepared by Allen Price and Associates or as otherwise approved in Construction Certificate plans approved by Shoalhaven City Council.	For the duration of the subdivision.
Developer Contributions	The developer will pay Section 94 developer contributions in accordance with Shoalhaven City Council's Section 94 Contributions Plan on a "per ET" basis for each stage of the residential subdivision.	Prior to the release of the Subdivision Certificate for each stage.
	The developer will pay Section 64 water and sewer developer contributions in accordance with the development servicing plan applicable at the time of payment.	Prior to the release of the Subdivision Certificate for each stage.
Signage	The developer will provide estate marketing signs in accordance with the provisions of DCP 89 – Exempt and Complying Development or as otherwise approved by Shoalhaven City Council.	For the duration of the subdivision.

9.0 CONCLUSION

This report provides an Environmental Assessment in relation to a Project Application for a residential subdivision at Manyana.

The plan provides for the development of 179 allotments, ultimately allowing for the residential expansion of the existing village in a manner that appropriately considers the relevant constraints that apply to the site, including ecological, statutory, social, and scenic impacts.

The development is to be undertaken in 6 stages and it is intended to develop the project to meet market demand and take up rates which is envisaged to be over a 7 to 10 year period.

The development is a reasonable one that appropriately balances the constraints that apply to a site of this nature, with the need to expand Manyana in a planned fashion. The subdivision layout is considered to be an excellent example, combining modern subdivision design and practice, with an already established village character which includes an abundance of public open space and the retention of large forested areas.

The accompanying reports are the result of over two years of studies, consultations, investigations and research. Current best practice has been applied to all facets of the development and it is considered that this will lead to a high quality urban subdivision that is ecologically sustainable in the long term.

This Environmental Assessment considers the issues raised by the Director-General of the Department of Planning in the Environmental Assessment Requirements, issued January 2006 and has thoroughly addressed the requirements.

In preparing this environmental assessment, separate reports addressing Traffic Impacts, Flora and Fauna Design Guidelines, Bushfire, Water Cycle Management and Heritage Impact have been prepared, and have been considered in this Environmental Assessment.

Key mitigating features of this development include an appropriate subdivision design, retention and treatment of all ecologically sensitive areas, use of best practice stormwater management Design Guidelines aimed at providing an appropriate built form and consideration of natural hazards.

Research undertaken to prepare this report has demonstrated that this development, along with the other application currently before the Department, are unlikely to incur significant cumulative impacts on the provision of infrastructure, including the availability of social facilities.

Support for the development is recommended subject to implementation of those matters outlined in the statement of commitments.