# 13 Millingandi Road, MILLINGANDI

## PROPOSED 11 LOT SUBDIVISION

# Environmental Assessment

*In response to the Department of Planning*

## Director Generals Requirements

**On Behalf of**

**Mr G N Clements**
**&**
**Mrs K R Clements**


**Prepared by:**

Surveying & Valuations

**PO Box 639, Eden NSW 2551**

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# Response to Director General's Requirements

## Prepared By

| | |
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## Proposed Activity

| | |
|---|---|
| Proponent Name | Mr Gregory & Mrs Kristine Clements |
| Proponent Address | 13 Millingandi Road<br>MILLINGANDI NSW 2549 |
| Land on which activity to be carried out | Lot 101 DP1087389<br>13 Millingandi Road, Millingandi<br>Local Government Area of Bega Valley |
| Project | 11 Lot Rural Residential Subdivision |

The following description has been prepared on behalf of Mr & Mrs Neil & Kristine Clements, in support of an application for the subdivision of their property into 11 Rural Residential Lots.

# Environmental Assessment

## Executive Summary:

### Table of Compliance

Table of Compliance for Director General's Environmental Assessment Requirements

| Director General's Requirements | Location in Report/Assessment | Compliance |
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| Executive Summary | Page 6 | Identifies extent of report & compliance with 1 (c) zone. |
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| Site analysis & description of existing environment | Page 7 | Current occupation & neighbourhood identified. |
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| Cultural Heritage | Page 51 | Response from ELALC provided; no impact. |
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## Proposal:

For an 11 Lot Rural Residential Torrens Title Subdivision located at 13 Millingandi Road, Millingandi NSW. The land subject to the proposal lies within 1km of the coast as defined by the NSW Coastal Policy and therefore requires consideration under Schedule 2 Part 3A of the *Major Projects State Environmental Planning Policy (Major Projects) 2005* and the Minister for Planning.

## Planning Requirements:

Environmental Assessment (EA) prepared in accordance with conditions of Part 3A of the *Environmental Planning & Assessment Act* and Director General's requirement 06-0032 dated 6th July 2006. The following assessment includes General Requirements, Key Issues and Consultation.

## Abstract:

The following EA provides an outline of the development options and justification for this proposal, within the existing Rural Small Holdings 1(c) Zone. Key Issues including the Water Cycle, Flora & Fauna, Soil and Bushfire Management.

The subdivision layout shows a less than optimum yield in terms of lot numbers in order to establish a quality development compatible with the character of the neighbourhood, maintaining existing land form and use.

Key items within the EA are related to a series of plans and consultant's reports. Furthermore during the time of preparation of this EA, the Minister conducted a review known as the *South Coast Sensitive Lands Review*.
The recommendation of the review was that the subject land should remain as Rural Small Holdings (not suited for urban development).

The conclusion of this report is that the development as proposed accords with the Rural Small Holdings 1(c) Zone objectives, providing for an environmentally sensitive and economically balanced development of the subject property.

# 1. GENERAL REQUIREMENTS

## 1.1 Site Analysis

This proposal presented herein involves an 11 Lot subdivision of Lot 101 in Deposited Plan No. 1087389 (Appendix 1 & 2), known as 13 Millingandi Road, Millingandi NSW, with the site having an area of approximately 10.77ha.

The land parcel is an irregular shape, with the eastern part containing an existing brick dwelling, garage and sheds. The land has an average 10% slope, falling predominately to the northwest. The property is presently fully cleared and fenced, being used for residential and grazing purposes associated within a rural living parcel, and is larger in area than adjoining properties.

The subject land is situated approximately 5kms north of the township of Pambula (Appendix 8.3), and would be described as a rural residential enclave. This proposal is believed to be in keeping with the neighbouring precinct and for the present, the property as a whole remains out of character with the surrounding neighbourhood (Appendix 3).

In general, the properties surrounding the subject lots are of a similar size to those proposed, being of less than 2 hectares and used in a residential manner with a rural aspect. Rural lots within the Millingandi precinct are not operational as working viable farms, or for providing the sole income source of the occupier; but represent true sideline weekend hobby farms.

### 1.1.1 Development Options

The subject land has a hypothetical subdivision potential of 21 lots at a size of 5000m$^2$, as indicated by the Assessment Criteria Table within Development Control Plan No.9. In proposing this development our clients have opted to keep the development to a modest density of 11 lots, which is believed to be appropriate to retain the amenity of the surrounding neighbourhood.

This development option also provides for privacy between building sites and reduces potential impact on the local watercourse.

### 1.1.2 Project Justification

The subject land has been zoned as a Zone 1(c) (Rural Small Holdings Zone), the objectives of which have been considered in the location and style of this proposal. This zoning appears to have been long established; dating from the Imlay Shire IDO no.2, BVLEP 1987 and now remaining incorporated in the current plan. Accordingly, there is an established expectation for this form of development in the neighbourhood.

Physical Environment

The subdivision is west of the Princes Highway and has been designed so that any development will be orientated away from the Merimbula Lake area. For this reason it is considered that the development will have minimal environmental impact on the surrounding area or the Merimbula Lake. Further details of this are amplified later in this report.

Social Environment

The subdividers, being long term landowners, regard the proposal as a low impact proposal for which over a number of years of receiving personal enquiry, believe will appeal to potential purchasers due to its locality and lot sizing. The site is considered suitable for this kind of development as the lot size is considerably larger than the minimum allowable, while range still remaining a manageable size with only part time/weekend upkeep required; in comparison with the fulltime maintenance (weed control, soil management and fencing) associated with larger holdings.

Economic Environment

From collated sales data based on our valuation experience within the immediate vicinity, it has been deduced that this development would be extremely sought after even in the current economic climate. It appears that purchasers are seeking rural small holdings close to urban areas. For this reason it is believed that the development can reflect the best interest and expectations of the community, noting that a considerable amount of subdivision has already occurred in the immediate 1(c) precinct with minimal residual subdivision potential remaining.

Advice also received from Council is that this area has not been identified by Bega Valley Shire for future urban development.

A locality diagram showing the subject land in relation to neighbouring small holdings is included (Appendix 3).

### 1.1.3 Staging

This subdivision is a small development only (11 Lots) and as such it is not anticipated that it would be undertaken as a staged development. This proposal intends to fully develop the site thereby extinguishing any further subdivision action (Appendix 8.4).

## 1.2 Planning Controls

The Bega Valley Shire Council is the determining authority for development of the subject land. The Bega Valley LEP 2002 controls this development, under the provisions of which, the land is zoned 1(c) Rural Small Holdings Zone.

Development Consideration also requires compliance with Clause 19 & 65 of the BVLEP, together with Development Control Plan 2, Development Control Plan 5, and Development Control Plan 9.

The objectives of this zone are:

*(a) to facilitate and provide rural residential development in appropriate locations, taking into account natural constraints and agricultural land,*
*(b) to maintain and enhance the character, amenity and landscape quality of rural residential areas,*
*(c) to control the intensity of rural residential development having regard to the physical limitations of the land and the costs and limitations of the provision of public amenities and services,*
*(d) to provide opportunities for an agricultural use of the land that is compatible with surrounding residential development.*

These objectives are (consistent) with the proposed development. The following analysis looks at the various planning instruments and addresses how this proposal complies with the consent clauses.

### 1.2.1 Clause 19 - Development in Zone 1 (c)

*(1) Consent must not be granted to a subdivision of land within Zone 1 (c) which creates allotments intended to be used for the erection of dwelling houses, if the proposed allotments will have an area of less than 5,000 square metres.*

**Response:**

A DCP 9 assessment of this land has been undertaken and confirms a minimum lot size for this development of 5000m$^2$, the smallest of the proposed Lots being 5476m$^2$.

*(2) Before granting consent to the subdivision of land within Zone 1 (c) the consent authority must assess whether the size of each proposed allotment is appropriate. The following matters must be taken into consideration:*

*(a) the ability of the land to accommodate on-site disposal of household waste water,*

**Response:**

As detailed in the accompanying On Site Sewerage Management Report undertaken by CD Watts and Associates, the land has the ability to dispose of household waste effectively (Appendix 4).

*(b) the standard and capacity of public roads serving the land, having regard to the likely volume of traffic to be generated as a consequence of the density of the subdivision and the means available to improve roads to a standard appropriate to the level of traffic likely to be generated,*

**Response:**

Millingandi Road and Boggy Creek Road front the subject property, being local roads maintained by Council. Both roads are surfaced with a bitumen seal, continuing past the entrances to the subject land. Accordingly, the anticipated small increase in traffic on both Millingandi and Boggy Creek Roads can be accommodated on this existing pavement. Further more, traffic will be dispersed through the near proximity of the Princes Highway, which will assist with overall traffic flow. It is our opinion therefore that the existing road network may be considered sufficiently substantial to service this proposed development without the need for further upgrade.

*(c) the availability of other utility services and social services, having regard to the likely demand for those services and the costs of their provision,*

**Response:**

Electricity and telecommunication lines are the only public utilities connected to the site and are also available for connection to the new subdivision lots. These services have been installed, extending to recently subdivided property beyond (south of) the subject land; such that this subdivision represents an "infill" development proposal suited to support existing infrastructure. No sewer is available; see preceding (a) response. The area lies outside of the town water reticulation network.

With respect to social services, the land is situated within 6km of Pambula and thus complements both the subject development and benefits the Pambula urban area; which includes the local hospital.

*(d) the size of the proposed allotments having regard to the desirable sequence of development of land within Zone 1(c),*

**Response:**
As confirmed by the DCP 9 assessment; this land is capable of supporting a minimum lot size of 5000m$^2$. The proposed lot sizes (as shown on our plan) are in excess of that size requirement and accord with that of land developed within the 1(c) Zone and surrounding neighbourhood.

*(e) the likely impact the development will have on other land and, in particular, on land located between the land to be subdivided and major public roads and utility services,*

**Response:**
It is believed that the proposed development will have minimal impact on adjoining properties, with building envelope setbacks being identified. The building envelopes are situated in order to protect the privacy of each lot and adjoining properties (*see details and comments under section 2.3.2 regarding setback considerations*).

The existing access will be upgraded to a standard of a local road in accordance with the Development Consent and Bega Valley Shire Council requirements for rural subdivisional roads, which will also improve the current access for the adjoining land owners to the south and travelling through the subject land.

*(f) the nature and topography of the land having regard to the density of subdivision,*

**Response:**
The site is cleared land with an approximate 10% gradient overall and a northerly aspect. The proposed lots are aligned to maximize solar access; while home sites are spaced to reduce "over viewing" by adjoining residences. This proposal thus provides for development that accords within the natural topography of the site

*(g) the desirability of maintaining a low density of development in the primary catchment areas of lakes and waterways, areas of relatively high agricultural production potential or other areas where intensive subdivision may create a significant risk of soil erosion or pollution of the environment,*

**Response:**
It is not believed that the subject land or the surrounding area is one of high agricultural production, nor does it adjoin any perennial streams. The proposal herein is thought to be the highest and best use of the land, as the property cannot support a commercial farm (sole income of the occupier). The development of this land will have no adverse impact on the produce output of the site or surrounding area. The drainage distance to the lake is in excess of 1km, such that no direct effect on that water body is anticipated.

The lower than allowable lot density is a reflection of adherence to this requirement for the site.

*(h) the desirability of providing a range and mix of allotment sizes,*

**Response:**
It is proposed to subdivide Lot 101 into 11 lots, which we believe by accommodating a range in lot sizes will appeal to potential purchasers. This concept allows for a variety of purchasers, with differing abilities wanting to live within a rural residential area, thus allowing individual choice inside the same enclave.

Lots 4, 5 & 6, being between 5476m$^2$ & 6793m$^2$, provide the ability for reasonably small and low maintenance parcels of land, whilst still having a rural aspect. Lots 3, 9 & 10 again are relatively small parcels yet still large enough to run weekend hobby farm. Lots 1, 2, 7, 8, & 11 are large enough holdings to run part time rural activities, yet having the advantage of only being 5 minutes from the township of Pambula. Overall the lot sizes range from 5476m$^2$ to 1.77ha.

The subdivision of this property would therefore be in keeping with this requirement plus the surrounding neighborhood pattern as shown on the attached database print off (Appendix 5).

*(i) the need to maintain a semi-rural character in the area, and*

**Response:**
We believe that proposal described herein will preserve and enhance the semi rural character of the Millingandi area. The building envelopes defined on our attached plan have been positioned to provide not only the privacy of the individual lots but to also offer the best rural views available to and from the property. The lots are of a large enough size to provide abundant open space around the building envelopes to allow for substantial gardens, which will enhance the rural outlook and lifestyle of the area.

*(j) the purpose for which the land is to be used after subdivision.*

**Response:**
It is our understanding that our clients will retain Lot 1 as their rural lifestyle residence, and place the remaining Lots on the market for sale as rural residential parcels for similar lifestyle living.

*(3) In considering the design of a proposed subdivision of land within Zone 1 (c), the consent authority must have regard to:*

*(a) where the land may, in the opinion of the consent authority, be suitable for long-term urban development, whether the subdivision has been designed to facilitate its possible future re-subdivision, and*

**Response:**
This proposed development of Lot 101 could be described as a subdivision to allow the owners to downsize their current holding. Proposed Lots 1, 2, 7, 8, & 11 are of a sufficient size that would allow for further subdivision, if in the future the population growth was to increase and there was demand for more semi urban land. It is our belief however that the proposal herein would be the current highest and best use of the land at present.

In a submission to the *South Coast Sensitive Lands Review*, Bega Valley Shire stated it did not consider that this land was suitable for urban development. The Minister's review addressed and supported that submission.

*(b) the necessity for and ability to construct a dam on each proposed allotment, and*

**Response:**
Currently the land contains 3 dams and our client is in the process of constructing an additional 2 dams. There would also be ample room on each of the remaining lots to provide at least one dam, together with a stormwater tank for domestic purposes, from stormwater collection.

*(c) whether the subdivision will enable the subsequent erection of dwelling houses in a manner that appropriately relates dwellings to each other and to the topography of the land, and*

**Response:**
As stated in Clause 13 (4) of the Bega Valley Shire LEP, attached and detached dual occupancies are permitted, with Development Consent, within the 1(c) zone, and we therefore believe that each lot and building envelope is of a generous enough size to orientate and erect a subsequent dwelling.

*(d) the risk of bushfires, and*

**Response:**
Refer to Bushfire Assessment attached (Appendix 6).

*(e) the extent to which the layout and orientation of allotments and the subsequent siting of dwelling houses on those allotments will minimise potential visual, nuisance or other conflicts related to existing and potential development on land in an adjoining zone, and*

**Response:**
We believe that the proposed lots and building envelopes identified on our proposal plan, have been orientated to maximize the amenity of the area and the privacy of adjoining properties, whilst still being in practical positions for services and access.

The subject land adjoins other 1(c) Rural Small Holdings zoned land plus the 1(a) Rural General Zone and as such the proposed development would not affect the workings of any nearby rural farms or developments. The proposed lots are intended to be used solely as residential living and hobby farms.

*(f) features of cultural and natural heritage and landscape elements that are important for maintaining functioning ecological systems.*

**Response:**
The proposal will have no impact on features of cultural and natural heritage as landscape elements remain unchanged, with the proposed building envelopes below ridgeline, and adjoining areas of an already modified topography in the form of Millingandi Road, Boggy Creek Road and overhead power transmission lines.

*(4) Consent must not be granted to the subdivision of land within Zone1 (c) which has frontage to an arterial road unless vehicular access to each proposed allotment is provided by a road other than the arterial road, except where:*

*(a) an existing vehicular access point to the arterial road is able to be retained or relocated to serve no more than 2 proposed allotments, or*

*(b) it is unreasonable or impracticable to provide alternative access, and, in either case, vehicular access points are located and designed so as to minimise potential traffic hazards.*

**Response:**
The subject land does not front or adjoin any arterial roads.

*(5) A person shall not erect a dwelling house on land within Zone 1 (c) having an area of less than 5,000 square metres.*

**Response:**
The proposed development of this land will not contain a lot of less than 5000m$^2$. Lot 6 being the smallest lot proposed, has an area of 5476m$^2$. A DCP 9 Assessment has been made and is attached to this submission (Appendix 7).

*(6) Consent must not be granted to the subdivision of attached or detached dual occupancy development within Zone 1 (c).*

**Response:**
The accompanying Development Application is for the subdivision of land only.

### 1.2.2 Clause 65 - General Principles for Development and Use of Land and Buildings

*(1) Before granting consent for development within any zone, consideration shall be given by the consent authority to such of the following as are relevant to the proposed development*

*(a) The impact of that development on:*

*(i) the water quality of water bodies*

**Response**
Any new development of the site would establish their own collection system for domestic and firefighting use of water. Effluent discharge would be controlled by methods identified in the OSM, such that there is no affect on the quality of any nearby water bodies.

*(ii) the ability of rural land to be used for agricultural production or industry, or both*

**Response**
Currently the Land is not being farmed in any way or used for any agricultural production of any kind. It is being occupied as a large residential property with casual grazing for grass/weed control only. The proposal will not adversely impact on the produce output of the site or surrounding area.

*(iii) soil resources*

**Response**
See attached Site and Soil Evaluation Report (Appendix 4).

*(iv) Existing vegetation, native flora and fauna and riparian corridors*

**Response**
The land is presently cleared and as such it is considered the proposed subdivision will have no impact upon any species of threatened flora & fauna or their habitats.

*(v) The topography and setting of the land, and*

**Response**
The topography provides for naturally drained site with an approximate 10% gradient to the north. The setting is within a precinct of undulating former grazing country, now primarily redeveloped for rural residential housing.

*(vi) & (vii) the streetscape character of the locality, and the scale and design of neighbouring development*

**Response**

The subdivision layout, within the existing undulating landform, will retain the rural lifestyle streetscape; with generous (20 metre setback) frontages and space between building envelopes to ensure individual lot privacy.

In this manner the proposed subdivision is not out of character with the area and is of a scale similar to the existing subdivision pattern in the Millingandi area.

*(viii) significant views enjoyed from parks, reserves, roadways, footpaths and other Public places*

**Response**

The proposed development will not interfere with any views over Merimbula Lake from either public or private areas, (photographs are included to confirm this statement).

*(ix) the energy efficiency of the site and any buildings on the site*

**Response**

The north and easterly aspect will provide good solar access to the existing and proposed building sites whilst enjoying direct sea breeze cooling during summer months. This site is also sheltered from the south westerly weather patterns and thus not likely to place heavy demands for heating or cooling energy.

*(x) the availability of a water supply to adequately provide for domestic, agricultural and fire fighting purposes and where the proposed water supply is from a river, creek, dam or other waterway, the effect upon the other users of that water supply*

**Response**

Town water is not available to this subdivision. There is currently 3 dams within Lot 101 with another 2 under construction; however, it will be the responsibility of the individual purchasers to establish there own independent catchment and storage provisions to comply with bushfire requirements. There will be no effect on adjoining properties in regards to water supply.

*(xi) waste generation*

**Response**

Waste will be limited to domestic output only (see OSM report attached). Council's domestic garbage service will be available per existing the arrangements for the Millingandi area.

*(xii) the cultural significance of the land*

**Response**
As the subject land is mainly cleared and has been used for grazing and other rural activities for many years, it is considered unlikely that there would be culturally significant items on this land. However if any item be discovered during work onsite, usual notification rules will apply. To confirm this statement, consultation with Eden Local Aboriginal Land Council has been conducted as per their written advice, (Appendix 6).

*(xiii) the treatment of stormwater prior to discharge or the use of stormwater*

**Response**
See accompanying On Site Sewer Management Assessment

*(xiv) traffic generation and appropriate vehicular access into and around the site*

**Response**
It is considered the local road network is capable of handling any additional traffic generated by the creation of the additional lots, see comment re: traffic (pg 43).

*(xv) any measures necessary to mitigate any of these impacts,*

**Response**
During construction of access and the provision of services to the proposed Lots, sedimentation and erosion control measures will be installed to protect gullies and flow paths from runoff. Hours of construction will be in accordance with Council's requirements to protect the amenity of the neighbourhood.

*(b) the cumulative impact on the environment of:*

*(i) the development*

**Response**
The subject land is not considered to be classified as prime agricultural land and therefore the proposed development is believed to be the best use of the land.

*(ii) other development in the vicinity of the proposed development*

**Response**
The proposed development is considered to be compatible to the pattern of development within the surrounding area. It appears to be a common trend in this area for properties to be of a smaller, more manageable size for rural hobby farm type uses.

### 1.2.3 Development Control Plan 9

This DCP relates to the development of land zoned 1(c) and under this criteria the following applies:

Clause 7 – Minimum Lot Sizes

1. **Stream Flow Conditions**
   The site is traversed by ephemeral stream flow and does not border a perennial stream. The minimum channel/drainage line distance to a perennial stream is greater than 500 metres. 1

2. **Slope Inclination**
   Average Site Slope 0 - 10% 1

3. **Vegetation**
   Complete Clearing 1

4. **Fire Hazard**
   Slope North to West, Complete Clearing 1

5. **Location**
   Proximity of Town – Within 0 – 5 Km road distance 1

6. **External Road Access**
   Sealed Road Access 1

7. **Service Availability**
   Electricity Only 5

Total 11

Score indicates a minium lot size (on subdivision) of 5000m$^2$ could be obtained.

The subject land has lot sizes varying between 5476m$^2$ and 1.77ha therefore complying with this criteria.

### 1.2.4 Development Control Plan 2

***PART B – Assessment of Proposals***

*6. Development Application*

*6.1 Pre – Lodgement Consultations*
Extensive consultation has been undertaken as part of this application. Details of these consultations are listed in this report under Part 3.

*6.2 Submission Requirements*
The matters to be addressed have been undertaken in accordance with the Director Generals Requirements and are listed within Part 1.4 of this report.

*6.3 Approvals Pursuant to Section 68 of Local Government Act, 1993*
The proposed subdivision does not require approval under this act.

*6.4 Integrated Development*
The proposed subdivision is considered as an Integrated Development, requiring approval from the NSW Rural Fire Service. As such, accompanying this application is a Bushfire Assessment and cheque made payable to NSW Rural Fire Service.

*6.5 Exempt Development*
Does not apply to this development.

***PART C – Subdivision Design Standards and Principles***

*7. Assessment of Development Applications*

*7.1 Matters Considered*
The assessment of this development has taken into consideration the objectives of Section 79C of the EP&A Act and Clause 50 (Schedule 1) of the EP&A Regulation and all other Local Government plans relating to this development.

*7.2 Subdivisions in the Coastal Zone*
The proposed development is located within an area defined as a Coastal Zone. As such the land is State Significant and requires assessment by the Minister under State Environmental Planning Policy No.71 – Coastal Protection.

*7.3 Variations*

No variations are applied for as part of this application.

*8. Bega Valley Local Environmental Plan 2002*

As described and assessed earlier in this report, Clause 19 & 65 relate to this development.

*9. Access and Servicing*

The subject property has legal and practical access and sufficient servicing, as discussed throughout this report.

*10. Rural and Environmental Protection*

Bushfire and On site Sewer Management (OSM) assessments have been undertaken to help determine the most suitable building envelope for each of the proposed Lots. These building envelopes will also be positioned in an area that complies with the requirements of the above assessments.

*11. Rural Residential Subdivisions - Zone 1(c)*

The lot sizing and orientation provide for low density development of this site. As discussed throughout this report, the development has been designed to blend with the existing neighbourhood and ambiance. Adequate servicing and access will be provided to the standard required within the development consent.

Bushfire and On site Sewer Management (OSM) assessments have been undertaken to help determine the most suitable building envelope for the proposed Lots. These building envelopes will also be positioned in an area that complies with the requirements of the above assessments.

The subject development will not contain any battleaxe lots, with each lot having direct individual access to Public Roads to be established as a part of this application. Adequate easements will be created by way of a Section 88B Instrument.

*19. Unsewered Land*

Please see Onsite Sewer Management Report (OSM).

*34. Rural Road Standards*
In accordance with the standards set out within this DCP, the proposed access to the allotments will be upgraded to a 6m wide bitumen seal carriageway and dedicated to Council as a Public road.

It is considered that clauses 10, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, & 29 of part C and Part D & E of DCP 2 do not apply to this proposed development.

### 1.2.5 Development Control Plan 5
The attached Onsite Sewage Management Assessment, undertaken by CD Watts and Associates, has been prepared in accordance with the provisions of DCP 5, therefore an additional assessment of this plan has not been undertaken (Appendix 4).

### 1.2.6 State Environmental Planning Policy
The land subject to this proposal lies within 1km of the coast as defined by the NSW Coastal Policy and requires consideration under Schedule 2 Part 3A of the Major Projects State Environmental Planning Policy (Major Projects) 2005 and the Minister for Planning.

### 1.2.7 Environmental Protection and Biodiversity
This report identifies that no matter of National Environmental Significance relates to this land.

## 1.3 Environmental Management

### 1.3.1 Potential Impacts
These will emanate from a subtle change in land use pattern from rural living to rural lifestyle occupation. The impacts may include some increase traffic movement and noise, landscaping and pasture/weed control.

### 1.3.2 Draft Statement of Commitments
In order to minimise the potential impact from the proposed subdivision, commitment to mitigation of effects include:

1. Traffic Control
   Traffic control regime during construction will be based on Traffic Control Plan prepares by a qualified TCP for Work Sites holder. Once established, traffic movement will be linked to designated roadway and intersection points.

2. Noise

Noise will be increased as a result of the proposal. During construction this will be controlled by adoption of Chapter 171 State Pollution Control Commission - Environmental Noise Control Manual.

After completion of the site and subsequent building works, the amenity of the neighbourhood will be largely self-regulating, as is customary within any small rural/residential enclave.

3. Soil

Development plus subsequent site works will involve surface and soil disturbance. This disturbance is also directly linked with stormwater and sediment control. The construction phase is the most vulnerable time for the site.

The work process can be managed in a manner that will see topsoil stockpiled and screened, with appropriate sediment barriers to be placed and maintained to protect adjoining and downstream properties. This can also utilise existing dams as part of a detention process. After construction works, the sites will be shaped for basic landscaping with selected screen trees planted for privacy barriers.

4. Pasture

Some former pasture (kikuya) will be lost as a result of this proposal; with the greater concern being that small holdings can accommodate weed (eg fire weed, blackberry) normally kept under control by sound broad acre farming methods. The proposed lot sizes are such that they could be fully mown or slashed by individual owners.

In order to ensure that weed growth does not proliferate, it is intended to place a covenant on the site that individual lot owners will agree to remove noxious weeds annually, or as required by the Rural Lands Protection Board.

## 1.4 Plan & Documents

As detailed within Schedule 2, this application includes:

1.3.1 Site Plan showing existing features at Scale (1:1500 A3)

1.3.2 Site Analysis plan highlighting natural elements of the site (1:1500 A3)

1.3.3 Locality Plan placing the site within the surrounding neighbourhood

1.3.4 Subdivision layout indicating the proposed subdivision footprint on the site (1:1500 A3)

1.3.5 Plan of Proposed Subdivision & Existing Site Detail (1:1500 A3)

1.3.6 Stormwater Plan linking site drainage to the local drainage pattern (1:1500 A3)

1.3.7 Erosion and Sediment Control, plan showing both temporary and permanent structures for the site maintenance (1:1500 A3)

1.3.8 Landscape Plan – *(Waived in DG Requirements)*

1.3.9 Construction Management – A certified Traffic Control Plan for site and public safety to be implemented during construction work phase.

1.3.10 Wetland Proximity

1.3.11 Soil Type Assessment

The above plans have been provided as Appendix 8 to this report.

## 1.5 Statement

Certification of the validity and accuracy of this Environmental Assessment is contained at the conclusion of this document.

# 2. KEY ISSUES

## 2.1 Water Cycle Management

The water cycle considerations specifically address the down stream issues of affect on the SEPP 14 Wetland (No.47) by both surface flow and ground water impregnation, providing an assessment of the potential impact and possible changes to the Wetland as a result of the proposed subdivision.

This review includes a site specific map identifying the Wetland in relation to the proposed subdivision and the buffer provisions to ensure protection of the Wetland, both pre and post construction.

In addition, the outflow to Merimbula Lake is considered in terms of the overall catchment and including possible affects on the adjoining Riparian Zone.

Preparation of this assessment has also included reference to the *Flood Plain Development Manual 2005* and the 6 key outcomes identified under Part 8 of the Water Act 1912.

### 2.1.1 Soil Characteristics Affecting SEPP14 Wetland

A SEPP 14 Wetland No.47 (Boggy Creek Wetland) adjoins the western foreshore of Merimbula Lake, the closest part of which is approximately 585 metres down stream (by watercourse) from the subject land.

The subdivision has been identified as comprising 2 agricultural land classifications, being predominantly Class 4 "*Yellow Pinch*" yp. or ypa. landscape category, adjoining some Class 3 land on the lower frontage within the "*Millingandi*" mg. landscape category.

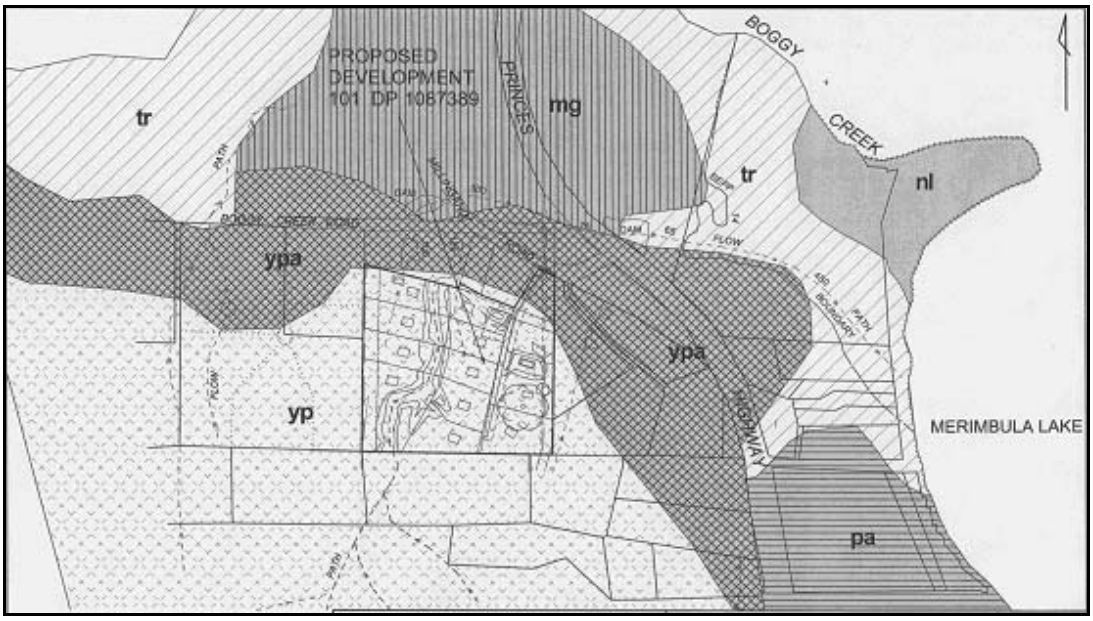
The specific characteristics of these soil types (DLWC soil map reference) identifies the yp. soils as "*moderately deep*" (50 – 150mm) well drained to imperfectly drained yellow podsolic soils with earthy sands and brown earth sands, with the same characteristics but deeper within the ypa. landscape category.

By description, such soils are not readily errodable and allow percolation of surface flow.

The (mg.) *"Millingandi landscape"* is generally level to undulating, moderately well drained alluvial soil 50 – 150mm deep. This soil type allows percolation of surface flow to the subsoil.

The SEPP 14 Wetland No.47 is identified as Class 4 land within the soil landscape group known as *"Nelson Lagoon"* nl. landscape with stated characteristics of *"supratidal poorly drained fluvial delta to intertidal mudflats supporting mangroves alluvial and swamp paperbark"*.

The soils are deep >150mm and very poorly drained. Soils have known limitations of *"acid, commonly sodic and saline, often potentially acid sulphate, subject to severe flood hazard and permanently high water tables with groundwater pollution hazards"*.




The soil landscape mapping shows that no potential acid sulphate soils are present within the subdivision or any area likely to be disturbed as a result of the subdivision works.

The Wetland No.47 (within freehold land) has been subject to past interference, the most notable of which was the re-routing of the Princes Highway during the 1990's to within 100 metres and subsequent culvert construction for discharge of drainage from the (then) new formation. This area is also still subject to grazing as an existing use right of the landowner.

### 2.1.2 Surface Flow

The major flow path from the proposed subdivision follows a shallow drainage line dissecting the western part of the site. This drainage pattern is intersected by local storage dams within private property (owned by others) fronting Boggy Creek Road.

These dams in turn discharge through the Council drainage system along Boggy Creek Road, leaching to the major 3 (2300 dia) pipe culvert under the Princes Highway; which then pools into the storage weir within Lot 721 east of the Princes Highway, prior to entering the SEPP 14 Wetland, some 100 metres east from the highway and over 400 metres from Merimbula Lake.

In total the surface water flow path from the subject land to the point of discharge into Merimbula Lake is slightly over one kilometre having crossed under both Boggy Creek and Millingandi Roads plus the Princes Highway and through 3 pondages/storages. All these structures add capacity to the discharge stream and delay in concentration time.

The proposed subdivision comprises about 15% of the total catchment, which currently contains 7 building parcels.

The proposal will increase the dwelling capacity of the catchment by an additional 10 residences; with an estimated total building footprint area of 3000m$^2$ and hardstand area of 3500m$^2$.

A review of stormwater improvement modelling for change of use allows for calculation of the potential increase in runoff, and corresponding effect of mitigation by use of water tanks, water gardens, swales and storage basins, (Appendix 8.11).

Discharge from the site in its present rural form was assessed on an annual basis using meteorological data shown on the tables hereunder.

Rainfall data from Green Cape was analysed to provide five years of rainfall with an average depth and number of rain days similar to data supplied by the BoM for Bega and Merimbula (*refer* ***Table 1***).

The five years contain an average year, two marginally wet and two marginally dry rainfall years and in combination are considered to be representative of the mean annual rainfall experienced at the Millingandi site.

***Table 1: Meteorological Data – Surrounding Areas***

| | Annual Rainfall | Mean No. Rain Days |
|---|---|---|
| Green Cape | 750 | 110 |
| Merimbula | 838 | 120 |
| Bega | 866 | 90 |
| **Average** | **818** | **107** |

***Table 2: Chosen Rainfall Data (based on Green Cape data)***

| Year | Rainfall (*mm*) | No. Rain Days |
|---|---|---|
| 1970 | 793 | 120 |
| 1976 | 857 | 121 |
| 1978 | 918 | 113 |
| 1985 | 786 | 112 |
| 1989 | 815 | 104 |
| **Average** | **834** | **114** |

This average rainfall matches closely to that listed as the annual Merimbula total.

Existing Site

The existing site, as modelled, is shown in **Diagram 1**, below.

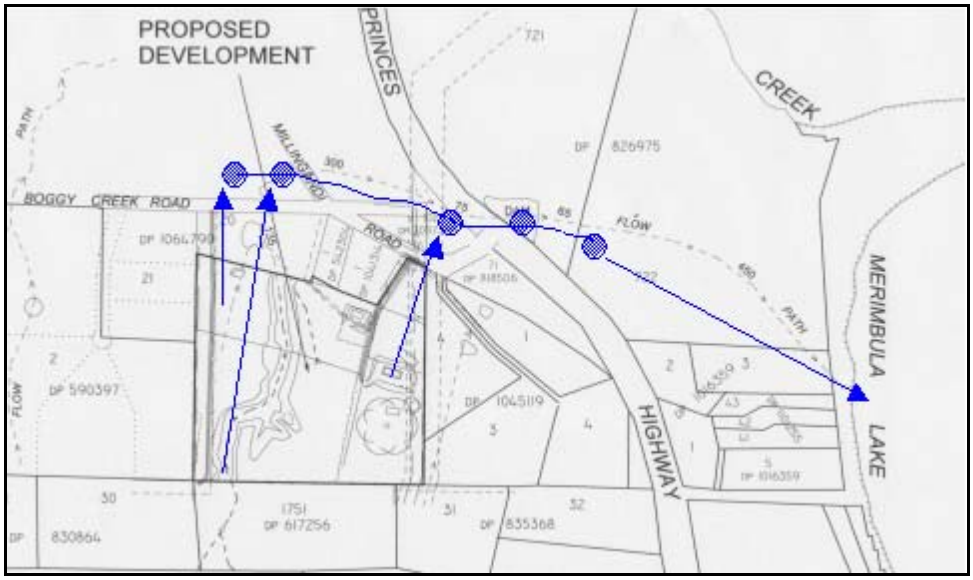



**Diagram 1 – Schematic of Proposed Site Current Status**

**Table 3** shows the catchment areas and adopted level of imperviousness.

*Table 3: Existing Site Catchment Parameters*

| Catchment | Area (*Ha*) | Category | % Impervious |
|---|---|---|---|
| Natural | 10.68 | Natural | 0 |
| Existing Paved Area | 0.04 | Gravel Road | 100 |
| Existing Roofs | 0.05 | Roof | 80 |
| **TOTALS** | **10.77** | **-** | |

Proposed Site – Without Treatment

The proposed site, incorporating all the elements of development as shown in the conceptual layout was modelled and is presented in **Diagram 2**, following.

*Table 4: Proposed Site Catchment Parameters*

| Catchment | Area (*Ha*) | Category | % Impervious |
|---|---|---|---|
| Natural | 9.12 | Natural | 0 |
| Roof | 0.30 | Roof | 100 |
| Roads | 0.35 | Bitumen Road | 100 |
| General Home Site | 1.00 | General Urban | 65 |
| **TOTAL** | **10.77** | | |

**Table 4** displays the catchment areas and adopted level of imperviousness.

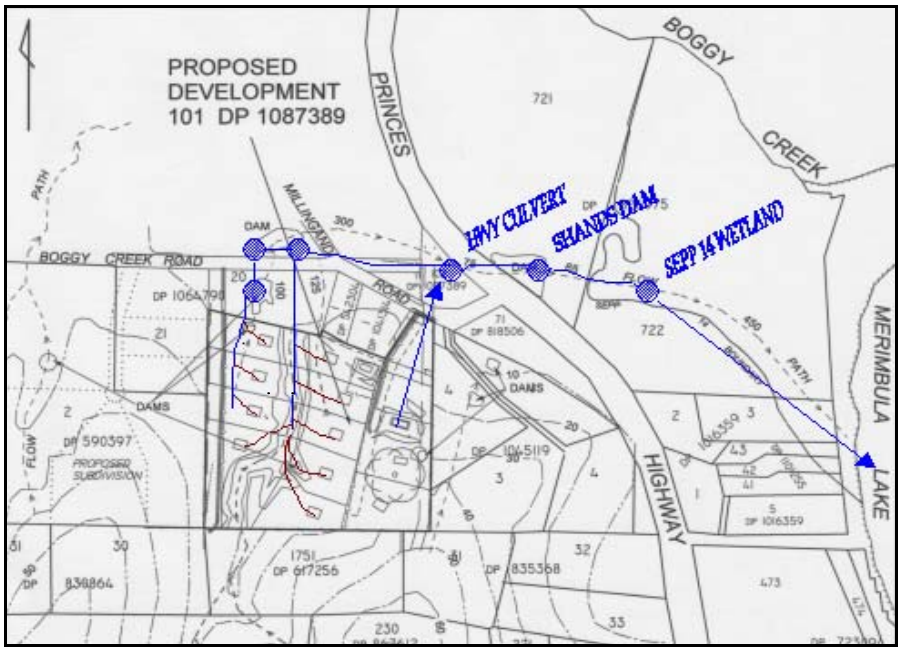



**Diagram 2 – Schematic Proposed Site *WITHOUT Treatment***

Proposed Site – WITH Treatment

The proposed treatment measures (*rainwater tanks, bio-retention systems and swales)* were added to the model to assess the overall improvement in water quality that may be expected due to their implementation. The schematic treatment layout as modelled is presented following (*refer **Diagram 3***).

***Table 5: Proposed Site Catchment Parameters***

| **Catchment** | **Area (*Ha*)** | **Category Changes** | **% Impervious** |
|---|---|---|---|
| Natural | 9.12 | Natural | 0 |
| Roof | 0.30 | Storage Tanks | 100 |
| Roads | 0.35 | Swales & Dams | 50 |
| General Home Site | 1.00 | General Urban & Water Gardens | 75 |
| **TOTAL** | **10.77** | | |

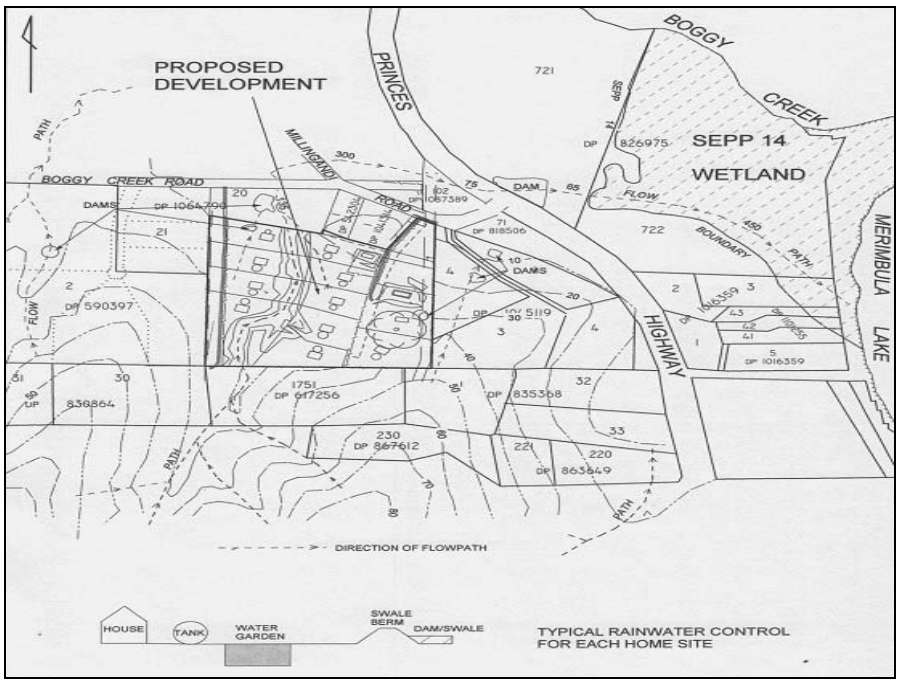



**Diagram 3: Schematic - Proposed Site *WITH Treatment***
*(see Appendix 8.9 for enlarged image)*

Accordingly, as shown by the diagrams and tables, the water sensitive urban design measures proposed for the development would contribute significantly to the long term improvement in receiving water quality.

### 2.1.3 Ground Water

Most of the proposed development is on the north facing slope, south of Boggy Creek Road.

Stormwater moves down this slope as discussed in 2.1.2, concentrating along the single flow path at Millingandi Road. The outflow is captured initially in the on-line dams within Lot 2 DP1041314. In this manner there is a break in the connectivity between the site and the eventual receiving waters (Merimbula Lake).

The soils we believe are classified as "*Hydrological Class C"* (even though rainfall is expected to infiltrate the permeable near-surface soils). This is because they are relatively shallow in nature (150mm) and clayey at depth.

Soils of this classification (ypa) shed rainfall under moderate to high rainfall events.

Specific investigation of groundwater has been undertaken near the northern extremity of the site by Technibuild Consulting, who stated:

*This issue is addressed (in the report). Drilling was carried out to a depth of 3 metres below ground level at ground levels of approximately 9m AHD and 8m AHD.*

*No groundwater was encountered in these excavations and accordingly it can be stated that the groundwater depth is below 5m AHD. The base of the gully at the Princes Highway intersection is at approximately 4.0m and accordingly this would be the expected level to encounter ground waters. The soil cover to the groundwater is satisfactory on this site.*

The remainder of the site is located well above this level, such that infiltration water would be expected to move along the bedrock sub surface approximately parallel to the ground surface and intersect the gradient near the Princes Highway crossing.

No registered bores are known in this area to provide any further ground water mapping.

Accordingly, reference is then made to the EIS relating to the Merimbula By-Pass (Princes Highway) deviation.

That EIS which was reviewing the potential for a major interference with the local drainage environment, including ground water, Dr Hogg 1990, p18 states:

"*The effect of compaction of subsurface material by fill embankments across the flood plain has the potential to alter subsurface water movement. The resulting effects of this are difficult to assess, although they are expected to be minor as groundwater inflow appears to be less important than surface water movement in maintaining the hydrological regime of the wetland.*"

This assessment has been adopted for the current proposal, being one, which would potentially sever the groundwater flow path outfall from all the proposed lots.

Department of Natural Resources had previously studied ground water aquifers in the 1 (c) precinct and found that the subject land is also excluded from such a source.

Subsoil drainage will however be provided alongside the new carriageway to improve stability, being directed down slope to assist with the soil environment for vegetative growth.

From the preceding references and proposed action, it is considered that groundwater is not an issue for the proposed development works or future built environment, while there will continue to be a subsurface flow to the SEPP14 aquifer.

### 2.1.4 Water Quality

Water quality assessment is linked to flow, quantity and potential pollutant loads included in the runoff. The drainage pattern for this site results in the whole of the flow discharging through the Princes Highway 3 pipe culvert and collecting in "Shand's Dam" prior to overflowing into the wetland.

Examination of past water quality test results for the Merimbula Lake precinct show, this flow to be:

Hogg 1990

*Comment*
*"Large Dam, which contains freshwater originating from rural runoff and is accepted as typical of freshwater inflows into the wetland."*

*With results at Shand's dam showing:*

| | | |
|---|---|---|
| *Conductivity* | *(uS/cm)* | *225* |
| *Colour* | *(pt-Co units)* | *90* |
| *Turbidity* | *(NTU)* | *4.5* |
| *Suspended Solids* | *(mg/L)* | *7.9* |
| *Nitrate + nitrite* | *(mg/L)* | *0.014* |
| *Total Kjeldahl Nitrogen* | *(mg/L)* | *0.86* |
| *Total Phosphorus* | *(mg/L)* | *0.060* |
| *Orthophosphorus* | *(mg/L)* | *0.022* |
| *PH* | | *7.5* |

This baseline data is directly attributed to the site such that any subsequent outfall can be monitored with certainty

These results have been compared with inlet flows for Merimbula Back Lake and Lake Curalo at Eden and shows lower levels of Turbidity, Nitrogen and Phosphorous for this outfall than those other water bodies. The filtering effect provided by the permanent retention of Wetland No.47 will ensure the long term protection of Merimbula Lake quality and the oyster beds.

Furthermore the presence of on line dams within the subject site, discharging through an established (and undisturbed) watercourse is considered to provide a suitable "sediment forebay" for the water column.

In this regard, it is considered that water quality from the site is stabilised with a satisfactory out flow regime that protects the Boggy Creek Wetland. This system is shown on the drawings herewith 4.1.5 and 4.1.6. It is also pertinent that the down stream waterways are under the control of Council, RTA and other freehold land owners and not under any control of the subdividing land owner.

### 2.1.5 Flooding

Overland stormwater flow during heavy rain events has been considered in the context of the local catchment, adjoining the proposed subdivision, plus the discharge downstream to the receiving waters of Merimbula Lake. An assessment of the hydraulic flow path is made with the parameters of the "*Flood Plain Development Manual 2005*".

The manual provides for Flood Plain Management Plans under Part 8 of the Water Act 1912 that are developed to achieve key outcomes for:

- *Allows effective passage of floodwaters*
- *Delineates major flood flow-paths and flood dependent ecosystems*
- *Minimises flood risk by providing guidelines for flood protection of arable land*
- *Removes barriers to riverine and floodplain connectivity to protect and enhance flood dependent ecosystems and fish passage*
- *Provides remedial solutions to resolve hydraulic & environmental "hot-spots" using a strategic and risk management approach*
- *Provides assessment criteria for regulating existing and future flood control works within floodway networks*

The local catchment upstream of the site, including the subject subdivision has an area of 39ha. The gradient varies from 12% in the upper (fringe) to 3% within the proposed subdivision.

The combination of grade, surface condition and distance allows a calculation of the time of concentration for floodwaters at the natural point of discharge (Boggy Creek Road). This is determined to be 32 minutes, which for a 1:100 year storm event would show from a rainfall intensity of 140mm/hr for the (nearby) Merimbula Airport a peak flow of 24,150 megalitres.

Within the property, the natural watercourse (swale) has a profile width of 37 metres and depth of 2.2 metres. The capacity of this swale thus easily exceeds the capacity required to contain such a storm event.

Accordingly, the onsite and entry flow into the subdivision site can be adequately contained within the existing drainage channel, such that criteria for the *"Effective Passage of Floodwaters"* is met.

The downstream flood path follows the established watercourse of approximately 1km to the receiving waters of Merimbula Lake through the SEPP14 Wetland, satisfying criteria for *"Delineates major …….ecosystems".*

Stormwater discharge from the site may be increased in a 1:100 year event due to the over topping of rainwater storage tanks, local dams and mitigation bands.

The anticipated increase in volume attribute to the proposed subdivision would be 3,990 megalitres or an increase of 14% of the discharge channel flow.

Critical barriers on this flow path are:

1. Offset dam on Lot 2 DP1041314 (20 metres)
2. Boggy Creek Road culvert (2 x 450 dia) (85 metres)
3. Offset dam at Road Junction (150)
4. Millingandi Road culvert (1 x 600 dia) (205)
5. Princes Highway 3 x 2300 of culvert (430)
6. Shands weir (530 metres)
7. SEPP 14 Wetland (585 metres)
8. Merimbula Lake (1025 metres)

Calculations show that each of these flow path "hot spots" will become individual constraints in terms of capacity to allow for the discharge from the subdivision as proposed; thereby delaying time of concentration demonstration and thus *"Minimising flood risk ……. land".*

In a 1:100 year *"Probable Maximum Flood"* (PMF) there would not be a direct connectivity between the proposed subdivision and the receiving waters, with all land below the Boggy Creek Road Crossing benefiting by delayed discharge over a period of time and thereby benefiting a flood dependent ecosystem, thus *"Removes barriers ……. passage"*.

There is very little information available regarding the potential flood inundation of the Merimbula Lake and surrounds; however, the catchment of the Merimbula Lake is relatively small. Discussions with Council Officers have indicated that a level of 2.0m AHD would be a fairly high level to adopt for the height of the Merimbula Lake in a PMF storm event. All of the subject land is (well) above this level and as such not liable to flood inundation.

Many Local Authorities are adopting a potential increase of 0.91m in water levels as an indication to allow for the climate change effects that we are experiencing, and even taking this into account the upper most level of the Merimbula Lake would be 2.91m AHD in a PMF event.

The site is approximately 1025 metres from the lake along the gully, and the Highway's culvert system, which has an invert level at approximately 4.3m AHD at the outlet. The hydraulic grade line would not rise to this level in the PMF event.

The restricting factor for stormwater up steam of the Princes Highway itself and "Shands" weir, which is at a level of approximately 6.1m AHD. With the present calculation, the PMF storm would result in an inundation of the banks and some ground above to a level of 6.6m AHD. This satisfies criteria for *"Provides remedial solutions …….. approach"*.

At some past time, the area between Millingandi Road and Boggy Creak was a flood plain, however, this is obviously some time ago and there does not appear to have been any such event during the time of the last 200 years.

For the subdivision outlet to be inundated would require the entire flood plain to be submerged to a height (depth) of 9.5m AHD, a level which can not be supported by the size of the catchment, the published intensities or the recorded levels of the Merimbula Lake; thereby *"Provides assessment…….. networks"*.

### 2.1.6 Local Drainage

Located within the site is a natural gully having a water course leading in a south to north direction, discharging into freehold land adjoining Boggy Creek Road. This gully is a kikuya grassed swale with 3 existing stock water dams (Lots 1, 4 & 8) adjoining, but clear of the stream path.

In addition to the 3 dams that currently exist within the property, there is also potential for further dams to be constructed. Any further construction of dams will assist with stormwater runoff and catchment, onsite water use and firefighting purposes.

The existing & proposed dams are not licensed as they are exempt from Development Consent in accordance with advice received from Ashley Bolton of Department of lands, Cooma.

Mr Bolton advised that consent is not required if the capacity of the dam is not above the approved megalitre amount as worked out using the formula *Area (ha) x 0.08 = Megalitres*.

From calculations undertaken of the existing dams it is advised that existing and proposed dams will not have a combined capacity of greater than 0.861megalites or 861,000 litres.

Accordingly, as part of the subdivision, additional water storage sumps, which will also act as sediment traps, are proposed alongside the gully in Lots 3 & 11.

The proposal does not intend to interfere what so ever with this established swale, such that the existing grassed surface will remain intact. However, in order to enhance soil stability, planting of native species (Titree) will be promoted along with western boundary of Lots 3 – 7, as part of the subdivision landscape works.

In addition, each residence will have a minimum rainwater storage of 90,000 litres, plus a rain garden filtration system and permanent bunding adjoining the curtilage of the building envelope.

### 2.1.7 Conclusion

A best practice water sensitive management strategy which significantly improves the runoff quality while adding value in terms of ecological outcome and visual amenity of the area, would include:

- Rainwater tanks for domestic and fire protection, which reduces the runoff volume (and pollutant loads) and slows down the flow;
- Bio-retention rain gardens on selected lots to infiltrate, treat and slowdown runoff from paved areas;
- Bio-retention swales adjoining the building envelopes and along the roads to treat and slowdown runoff from lots and roads, and to promote subsurface flows;
- Rehabilitate the batter of the wide swale corridor and with native vegetation to stabilise banks and provide significantly improved habitat value;
- Upgrade the farm dams to improve runoff quality and provide more diverse aquatic habitat.

The proposed development would seek to maintain the existing balance of surface and subsurface groundwater flows to protect groundwater quality and the function of SEPP14 Wetland.

The development proposed in the Concept Plans would significantly reduce runoff pollutant loads below existing levels thereby ensuring no net increase in nutrient/pollutant loads entering watercourses.

In this manner, the development of the site will include best practice for soil and water management in accordance with the NSW Flood Plain Management guidelines to ensure no net increase in runoff pollutant as a result of the subdivision.

### 2.1.8 Sewerage Management

As part of the water quality criteria, this item has been fully addressed by a separate OSSM report for the site, which may be summarised as stating:

CD Watts and Associates (2006) states:

> *"Wastewater generated on each proposed allotment will be treated on site and disposed on site by sub surface drip irrigation, the allotments are of an adequate size and soil is of adequate quality to ensure the containment of wastewater onsite. The adjoining properties are unlikely to be adversely affected by the proposed development and due to the significant buffer distance to the Merimbula Lake edge it is unlikely that any measurable effect could be recorded at this point.*
> *The wastewater generated on the sites will be treated to at least 20 - 30 grade prior to disposal further reducing any potential risks.*
>
> *The allotments are unlikely to generate significant additional storm water runoff. Storm water runoff generated from roofed and paved areas will be discharged on to the allotment in a controlled manner and flow overland to existing drainage channels/gullies.*
> *Following establishment of the sites the storm water should be clean from any waste or silt and be adequately filtered before reaching the coastal area. During construction adequate measures must be taken to control erosion and contain dirty storm water on site"*

This matter is fully addressed in the accompanying report (Appendix 4).

## 2.2 Infrastructure & Utilities Provision

### 2.2.1 On-site Sewerage Management

The subject land does not benefit from reticulated sewer; currently a septic tank system is in use by the existing dwelling.
It would be proposed that any new dwellings within this subdivision would utilise a form of onsite sewerage control. In accordance with DCP 5, an On Site Sewer Management assessment has been undertaken by CD Watts & Associates and forms part of this report (Appendix 4). The content and recommendations and that report are adopted in full as the most appropriate method for sewerage water management.

### 2.2.2 Water Supply

Development Control Plan No. 10 (Rural Water Supply) shows the subject property lies outside the reticulated water supply area for the Bega Valley Shire.

Accordingly, each new allotment will establish its own collection system for water supply. The existing residence on proposed Lot 2 already has its own established water catchment and storage system. It is recommended that a minimum of 90,000 litres be supplied for each new lot with a dedicated static supply of 10,000 litres, in order to comply with Bushfire Requirements.

### 2.2.3 Electricity Reticulation

Overhead Electricity supply is currently connected to Lot 2 and available to the remaining lots.

### 2.2.4 Telecommunication Services

Telephone service is also connected to Lot 2 and available to the remaining lots. Mobile phone range is also available on the site.

## 2.3 Subdivision Layout, Amenity & Scale

### 2.3.1 Suitability of Proposal

As outlined in 1.1.2 of this assessment it is believed that the present proposal for the subdivision of this property is a suitable development within the locality. There have been recent subdivisions of nearby properties (some closer to Merimbula Lake than the subject), which appear to be very popular with potential purchasers. The development is not out of character with the area and as such the subdivision of this land will not create any adverse affects on the amenity of the area.

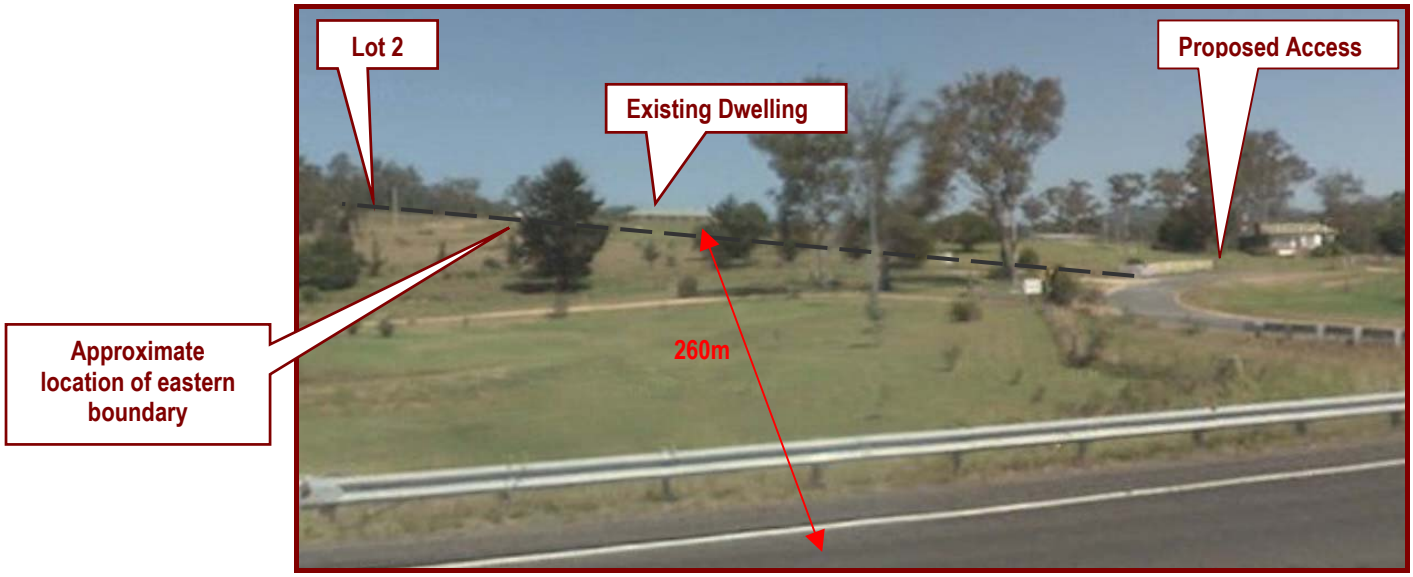
It should also be noted that the development will be occurring on the western side of the property.

As such, this development will only be noticeable from Boggy Creek Road and will be practically hidden from the Merimbula Lake precinct. The proposal will therefore not create a "scar" on the coastal foreshore.

The subdivision layout has been prepared with the privacy of the future occupants in mind as well as the existing dwellings surrounding the development (4 houses). As mentioned earlier in this report the subject land has a hypothetical subdivision potential of 21, however it has been the developer's wish to create lots with sufficient area to retain individual privacy and rural aspects; being situated in close proximity to their own residence. A new subdivision proposal has now been lodged with Bega Valley Shire Council for the land immediately adjoining the western boundary.

### 2.3.2 Visual Impact Assessment

As shown in the photos below the subdivision will not be visible from the Merimbula Lake precinct, with only the existing dwelling evident from the foreshore.




*View to the west of Princes Highway Intersection*


*View to the south east of Princes Highway Intersection*

The above photos illustrate the minimal impact the development will have on the current views to and from the Merimbula Lake Foreshore. As shown in these photos any dwelling constructed on Lot 2 will be visible from the highway; however, given the distance from the foreshore, along with the vegetation barrier and constructed residences, the dwelling will be screened from sight of Merimbula Lake.

Together with this it should be noted that numerous existing commercial and private residencies have been constructed between the foreshore and our client's development land, as shown on the photo below.


In addition to the photos above, an assessment of the visual outlook has been undertaken within the nominated building envelopes of each lot, with photos taken at the north, south, east and west aspects. These photos form an appendix to this report and clearly show that any future development will have no impact on the foreshore, or the existing and proposed neighbourhood.

Although it would appear unnecessary in this instance, it may also be feasible to create positive covenants and or restrictions on the titles to control the material used for the construction of any future dwelling.

Specifically for this development the building envelope set backs have been located to fit both the physical constraints and the site restrictions as follows.

A diagrammatic "conceptual" building envelope has been indicated for each lot, this provides the general footprint to accommodate for new buildings and works and will include water tanks and other outbuildings together with parts of the effluent fields on some lots, although these will be specifically excluded as restrictions on the final plan of subdivision.

Specifically, detail has been shown for Lot 4, (as a typical example) where the building envelope and offsets have been shown. This detail is typical for each lot; being a minimum of 20 metres from the Public road frontage and rear boundaries and 10 metres from the side boundary, thus ensuring at least 20 metres separation between future buildings.

Lot 7 is an exception, where the existing improvements (shed) plus the underground powerline require, this envelope to be located closer to (10 metres) the rear boundary. The proximity of the gully within Lot 8 to the rear will ensure there is well in excess of 40 metres between the co-joining envelopes on these 2 lots.

### 2.3.3 Coastal Design Guidelines

Coastal Design Guidelines (2003) have been referred with respect to the proposal. This has been based on a focus on analysing the local area within the precinct.

These guidelines are essentially urban orientated, whereas this proposal is a rural based development (without urban services – sewer/water) and with no fixed streetscape appearance under the provisions of "Locational Considerations".

The local area is an eclectic mix of assorted parcels, some of similar size to the proposal, with varied building design and outlook.

No fixed streetscape is established and the proposal will not impact on any urban area. In this regard, factors relating to the guidelines are detailed throughout the description text of the Environmental Assessment.

#### 2.3.4 Development Control Plan No. 2 (Subdivision Standards)

The land falls within the Rural Small Holdings 1 (C) Zone. The proposed subdivision is consistent with the planning controls set in Clause 11. A public road will be created to service the proposed lots. The land has access to electricity and telecommunications services and will be provided by our client.

#### 2.3.5 Development Control Plan No. 9 (Rural Residential Development)

An assessment has been conducted under DCP 9 in order to determine minimum lot sizes achievable on the subject property, (Appendix 7). The assessment concludes that a minimum lot size of 5000m$^2$ is obtainable on the land. From this assessment, the proposal plan was prepared, which identified lots with areas ranging in size from 5476m$^2$ (Lot 6) to 1.77 ha (Lot 11).

### 2.4 Traffic & Access

#### 2.4.1 Traffic Impact Study

A right of way and public road will be constructed in accordance with the conditions of the Development Consent upon approval, to service all lots. It is also noted from correspondence received from the Department, that the traffic increase is not of concern to Bega Valley Shire Council. In view of this information, it is not believed to be necessary, or viable, to undertake a formal traffic impact study for this proposal.

Any upgrades to the existing road framework will be developed in accordance with the Development Consent and as such no formal engineering design plans have been prepared at this stage.

With regard to the Millingandi junction with the Princes Highway, we have contacted the RTA who advised that there had been no specific request by them for a Traffic Impact Study in relation to our application for subdivision of Lot 101 DP1087389. We referred to the Director General (in ref 06-0032) advice:

*Traffic*
*The RTA have requested a Traffic Impact Study in accordance with the RTA Guide to Traffic Generating Developments, including identification of traffic volumes utilising the junction of the Princes Highway and Millingandi Road and the volume of traffic generated by the subdivision. Identify needs (if any) to upgrade roads/junctions and improvement works to ameliorate any traffic inefficiency and safety impacts associated with the development where relevant.*

The RTA suggested in response to this request, that we address matters relating to the nearby junction of the Millingandi Road and the Princes Highway, as follows:

- Existing corner figuration, Rural Type AUR Layout, plus BAL configuration with extended sealed shoulders.
- Overall Highway seal width at junction with Millingandi Road (also sealed) is a width of 17 metres.
- BVSC traffic count (dated 2003) shows 200 VPD in Millingandi Road, which appears now low considering this road and Boggy Creek Road would service an estimated 30 + dwellings; suggesting a current flow of 240+ VPD.
- The proposed subdivision (10 new lots) will therefore place an additional 80 VPD at this intersection.
- By analysis of Figure 4.5.12 Section 4 RTA Road Design Guide, the present intersection configuration will remain adequate with an increase in local traffic flow of 80 VPD.
- Sight distances from this intersection are in excess of 250 metres to the north and 225 metres can be achieved for traffic approaching from the south.

Accordingly, it is concluded that no further upgrade of the junction will be necessary for the proposed development.

To assist with identification of this intersection, we enclose photographs showing the junction.

### 2.4.2 Provisions for Additional Allotments

As a result of this subdivision, a public road will be required to service the additional allotments created. Under DCP 2, Council require the creation of a public road being no less than 6 metres wide plus shoulders and dedicated as public road rather than an easement for access.

However, at the point where the road no longer services more than 4 allotments, it can be downgraded to right of carriageway.

The figure shown below is an extract from Bega Valley Shire Councils Development Control Plan 2 (December 2007), and shows the standards required for the construction of an access to new subdivisions:

**34. Rural road standards**

The following standards are defined for reference in conditions of development consent. Refer to the BVSC Development Design Specification for more detailed requirements.

**Standards for 1(c) Rural Residential roads**

| Type | Design traffic | Pavement Width | Reserve Width and status | Maximum Gradient |
|---|---|---|---|---|
| Sealed driveway | Battleaxe (max. 2 lots) | 3.0m seal with 2 x 0.5m gravel shoulders | Up to 15 m easement | 20% |
| Sealed access | Max. 4 lots | 3.0m seal with 2 x 0.5m sealed shoulders | Up to 20 m easement | 20% |
| Class 4 road | < 1000 vehicles per day | 6.0m seal plus 2 x 0.8 m prime sealed shoulders | 20m public road | 15% |
| Class 5 road | > 1000 vehicles per day | 7.0m seal plus 2 x 1.0 m sealed shoulders | 20m minimum public road | 15% |

The attached proposal plan (appendix 8.4) illustrates how this table affects the proposal along with the layout of the public road and access easements.

## 2.5 Bushfire

### 2.5.1 Bushfire Risk Assessment

The Bega Valley Shire Council Bushfire Prone Land Map, which has been prepared by the Council in consultation with the NSW Rural Fire Service, and in accordance with Section 146 of the Environmental Planning & Protection Act 1979, identifies the subject property as being bushfire prone.

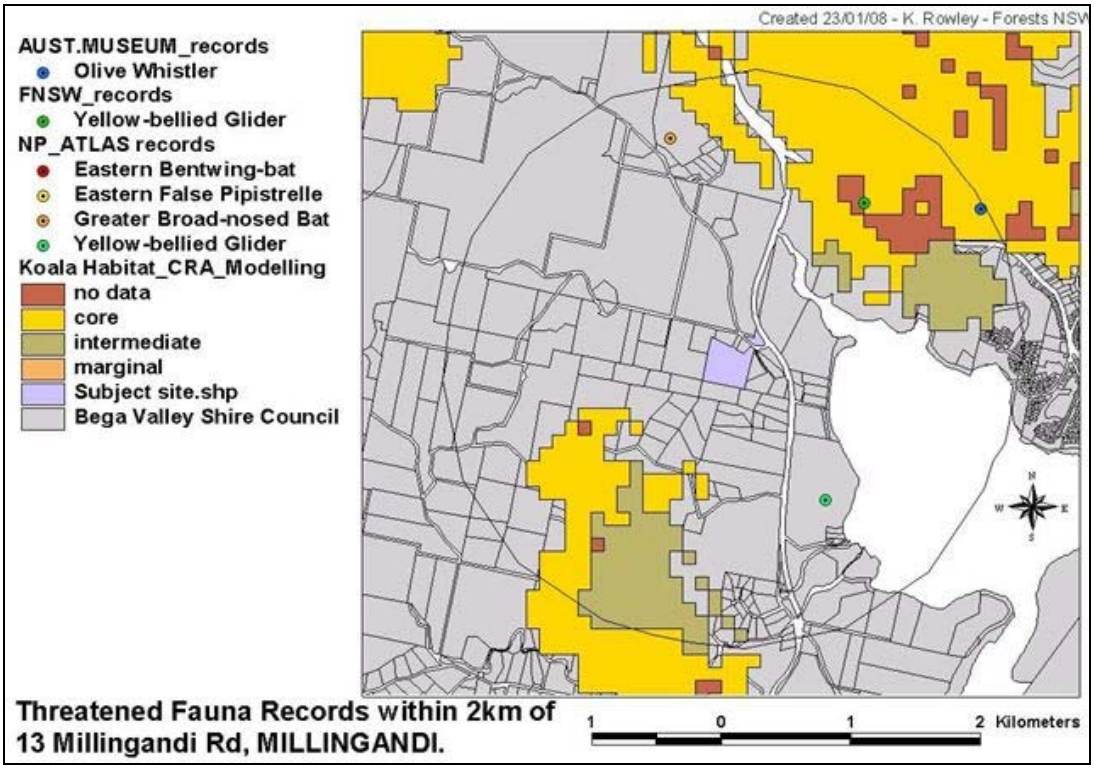
Accordingly, a Bushfire Risk Assessment was prepared by Eden Forest Management Services, and subsequently, the NSW Rural Fire Service raised no concern regarding this matter and have issued a Bushfire Safety Authority under S100B of the Rural Fires Act 1997, (Appendix 6).

## 2.6 Flora & Fauna

### 2.6.1 Assessment

A short form Flora & Fauna Assessment was undertaken by Eden Forest Management on the 19th December 2005 and it concluded that there was no evidence of any threatened species, population or ecological community found on the property. A copy of this assessment is appended to this report, (Appendix 9).

In addition to this Ms Kelly Rowley, Regional Ecologist with Forests NSW (State Forests) undertook an assessment of this site in relation to any known Threatened Flora & Fauna. Ms Rowley concluded that nil threatened species or Koala habitats were detected upon the subject site, as shown in the figure below, supplied by Forests NSW.




Correspondence and database mapping in support of the above statement is appended to this report (Appendix 9).

### 2.6.2 Vegetation

This site as it currently stands has very little vegetation, being predominately cleared and used as grazing land. This development will not result in the removal of any vegetation therefore no offset measures have been taken into account. As such and as outlined in the accompanying assessment, it is believed that the proposal does not create a threat to any flora, fauna or habitats. The present pasture contains a mix of kikuya and other planted grass species.

## 2.7 Cultural Heritage

### 2.7.1 Aboriginal Heritage

In accordance with the Department of Environment & Climate Change Community Consultation Requirements for Applicants under the *National Parks and Wildlife Act 1974*, the following requirements have been met.

Initial consultation with the Eden Local Aboriginal Land Council was undertaken onsite on 18th March 2008. Mr Laurence Bamblett carried out an Aboriginal Heritage Assessment, in accordance with the Director Generals Requirements, (Appendix 10).

The Eden LALC advised they had no issue with the continuation of this development and concluded, in their opinion, that any further assessments of the site were not required.

As such, an AHIMS (*Aboriginal Heritage Information Management Search*) was undertaken with the DECC's Culture & Heritage Division. This search returned no known Aboriginal objects and Aboriginal places upon or near the subject site (appendix 11).

Notification of the proposed development was also advertised in the Eden Magnet, Thursday March 21st, in accordance with the DECC requirements (appendix 12). This notice outlined the proposal and one submission was made during the 2 week notification period.

This submission was made by Mr John Dixon of Yukembruk Merung Ngarigo Consultancy Pty Ltd. Contact was made with Mr Dixon and after detailed consultation, Mr Dixon was satisfied that no aboriginal artefacts or places were present on, or in the close vicinity of this site. Mr Dixon provided an email recommending the development proceed (appendix 13).

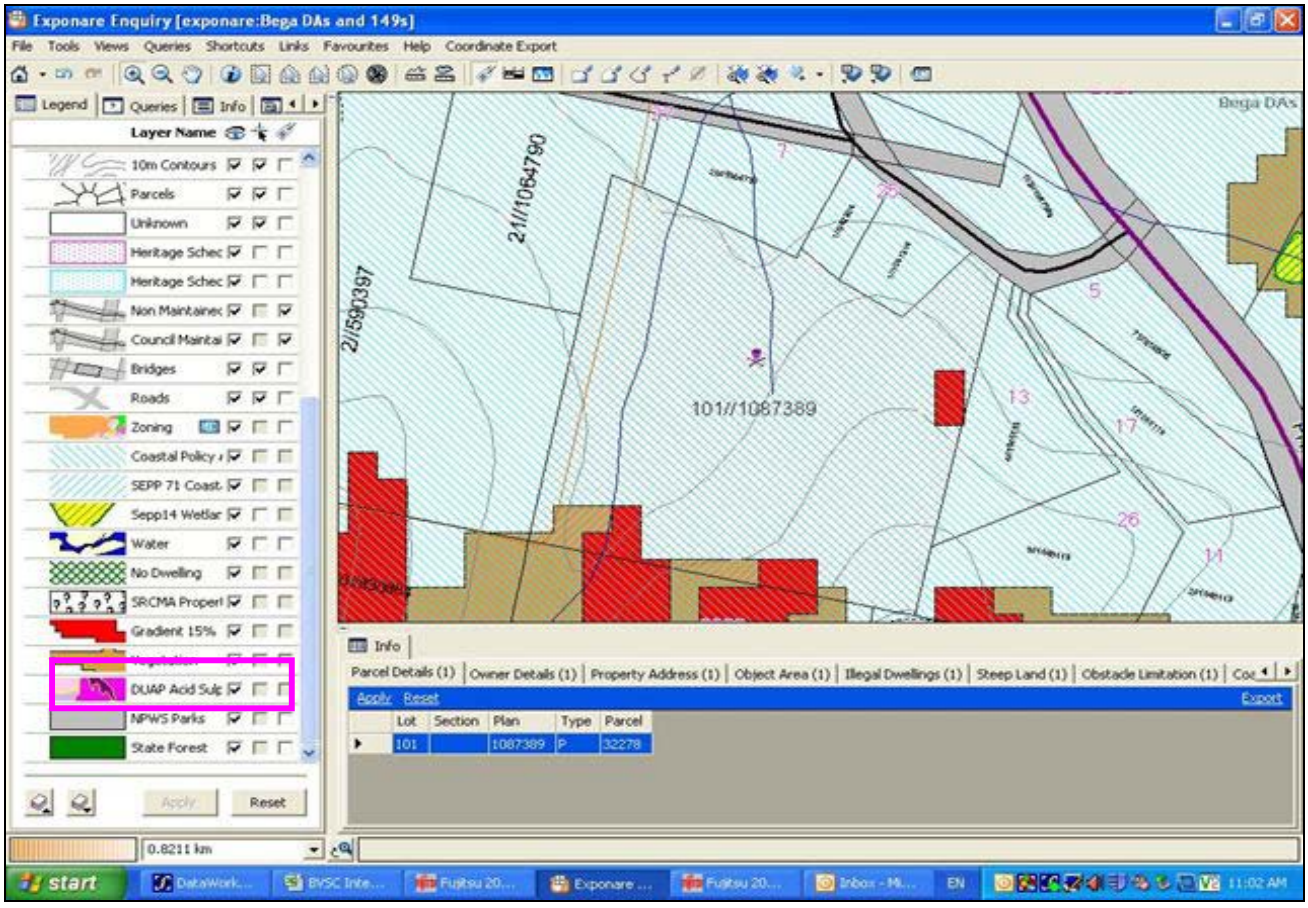
Accordingly; the subject land is not known to contain any Aboriginal artefacts and as it is predominantly cleared, except for a few trees along the edge of the gully, it is believed that no items of significant cultural heritage will be found.

However; if any items are found during the course of this application, the usual notification procedures will apply.

## 2.8 Soils & Contamination

### 2.8.1 Acid Sulphate

A report by the Department of Planning; South Coast Sensitive Urban Lands Review stated, "There is no known risk of acid sulphate soils". Together with this we attach a plan supplied by Bega Valley Shire Council also illustrating the site is not affected by Acid Sulphate Soils.




The above figure (supplied by Bega Valley Shire Council) would show a purple hatching if Acid Sulphate Soils affected the site, as highlighted on left hand side panel.

#### 2.8.2 Soil

Class 4 Agricultural Land as mapped by NSW Department of Agriculture. The local soil conditions comprise a fawn/grey sandy silt to a depth of approximately 250mm over a light brown sandy silt with gravel chertz becoming more clayey and reddish with depth and typified by ypa. classification. By these characteristics the depth of any disturbance may be readily identified. The soils of this nature are not excessively errodable and can be locally managed. It is intended that all disturbed areas will be managed and protected by guidelines provided in "*Managing Urban Stormwater - Soils and Construction"*; NSW Department of Housing.

The requirements of these guidelines are to be incorporated as part of the subdivision work procedures. Adherence to these guidelines should ensure no contaminated soil/water will pass from the site.

## 3. CONSULTATION

We assume the requirement to undertake consultation with Eurobodalla Shire Council is an error and was intended to be Bega Valley Shire Council.

### 3.1 Consultation Process

As part of the original Development Application process, the application was placed on exhibit from the 17th January 2005 to 15th February 2005 at Bega Valley Shire Council, Planning & Information Centre and Department of Planning (South Coast office). The application was also referred to all applicable Government Agencies.

The following agencies and the public raised some concerns regarding the development. These concerns have now been addressed as detailed below:

#### 3.1.1 Agencies & Other Authorities

##### a) Bega Valley Shire Council

As a part of the above process Bega Valley Shire Council was consulted and raised issues relating to the On Site Effluent Disposal and access to proposed lots. As such, an On Site Sewer Management Report has now been undertaken and is provided herewith.

In regards to the access issue, it was originally intended that lots 8-11 would gain access directly from Boggy Creek Road along the existing carriageway. However during the process of this application, a boundary adjustment was undertaken by the adjoining land owners. As a result of this boundary adjustment, the section of land linking the existing carriageway to Boggy Creek Road was subject to an 88B Instrument that omitted benefit to our client's land in regards to the use of the right of carriageway.

As such, a public road gaining access directly from Millingandi Road has now been proposed to service all lots within the proposed subdivision.

b) Department of Planning

The Department of Planning also raised concern regarding the On Site Effluent Disposal and access, clarification of which has now been provided (part (a) above).

In addition to this concern, Department of Planning expressed apprehension regarding possible bushfire danger. A Bushfire Risk Assessment was undertaken and forwarded to the Rural Fire Service for comment. The Rural Fire Service confirmed that they had no concern of impact from potential bushfire hazard and issued a Bushfire Safety Authority under s100B of the Rural Fires Act 1997.

c) Department of Natural Resources

DNR requested an Onsite Sewer Management Report to be undertaken (now undertaken and provided herewith).

d) Department of Environment & Climate Change

Advised that the Boggy Creek channel was geomphically stable, although riverbank erosion had been stabilised by rock beaching. Sediment build up in Merimbula Lake could be traced particularly to road works and this required addressing in any development consent.

e) Public

As part of this consultation process, the public were invited to make comment in relation to this development. As well as some concerns regarding the issues raised above there were some additional matters they believed needed to be addressed being:

- It was considered by the public that the sizes of the proposed lots were to small and needed revising. In response to this the owners took this matter into consideration and reduced the lot yield from 14 to 11, thus leaving adequate sizing for the remaining lots.

- The public also requested that any extension to the existing electricity reticulation should be located underground. It was resolved by Department of Planning that this request would not be justified as overhanging power cables is a feature of this rural environment and that any visual impact would not be significant enough to warrant this action.

  The following is an extract taken from DIPNR's Planing Report no. DA 290-11-2004 item 6.2:

| ***6.2.7 Location of Power Line Underground*** | |
|---|---|
| *Issue:* | The power line to the development shall be located underground. |
| *Raised by:* | Public |
| *Consideration:* | There is not justification to require the location of power cable underground. Overhanging power cable is a characteristic of the rural environment. Any visual impact of the cable will not be significant. |
| *Resolution:* | Issue is noted. |

  Presently a High Voltage Transmission line intersects the site. This line remains the property of Country Energy.

- Two members of the public called for the preparation of a Master Plan for this development. It was determined by Department of Planning that the preparation of such a plan was "beyond the scope of this application", and as such a Master Plan was not required.

# 4. SCHEDULE 2

## 4.1 Plans of the Development

The following Plans have been provided as part of this application:

4.1.1 Existing Site Survey
4.1.2 Site Analysis
4.1.3 Locality Plan
4.1.4 Subdivision Layout
4.1.5 Subdivision & Detail Plan
4.1.6 Stormwater Plan
4.1.7 Erosion & Sediment Control Plan
4.1.8 Landscape Plan *(not required)*
4.1.9 Construction Management (TCP)
4.1.10 Wetland Proximity
4.1.11 Soil Type Assessment

## 4.2 Documents to be Submitted

The following documents have been included with this report.

4.1.1 10 hard copies *
4.1.2 10 copies of plans *
4.1.3 1 CD containing all documents in pdf format. *

* *Subject to direction after preliminary assessment*

## 4.3 Electronic Documents

The documents have been prepared and provided in an electronic form in compliance with the Director General's criteria for transmission.

# 5. CONCLUSION

## 5.1 Conclusion

The conclusion finds that in addressing the objectives of this zone, this proposal will not affect the current environment, as the proposed subdivision lots that will be created will be used for domestic and rural use only. This is consistent with the objectives of the 1(c) Zone and the site is being developed for that purpose.

In this respect the application we are making is to fully develop the entire 10.77ha in a low impact form.

The land is currently used for domestic and rural purposes, and therefore already has access to electricity and telephone. The proposal does not propose to alter the current layout of the neighbourhood and any visual impacts will be below skyline.

Existing roads and easements provide the subdivision with sufficient vehicular access with negligible affect on adjoining landowners, being effectively an "in-fill" development within the surrounding land use pattern.

Finally, the proposal will not affect the right of the public to access Merimbula Lake or Wetlands and does not pose direct threat to the natural habitat of this area. It is considered that the proposal represents an orderly low impact option for development of the site within the current zoning criteria.

Approval from Department of Planning to this proposal is sought for which an overall cumulative benefit to the community as a whole is seen as the outcome.

This would be consistent with the conclusion of the South Coast Sensitive Urban Lands Review for the locality that stated "to this end the existing Rural Small holdings Zoning should be maintained".

### 5.2 Statement

I certify the validity and accuracy of this Environmental Assessment and that of the contents of this report are neither false nor misleading.

Report prepared by:

Bree Tapscott
**RW Surveying & Valuations**

## References


- South Coast Sensitive Urban Lands Review - *Department of Planning, June 2006*
- Flood Plain Development Manual - *DIPNR, April 2005*
- Managing Urban Stormwater; Soils & Construction (3rd Edition) - *Department of Housing, August 1998*
- Merimbula By Pass EIS - *Bega Valley Shire Council (Dr D Hogg), January 1990*
- Pambula Merimbula Strategy Study – *Bega Valley Shire Council, May 1989*
- Proposed Dredging Lake Curalo EIS – *Sinclair Knight, May 1988*
- RTA Road Design Guidelines – *Roads & Traffic Authority NSW, 1991*
- NSW Flood Plain Management Manual – *NSW Department of Natural Resources, 2005*
- DLWC Soil Mapping – MJ Tulau – *Bega Soils Map, 1998*
- Urban Drainage Design Manual – *Sutherland Shire Council, 1992*

# Appendices

1. **Certificate of Title 101/1087389**
2. **Deposited Plan 1087389**
3. **Neighbourhood Precinct**
4. **On Site Sewerage Management Report – CD Watts & Associates**
5. **Lot Range Database Printout**
6. **Bushfire Risk Assessment**
7. **DCP 9 Assessment**
8. **Schedule 2 Plans**
   - 8.1 Site Plan
   - 8.2 Site Analysis
   - 8.3 Locality Plan
   - 8.4 Subdivision Proposal Plan
   - 8.5 Subdivision & Detail Plan
   - 8.6 Storm Water Plan
   - 8.7 Erosion and Sediment Control Plan
   - 8.8 Traffic Control Plan
   - 8.9 Water Catchment
   - 8.10 Soil Type Assessment
   - 8.11 Water Cycle Assessments & Results
9. **Flora & Fauna Assessment**
10. **Eden Local Aboriginal Land Council Assessment**
11. **AHIMS Report**
12. **Eden Magnet Newspaper Notification**
13. **Yukembruk Merung Ngarigo Consultancy Pty Ltd Email**
14. **Bega Valley Shire Council Mapping**
15. **Aerial Photo**
16. **Visual Impact Assessment (photos)**
17. **General Photos**