13 Millingandi Road, Millingandi

10 Lot Rural Residential Subdivision

Preferred Project Report

Major Project 06–0032

June 2010

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Surveying & Valuations

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1.0 Introduction

This report is submitted on behalf of Gregory and Kristine Clements to the Department of Planning under Section 75H(6) of the *Environmental Planning & Assessment Act 1979*, in response to the submissions received by the Department on the exhibition of the Environmental Assessment for MP 06_0032 for a proposed Rural Residential subdivision of 13 Millingandi Road, Millingandi.

1.1 Background

The application known as MP 06_0032, was originally lodged with Department of Planning in January 2006 for the approval of an 11 subdivision of the above property. The requirement for a Development Control Plan was subsequently waived and the Director Generals Requirements (DGR's) were issued on the 6th July 2006.

A draft Environmental Assessment (EA) addressing the DGR's was submitted to the department for review on the 23rd December 2008. After a request for additional information was received from the Department and addressed, the final EA was forwarded for Exhibition Adequacy on the 30th April 2009.

As a part of this adequacy test, further information was requested by the Department, which was complied with and resubmitted, along with the relevant fees on the 14th July 2009.

The EA was then placed on exhibition from the 30th July to the 30th August 2009. During this period various public and Departmental agencies provided submissions requiring clarification on certain items. Copies of these submissions were forwarded to our office on the 15th September.

We therefore provide this Preferred Project Report in response to those submissions.

1.2 Amendments to Proposal

The proposal plan as submitted with the EA has now undergone some important amendments in order to comply with the issues raised throughout the exhibition period. The most obvious of all is the reduction of the lot yield from 11 to 10. In order to comply with the setback requirements the 11th lot was removed and the area consolidated throughout the remaining 10.

A copy of the amended proposal plan is attached to this report as Appendix 1.

This amendment along with other changes are explained and addressed throughout this report.

1.3 Submissions Received

Correspondence from Department of Planning summarising the various issues was received following the expiration of the exhibition period. The issues raised are noted and addressed as follows.

2.0 Department of Planning

2.1 Subdivision Design

1. Subdivision Design

a) Road Design

The currently proposed right-of-carriageway, along the western boundary of the site, will service more than four properties. This is inconsistent with the requirements of clause 11 of Council's DCP No.2 (Subdivision Standards) which allows for only a maximum of four lots to be serviced by a right-of carriageway. It is recommended the proposed road layout is redesigned to conform with Council's standards. Please refer to Council's comments on the required road redesigns (letter dated 3 September 2009).

A re-design of the access standards and locations has been undertaken and now complies with the requirements of Bega Valley Development Control Plan 2.

A public road, to be dedicated to Council, has now been included servicing Lots 1, 5, 6 & 7. From the southern end of this Public Road, a Right of Access will be created servicing Lot 4. An easement 20m wide and 50m long will be constructed to a standard of a 3.0m wide sealed carriageway with 0.5m sealed shoulders. From here a 2nd easement will be created at a width of 15m and length of 60m, with a construction standard of 3.0m seal with 0.5 gravel shoulders.

A 3rd Right of Access will be created from the Public Road along the common boundary of Lots 5 & 6 to service both Lots 9 & 10. This will have an easement width of 15m and a construction standard of 3.0m wide seal and 0.5m wide gravel shoulders. This access will also include a low level crossing over the exiting gully that traverses the property.

A 4th Right of Access servicing Lot 8 will also be created with the same construction level as that servicing Lots 9 & 10 and a width of 10m (as per Council advice). This will be located along the northern boundary of Lot 7, from the Public Road and will also be created as an easement for services.

b) Setbacks

Section 2.3.2 (p.45) of the Environmental Assessment (EA) states setbacks for proposed lots will include "*a minimum of 20 metres from the public road frontage and rear boundaries and 10 metres from the side boundary*".

Council's DCP 2 (Subdivision Standards) (clause 11) specifies that "*every lot shall be designed so that a large dwelling can be erected at a setback of not less than 20 metres from all boundaries… Council may accept reduced setback distances to side and rear boundaries of not less than 10 metres where specific building envelopes are designated in the development application submission and on the subdivision plan, that meet the objectives of the standard*".

As such, you are requested to make appropriate amendments to the proposed building envelopes designated on the subdivision plan to ensure suitable setbacks are achieved.

In order to address this requirement we have created individual building envelopes for each lot ranging in area from 493m² to 2249m². In our opinion all lots have generous enough areas for the construction of a "large dwelling" and associated rural infrastructure i.e sheds, etc.

As such, we confirm that each and every lot now achieves the required 20m setbacks from all boundaries and Public Roads and is shown on the amended proposal plan, attached (Appendix 1).

2.2 Water Cycle Management

2. Water Cycle Management

a) Riparian Corridors

Reference is made to the watercourse which traverses the western side of the site, which is indicated in the EA to be an 'ephemeral stream' (Section 1.2.3, p.20). The stream is a Category 2 stream (as defined by the Riparian Corridor Objective Setting stream classification). As such, suitable riparian corridors should be provided to this stream and should be demonstrated on a Plan. Refer to comments provided by the NSW Office of Water (letter dated 28 August 2009).

Section 2.1.7 of the EA states that it is intended to "rehabilitate the batter of the wide swale corridor with native vegetation to stabilise banks". Details of any required rehabilitation works to occur in the corridors should also be discussed and outlined in a Conceptual Landscape Plan.

b) Stormwater (Water Quality and Quantity) and Impacts on SEPP 14 Wetlands

The water quality and quantity analysis provided in the EA (Sections 2.1.2 -2.1.4 and Appendix 8.11) is unsatisfactory for the following reasons:

- Water quantity calculations have been provided in Appendix 8, but the calculations have not been explained and do not correlate with the information provided in section 2.1.2 (Surface Flow) of the EA.
- Calculations provided in Appendix 8.11 indicate the flows from the development in the 1 in 100 year ARI event would decrease from 3.727m^3/s (pre development case) to 0.256m^3/s (post development case). The water quantity analysis does not demonstrate that the post development flow rates (from the development and into downstream receiving waters) will be similar to existing pre development flow rates to ensure downstream hydrological conditions are maintained.
- The EA on p.39 states the "proposed development would seek to maintain the existing balance of surface and subsurface groundwater flows to protect groundwater quality and the function of SEPP 14". This statement is contradicted in other sections of the EA which indicates a potential 14% increase in flows from the site (Section 2.1.5, p.36).
- Catchment flow calculations provided in Appendix 8.11 have utilised the total subdivision area, which is stated in the EA as being 15% of the total catchment area (p.28). The correct 'area' ('A') to use these calculations, which adopts a 'Rational Method' approach, should be the total catchment area.

- Insufficient water quality modelling (using appropriate best practice tools, such as MUSIC (Model for Urban Stormwater Improvement Conceptualisation)) has been undertaken to demonstrate the stormwater flows from the development will not contain increased nutrient loads (such as Total Phosphorus, Total Nitrogen and Total Suspended Solids) and impact on downstream wetlands and Merimbula Lake.
- Section 2.1.7 of the EA indicates that a range of water sensitive management strategies will be utilised in the development including: rainwater tanks, biorention rain gardens and bioretention swales. However, these features have not been included on a Stormwater Concept Plan and have not been incorporated in relevant water quality modelling.

It is recommended that you engage a suitably qualified stormwater consultant to prepare an amended Stormwater Report and accompanying Stormwater Concept Plan for the development which addresses the following:

- Demonstrates the post development peak flow rates (as measured in m3/s) from the site to downstream receiving waters are similar to existing peak flow rates so that existing hydrological conditions are maintained.
- Demonstrates treated runoff generated by potential development will provide suitable pollutant load reductions. MUSIC (or best practice water quality modelling programs) should be used to model pre and post development water quality in runoff to support this outcome.
- Outlines the proposed locations of various 'water sensitive urban design' measures to be proposed on the subdivision.
- Preparation of an appropriate stormwater concept plan. The total catchment area should also be indicated on the plan.

c) Groundwater

The groundwater analysis provided in Section 2.1.3 of the EA is unsatisfactory for the following reasons:

- Insufficient evidence is provided to conclusively state that impacts to the existing groundwater are minimal and that the proposed development will not affect subsurface flow to the SEPP 14 aquifer
- The analysis references groundwater investigations undertaken by Technibuild Consulting. This work is not appropriately referenced and a copy of the report has not been provided in Annexures. It is also unclear whether this report would be relevant for the current project.
- The analysis also uses results from an unreferenced report prepared for the Merimbula bypass (Princes Highway) which is nearly 20 years old and is for a different development.

A supplementary site specific groundwater report should be prepared by a suitably qualified professional which outlines and quantifies existing groundwater levels on the site (compared to existing surface levels) and demonstrates that there will be no impact from the development on groundwater flows.

d) Flooding

The flooding assessment is inadequate. The EA does not provide:

- The flood level for the 1 in 100 year and Probable Maximum Flood (PMF) events and whether the development will be inundated in this event.
- Minimum flood planning levels required for the site.
- Details of any required cut or fill to address flooding issues, having consideration for existing and proposed ground levels.

To address the concerns outlined above, we have engaged the services of external consultants, SEEC Morse McVey, to undertake the preparation of a detailed Water Cycle Management Study.

We are confident that the subsequent report sufficiently addresses all the issues raised and attach the study as Appendix 2 of this report.

2.3 On Site Effluent Disposal

3. On Site Effluent Disposal

Reference is made to Appendix 4 – 'Site Analysis for Suitability of On-Site Wastewater Disposal' (prepared by CD Watts and Associates in 2005) of the EA. The report is unsatisfactory and needs to address the following issues:

- A wastewater yield of 750L/day is adopted. However, Council's DCP No.5 specifies the daily hydraulic load shall be a minimum of 1000L/day per lot. Calculations should be amended to incorporate this loading requirement.
- Relevant recommendations from the report should be incorporated into amended Statement of Commitments.

Issue raised by Council, Department of Industry and Investment, NSW Office of Water in relation to the proposed on site effluent disposal system should also be addressed.

As various Departments raised this issue, we undertook a review the original Onsite Sewerage Management (OSM) Report prepared by CD Watts and Associates. It was determined this report was now outdated and new report should be prepared.

We therefore requested SEEC Morse McVey to prepare an additional OSM report as a part of the above-mentioned Water Cycle Management Study. This is also attached as Appendix 2.

2.4 Water Supply

4. Water Supply

It is indicated in the EA (p.18) that it is the responsibility of "individual purchasers to establish their own independent catchment and storage provisions to comply with bushfire requirements". Section 2.1.8 of the EA also indicates stormwater runoff generated from roofed and paved areas would be discharged into the existing drainage channel, as opposed to being collected into rainwater tanks.

As such, there has been insufficient information provided to demonstrate that each proposed lot will have access to a sustainable water supply (for domestic use or for bushfire requirements), such as through the use of rainwater tanks or harvesting from stormwater runoff from roof areas. Please demonstrate that each new allotment will have a sustainable water supply with minimal reliance on accessing valuable surface and groundwater resources.

Two potential sites for dams are indicated on the subdivision plan (provided in Appendix 8). Demonstrate that the proposed dams confirm with the 'maximum harvestable right dam capacity' as stipulated by NSW Office of Water 'Farm Dams Assessment Guide'.

Again, this issue was raised with our external consultants and is addressed as part of the Water Cycle Management Study, (Appendix 2).

In regards to the concerns raised regarding proposed Dams and harvestable rights, we now advise the proposed dams have been removed from the plan. In addition to this and in accordance with the Water Cycle Management Study, the existing dam on Lot 4 will also be removed to comply with necessary setbacks for OSM purposes. This will be undertaken at the time of road construction however it will remain for the interim to service the existing rural operations of the land.

2.5 Utilities

5. Utilities

Provide details of how electricity reticulation will be undertaken and confirm whether new easements will need to be established on the site for utility installation.

The provision of electricity supply will be undertaken in accordance with the requirements of the electricity supplier at the time of construction.

It is however anticipated that the supply will be provided via underground reticulation and easements will be created as required, once the cables have been laid. In previous correspondence, the Department has advised that the provision of overhead reticulation would also be acceptable and the final decision on this will be made in conjunction with Country Energy and their contractors, at the time of provision.

It is also intended to relocate the existing supply infrastructure, so that it does not continue to burden Lot 7. The objective is to reposition this supply the northern boundary of Lot 7, within the proposed new easement for access/services.

2.6 Vegetation Clearing and Landscaping

6. Vegetation Clearing and Landscaping

Section 2.6.2 states that the development will not result in the removal of any vegetation. However, the development includes a public road and right of way easement along the eastern portion of the site which may involve the removal of vegetation. Confirm and quantify whether any vegetation removal will be required for the construction of the proposed road.

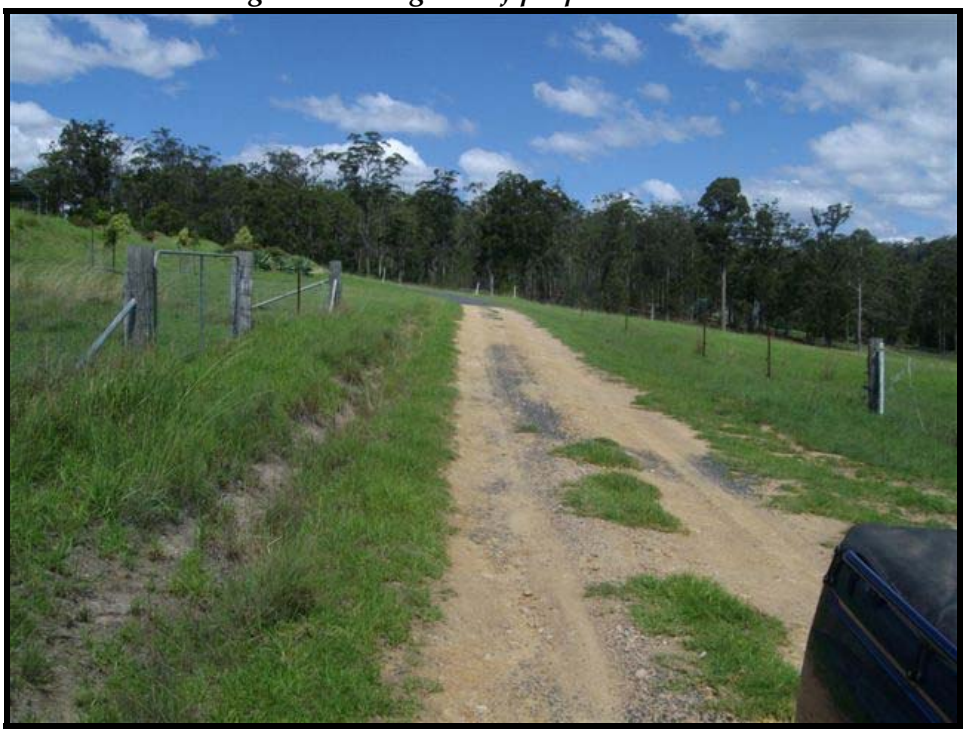
Section 2.1.6 discusses the potential planting of trees along the western boundary of Lots 3-7, as part of the subdivision landscape works. A conceptual landscaping plan should be provided to outline any revegetation works. Alternatively, a Statement of Commitment should be provided which commits to undertaking these works.

In addressing the first paragraph of the above, we provide the following photos for your information. As you will note, there will be no vegetation removal in order to provide access to the proposed lots.

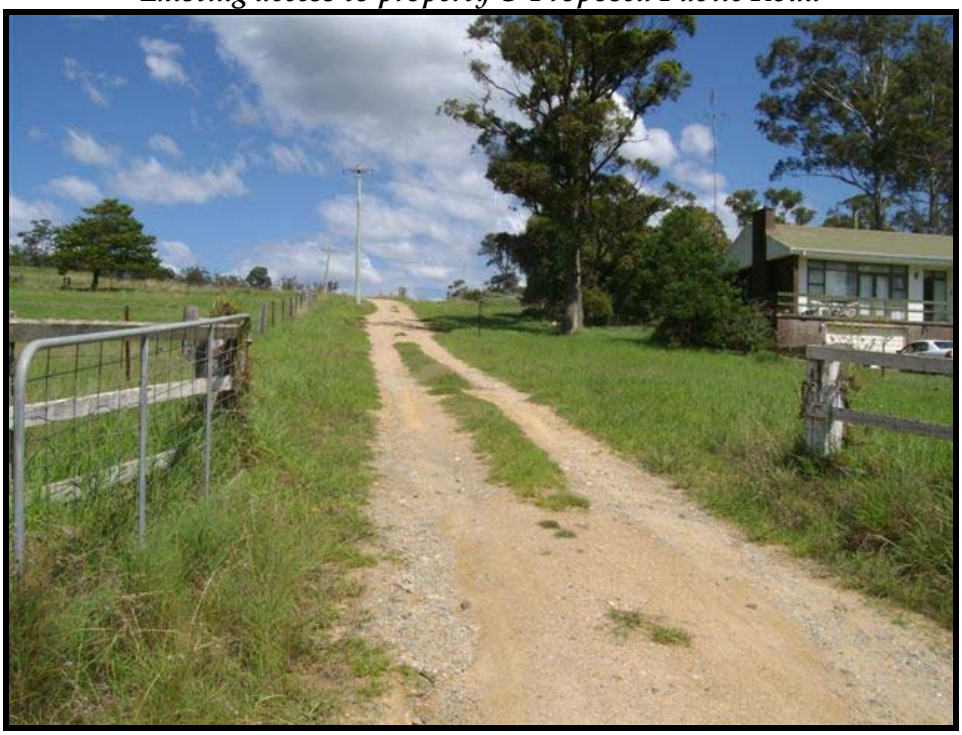
The photos provided below show the location of the proposed public road. As you can see the existing access to the property is currently contained within this proposed public road access corridor and will be upgraded to comply with the requirements of DCP 2.

Looking north along site for proposed Public Road

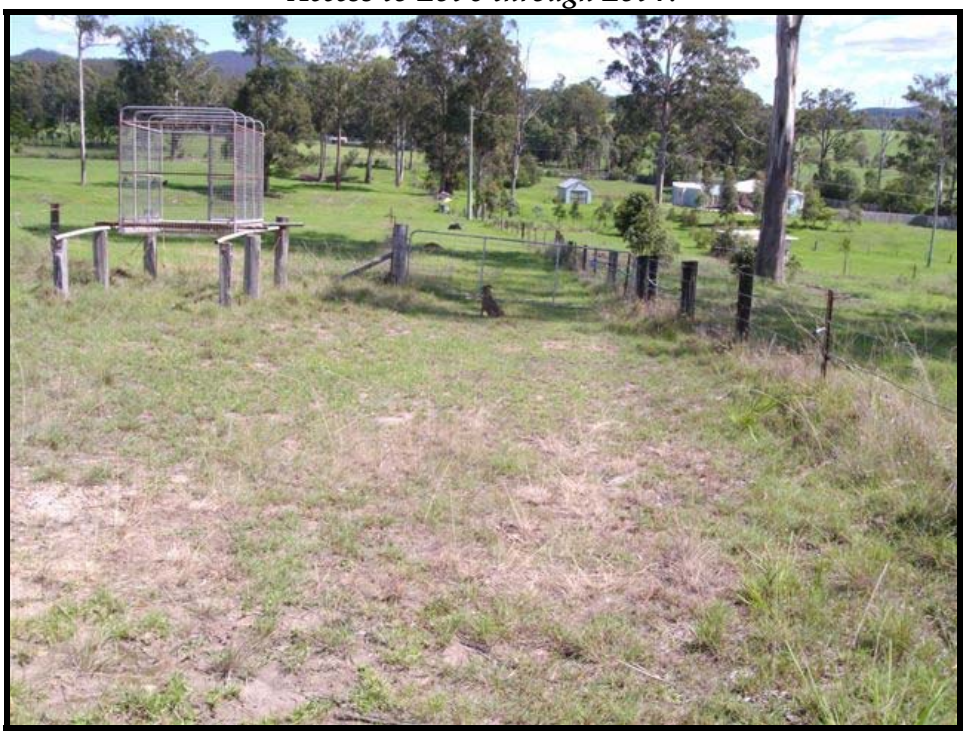
Looking south along site of proposed Public Road



Existing access to property & Proposed Public Road



Access to Lot 8 through Lot 7.



2.7 Contamination

7. Contamination

Section 2.8 (Soils and Contamination) of the EA does not satisfactorily address potential contamination issues associated with previous uses of the site. A Stage 1 – Preliminary Investigation should be undertaken in accordance with the *'Managing Land Contamination – Planning Guidelines – SEPP 55 – Remediation of Land (DUAP, 1998)'* to identify:

- Any past or present potentially contaminating activities;
- Provide a preliminary assessment of any site contamination; and
- If required, provide a basis for a more detailed investigation.

In order to fully address the concerns raised, we again engaged the services of external consultants, SEEC Morse McVey, to prepare a Stage 1 Contamination Investigation.

The findings of this onsite study are detailed in the subsequent assessment, being Appendix 3 of this report.

3.0 Southern Rivers Catchment Management Authority

3.1 Coastal Development Considerations

Coastal Development Considerations:

In accordance with the Southern Rivers Catchment Action Plan targets, it is assumed that the Environmental Assessment will demonstrate:

- consistency with NSW Coastal Policy, Wetlands Management Policy, Estuary Management Policy, State Rivers and Estuaries Policy and Coastal Design Guidelines for NSW (see attached details); and the Statement of Joint Intent from the Coastal Lakes Inquiry by the Healthy Rivers Commission
- an acceptable level of water quality protection with respect to water quality in Merimbula Lake.

To be consistent with the above points, Southern Rivers CMA considers it necessary that the assessment address:

- riparian zone buffering to the downstream SEPP 14 wetland demonstrating how the wetland will be protected (the wetland is an endangered ecological community under the Threatened Species Conservation Act);
- environmental management and mitigation measures to be utilised to avoid or mitigate any detrimental impacts on Merimbula Lake;
- performance monitoring durig development, including identification of triggers that will enable prevention of irreversible impacts to the marine ecology and adjacent wetlands;
- actions that will be taken should unacceptable impacts occur;
- potential impacts on water quality of surface and groundwater;
- existing and proposed capacity of sewerage infrastructure to accommodate the development;
- sediment and erosion control.
- Consideration of the NSW Oyster Industry Sustainable Aquaculture Strategy (OISAS), and the potential impacts of the development on oyster aquaculture in Merimbula Lake.

The issues raised by SRCMA generally relate to those matters covered by SEEC Morse McVey's Water Cycle Management Study, attached at Appendix 2 of this report. We believe this study adequately address the above concerns.

3.2 Water Quality Impacts and Merimbula Lake

Water quality impacts and Merimbula Lake:
Of particular question concerning water quality impacts on Merimbula Lake is the availability of suitable land for septic disposal with the constraints of drainage lines, steeper areas and the proposed lot size. The development proposal needs to provide details of development sites within each lot identifying: buildings, septic disposal, other asset protection, and recommended buffers from environmental assets such as drainage lines.

Attached as Appendix 1 of this report is a copy of the amended Proposal Plan for this development. This plan shows the intended building envelopes that comply with all Bega Valley Shire Council setbacks for rural dwellings. The areas shown are sufficiently large enough to accommodate a broad dwelling footprint on all proposed lots.

As a part of the Water Cycle Management Study undertaken by SEEC Morse McVey, a series of plans were also prepared and are attached to that report. Plan referenced WCMP01 shows the proposed location and size of the required effluent disposal areas for ach lot. The nominated effluent beds have been determined to be no less than 500m^2 and are required to be located at least 40m from the top of the banks of the existing watercourse.

SEEC Morse McVey have also shown on the above plan the nominated setbacks and buffer zones for the continued protection of the existing drainage line, which is further explained throughout their Water Cycle Management Study.

It should also be noted a further 15m buffer has been provided from the Core Riparian Zone to the proposed building envelopes to comply with the requirements of the NSW Rural Fire Service under the *Planning for Bushfire Protection Guidelines 2006.*

Therefore as shown on our plan (Appendix 1) and SEEC Morse McVey's plan WCMP01, each individual lot is sufficiently large enough in size to accommodate all required buffers, setbacks and restrictions, plus allows sufficient area for effluent disposal, whilst still providing a generous unencumbered building area for any future purchaser.

3.3 Riparian Corridor Management Objectives

Riparian Corridor Management Objectives:
It is recommended that the drainage line within the development area is managed to ensure the protection of water quality, the maintenance of soil stability and the enhancement of natural habitat. To achieve this, the actual drainage channel should be protected from further development and a riparian buffer zone established at least 20 metres on either side of the creek. This is also consistent with one of the very high priority management strategy listed in the Merimbula and Back Lake Estuary Management Plan, namely the requirement for vegetation corridors along streams and drainage paths.

As discussed above (2.2) a 20m Core Riparian Zone and an additional 10m vegetated buffer has been recommended for the site by SEEC Morse McVey and is shown on their plan WCMP01. The requirement of riparian buffers is further discussed in SEEC Morse McVey's Water Cycle Management Study.

3.4 Wetland and Endangered Ecological Community Protection

Wetland and endangered ecological community protection:
The proposed development drains into an area of significant wetland (SEPP14 Wetland) along the lake foreshore, which incorporates an endangered ecological community. It is important to ensure that the foreshore environment and quality of waters in Merimbula lake are not compromised. The protection of drainage lines in terms of stability and water quality is vital in achieving this.

The impact the proposed development may have on the identified SEPP 14 Wetland and Merimbula Lake has been the main focus of SEEC Morse McVey's Water Cycle Management Study, and is thoroughly assessed as a part of their report. Recommendations for the mitigation of the cumulative impact, along with suggestions for the ongoing protection of the foreshore and Merimbula Lake have been provided in the aforementioned study, (Appendix 2).

4.0 Department of Industry & Investment

4.1 Sewerage Management

Sewerage Management

The two main references that describe the design installation and management of on-site wastewater disposal systems in NSW are Environment and Health Protection Guidelines, On-site Sewerage Management for Single Households (Department of Local Government (DLG), 1998) and AS/NZS 1547:2000 On-site domestic–wastewater management.

It is noted that the *Site Analysis for Suitability of Onsite Wastewater Disposal* (Appendix 4 of EA) does not meet the minimum requirements for soil investigation for a new sub-division as described in Table 7 of DLG 1998.

Also, according to DLG 1998, when designing an irrigation system it is very important to consider the critical loading rates of the various components in the treated wastewater. The largest irrigation area calculated from considering the hydraulic, nutrient and organic loadings should be used. Appendix 4 of the EA considers hydraulic loading only and

should be revised to include a consideration of nutrient and organic loading. Appendix 6 of DLG 1998 describes the full method for estimating irrigation area size and wet weather storage requirements.

While the *Site Analysis for Suitability of Onsite Wastewater Disposal* (Appendix 4 of EA) concludes that the proposed allotments are large enough and suitable for onsite wastewater disposal, it is noted that the soils in the area become clayey at a relatively shallow depth. Clay soils typically have low permeabilities and the acceptable effluent loading rate may therefore be significantly less than the permeability test at the surface horizon suggests. The soil percolation tests and resulting permeability rates quoted in the EA should be checked to ensure that they are indicative of the soil capability at the depth the disposal pipes are located, i.e 250 mm. For example the assumed infiltration rate of 72 mm/hr (1.7 m/day) for Lots 2 – 7 is more typical of a sandy loam.

Given that the proposed subdivision is in the catchment of a Priority Oyster Aquaculture Area, I&I NSW recommends a highly conservative approach to the design and installation of the required on-site disposal systems. Use of conservative design loading rates from AS/NZS 1547:2000 are recommended.

The most critical issue relevant to the local oyster industry for the onsite treatment and disposal of sewerage, is the removal or inactivation of human pathogenic viruses and bacteria to protect the sanitary water quality of the downstream oyster growing areas. Although, AS/NZS 1547:2000 allows for higher design loading rates for the disposal of secondary treated effluent, the proximity of the proposed subdivision to Priority Oyster Aquaculture Area requires a consideration of the fate of viruses in effluent.

I&I NSW requests the proponent to demonstrate that the proposed on-site disposal systems will not result in any transport of virus from the site to the adjacent wetland, Boggy Creek or Merimbula Lake. In addition, diversion drains and soil berms should also be designed and specified in the EA so that they can be installed as part of each system.

In addition to the buffer distances given in Section 2.4 of Appendix 4 of the EA I&I NSW notes that the following apply:

- 100 metres to permanent surface waters (eg river, streams, lakes etc)
- 250 metres to domestic groundwater well
- 40 metres to other waters (eg farm dams, intermittent waterways and drainage channels, etc)

It is noted that the planting of native species along the gully within the area is recommended (page 38 of EA), I&I NSW recommends that this action be made a condition of any consent should the project be approved. Riparian vegetation can greatly assist in reducing the amount of sediment and nutrients reaching local waterways.

The Onsite Sewerage Management Report originally submitted in support of this development was the subject of concern raised by various departments and as such was determined to be outdated given the changes to Bega Valley Shire Councils Development Control Plan 5 in 2008.

As such, as a part of SEEC Morse McVey's Water Cycle Management Study, (Appendix 2), a new Onsite Wastewater Management Assessment was undertaken. This assessment now provides up to date recommendations for treatment systems, effluent disposal areas and the ongoing management onsite.

4.2 Stormwater Water Quality Management

Stormwater and Water Quality Management
The proposed subdivision has the potential to result in an intensification of land use through the establishment of a number of hobby farms and/or part-time rural activities. New residents need to develop the skills necessary to manage land within its capability in order to avoid denuded or overstocked areas that lead to runoff high in sediment and animal faeces and a subsequent decline in water quality in local waterways/wetlands and Merimbula Lake. A guide aimed at providing rural landholders and planners with relevant information can be obtained at;
http://www.dpi.nsw.gov.au/research/alliances/centre_for_coastal_agricultural_landscapes/living-and-working-in-rural-areas

I&I NSW recommends that any approval of the proposal mandates the use of best practice water sensitive urban design in the development of all allotments, with particular emphasis on stormwater capture and treatment prior to discharge from each allotment. Additionally, a comprehensive erosion and sediment control plan should be prepared prior to the commencement of ground disturbing works in each allotment.

Concerns raised above are again addressed as a part of SEEC Morse McVey's Water Cycle Management Study, (Appendix 2).

5.0 NSW Rural Fire Service

The NSW Rural Fire Service raised no issues in regards to the proposed development, however provided recommendations for compliance with the *Planning for Bushfire Protection Guidelines 2006*.

5.1 Inner Protection Zones

1. At the commencement of building works and in perpetuity the property around the existing dwelling to a distance of 10 metres or to the property boundary, shall be maintained as an inner protection area (IPA) as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for asset protection zones'.

In accordance with this recommendation, a buffer zone of 20m has been created around each individual proposed building envelope. An additional Positive Covenant on the Certificate of Title will be created via Section 88B Instrument enforcing this inner protection area (IPA) in perpetuity.

5.2 Access

2. Public road access shall comply with section 4.1.3 (1) of 'Planning for Bush Fire Protection 2006'.

Access within the subdivision would similarly be required (by Council) to be of a standard that would comply with the *Planning for Bushfire Protection Guidelines* (in accordance with their guidelines for rural property access under DCP 2).

6.0 Bega Valley Shire Council

6.1 Onsite Effluent Disposal

Onsite effluent disposal

The assessment provided by C D Watts & Associates, dated 20 April 2005, does not comply with the provisions of Councils Development Control Plan No. 5 – Onsite Sewage Management (May 2008), Councils adopted Onsite Sewage Management Policy 4.3.1, or Australian Standard 1547:2000.

In particular the percolation rate has been evaluated using a method that the standard no longer supports.

In addition, there is no water or nutrient balances provided.

Further, future dwellings should be able to connect to a standard septic tank as the minimum standard, not Aerated Wastewater Treatment Systems.

As discussed earlier in this preferred project report (3.1), a separate wastewater management assessment was undertaken as a part of SEEC Morse McVey's Water Cycle Management Study, (Appendix 2). The subsequent suggestions and recommendations are provided at Section 12.4 of this study.

6.2 State Environmental Planning Policy 62 – Sustainable Aquaculture

State Environmental Planning Policy 62 – Sustainable Aquaculture

The proponent has not considered the cumulative impact from the proposed development on the defined oyster growing catchment in which the development site is located. Council considers that the proponent must provide a cumulative impact assessment based on a full development scenario of 22 dwellings on the site (as 2 dwellings per allotment are permitted in the 1(c) zone under the provisions of the Bega Valley Local Environmental Plan 2002).

This assessment should be considered in the context of the current nutrient loads within the catchment and should consider a full development scenario within the catchment generally.

The cumulative impact of this development on the SEPP 14 Wetland has been assessed as a part of SEEC Morse McVey's Water Cycle Management Study. Their methodology and recommendations are detailed throughout that study.

It should however be noted that the study was conducted based on the scenario of 1 dwelling per allotment. The individual allotments, although providing generous building envelopes for single dwellings, are not suitable for dual occupancy type developments, due to their size and orientation. Although the current planning controls may allow for such a development on each lot, the individual site constraints will prohibit this.

It is unlikely that any additional applications to Council for a second dwelling would be approved and as such the assessment of this scenario was considered unnecessary. Additional restrictions on the site can be placed, limiting the dwelling potential to one per new lot, if deemed to be required.

6.3 Compliance with DCP 2

Compliance with Development Control Plan No. 2 – Subdivision

The subdivision design does not comply with the provisions of Clause 11 of DCP 2.

The subdivision as submitted proposes access to Proposed Lot 8-11 via a right-of-carriageway off Boggy Creek Road. This existing right-of-carriageway (created in DP 617256 and DP 830864) currently services Lot 1751 DP 617256, Lot 30 & 31 DP 830864 and Lot 32 & 33 DP 841196. The subject land is burdened but not benefited by these rights-of-carriageway.

Further, DCP 2 only permits up to four allotments in the 1(c) zone to be serviced via a right-of-carriageway. The existing right-of-carriageway has therefore exceeded its service capability and if further development is to be accessed from this access road, the road would need to be upgraded and dedicated as a public road.

As the applicant does not own the portion of land fronting Boggy Creek Road (being Lot 21 DP 1064790) the access road cannot be dedicated as public road without the consent of all owners.

During the process of preparing this application with Department of Planning, Bega Valley Shire Council made significant changes to their Development Control Plan 2 in relation to access standards and their servicing capabilities.

As such, a re-design of the proposed access roads has been undertaken. The amended access configuration is believed to now comply with the requirements of DCP 2, as discussed earlier (1.1), and is shown on the proposal plan attached as Appendix 1.

6.5 Asset Protection Zones and Bushfire Risk

Asset Protection Zones and Bushfire Risk

Concern is raised in relation to the construction of future dwellings on Proposed Lot 2 and 3. Council seeks assurance from the NSW Rural Fire Service that future dwellings on these lots will be permitted to be constructed to Level 2 or 3 Construction in accordance with Australian Standard 3959. Otherwise larger asset protection zones will be required which would result in a redesign of these two allotments.

A redesign of the proposed lot layout has been undertaken and is attached as Appendix 1 to this report. The new lots allow for 20m buffers around each building envelope, as required in the NSW Rural Fire Service recommendations. No further assessment of this concern has been undertaken, as it is considered that the development complies with the RFS guidelines.

7.0 Department of Environment, Climate Change & Water

7.1 Water Quality Impacts

Water Quality impacts of the project

The EA proposes that each lot will have its own on-site treatment system for sewage and wastewater. The systems recommended for the site include a subsurface irrigation system and as yet unidentified treatment infrastructure. DECCW does not support the proposal to treat sewage onsite for the following reasons:

1. The close proximity of reticulated sewerage to the site (approximately 2km to the new Acacia Ponds Sewage Pump Station);
2. The close proximity of the Merimbula Sewage Treatment Plant; and
3. The close proximity of streams, waterways, wetlands and Endangered Ecological Communities (EECs), and the potential for significant impact on these ecosystems by increased nutrient loading from effluent treatment located onsite.

Accordingly, DECCW recommends that the proponent investigate connection to the Merimbula reticulated sewerage system. Alternately, the proponent must demonstrate that the treatment of sewage on site presents the best environmental outcome and fully justify any offsite impacts. Particularly, the proponent must demonstrate that nutrients released by on-site sewage disposal will not migrate off site to impact on waters, wetlands and EECs.

Additionally, the EA does not predict the impact of the proposal on waters. This should be undertaken considering the impact of the proposal on Water Quality Objectives for each stream or water body to be impacted, along with the capacity of any wetlands and EECs to receive runoff from the development. Water Quality and River Flow Objectives for New South Wales can be viewed at http://www.environment.nsw.gov.au/ieo/index.htm .

The ecosystems in particular the Swamp Oak flood plain forest and the Coastal salt marsh, which occur downstream from the development site, are considered to be highly sensitive ecosystems which can be impacted by changes both in water quality and quantity. The methods of stormwater treatment proposed for this development are considered to be inappropriate for a receiving environment which is highly sensitive. There should be no change in the hydrological regime of overland flow from the development and no change in the amount and quality of water which is being released into the receiving environment.

As requested by DECCW, investigations were undertaken into the feasibility of extending the current Council sewerage reticulation to service the site. This returned a negative response from Council, as they would not allow further connections into the current reticulation, as the capacity for demand on the Merimbula Sewerage plant is already under strain.

The cost of this extension was also researched and the advice given was that an extension of the required length would not be financially viable for such a small-scale development.

On the basis of this advice, SEEC Morse McVey carried out an additional wastewater management study as a part of the Water Cycle Management Study attached as Appendix 2. This study also addresses the remainder of the concerns raised by DECCW above.

7.2 Sediment and Erosion Control

Sediment and Erosion Control

The EA makes reference to the 1998, 3e version of *Managing Urban Stormwater: Soils & Construction*. This is a different version to the current version (specified in the DNR EARs), being *Managing Urban Stormwater: Soils & Construction*, 4e (Landcom 2004, "the guidelines").

The intended access arrangements for the subdivision during construction and final use are unclear. The proponent should note that DECCW does not support the use of a low-level crossing for construction phase or permanent access to the subdivision where other options exist, due to the potential for pollution of waters by vehicles. Any proposed crossing should be fully justified in the context of impacts on water quality and EECs, as described above under 'Water Quality impacts of the project'. All access roads and tracks should be designed and built in accordance with the guidelines, particularly Volume 2C *Unsealed Roads* available from http://www.environment.nsw.gov.au/resources/stormwater/0802soilsconststorm2c.pdf .

DECCW does not consider that the proposed construction sediment controls are sufficient to protect water quality, and considers that the following should be built into a revised Erosion and Sediment Control Plan:

- Appropriately sized and constructed sediment ponds, which may be reused as dams following the construction phase of the project;
- Bunding to divert clean water from all disturbed areas; and
- Any other measures required to prevent pollution of waters and demonstrate compliance with the guidelines and best practice.

DECCW does not support the installation of in-stream treatment measures, except where these measures are specifically designed to restore the stream to a more natural (i.e. pre-settlement) state in accordance with the guidelines and best practice.

As a part of SEEC Morse McVey's Water Cycle Management Study, an assessment of the likely affects the construction stage of the development will have on the existing watercourse and downstream wetlands was undertaken. The recommendations of this assessment are provided in the above study, along with a plan showing the necessary steps for the affective management of soil and water control (SWMP01).

7.3 Aboriginal Cultural Heritage

Aboriginal Cultural Heritage

The EA has not provided sufficient assessment of Aboriginal Cultural Heritage values which may be impacted by the proposal. Particularly, an Aboriginal Cultural Heritage Assessment does not appear to have been undertaken by an independent archaeologist. DECC mapping (Attachment B) shows a number of known Aboriginal artefacts located close to the subject site, and DECCW therefore considers that artefacts are likely occur on the subject site.

The proponent should address and document the information requirements set out in the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC 2005). This should include an independent archaeological assessment according to the *Aboriginal Cultural Heritage Standards and Guidelines Kit* (NPWS 1997) and clearly demonstrate effective consultation with the Aboriginal community following the *Interim Aboriginal Community Consultation Requirements for Applicants* (DEC 2004).

The assessment and consultation should identify the nature and extent of impacts on Aboriginal cultural heritage values across the study area; the extent and significance of each Aboriginal site and value located; formulate actions to mitigate impacts on Aboriginal cultural heritage values in association with the Aboriginal communities; and develop long term management recommendations for the Aboriginal cultural values located in the study area. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

The EA needs to clearly demonstrate that effective community consultation with Aboriginal communities has been undertaken in determining and assessing impacts, developing options and making final recommendations

A copy of the archaeological report and Aboriginal community consultation should be provided to DECCW for comment and assessment.

Following the issues raised by DECCW above, this firm engaged the services of NGH Environmental to conduct a study of the site and prepare an Aboriginal Archaeological Assessment in accordance with the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation*. As such, a copy of this assessment is attached as Appendix 4 of this report.

7.4 Offsite Impacts

Offsite Impacts

The EA has not demonstrated that pollutant loadings resulting from the proposed final form of the subdivision will be sufficiently low to protect waters and the nearby EECs. No modelling of pollutant loadings appears to have been undertaken.

The proponent must demonstrate that pollutant loadings in discharged stormwater are sufficiently low for discharge into creek waters and Merimbula Lake, and that these loadings will not impact on EECs. This may be done through MUSIC (eWater Cooperative Research Centre) or similar urban stormwater modelling.

The EA does not provide adequate reasoning for not providing a buffer to the creek running through the subdivision to protect water quality leaving the site. Additionally, all construction sediment control measures appear to be placed either in-stream or close to the bank. This approach is inconsistent with the guidelines contained in Landcom (2004, "the guidelines").

The proponent must provide a riparian buffer of at least 20m from the edge of the creek bank in order to protect water quality in the creek and downstream. This buffer zone should be managed to protect stream water quality and biodiversity of the area, including planting with suitable local native plant species. Sediment and erosion control should be designed with a focus on treating water before it enters the drainage channel, rather than after. Any structures to be placed within the riparian buffer should be designed to mimic the pre-settlement condition of the drainage feature, in accordance with the guidelines.

A map indicating known occurrences of Aboriginal Cultural Heritage, EECs and other features is provided at Attachment A to assist in understanding the potential impacts of the project.

It is considered the issues raised above are sufficiently addressed as a part of SEEC Morse McVey's Water Cycle Management Study (Appendix 2).

8.0 NSW Office of Water

8.1 Protection of the Watercourses and Riparian Land

Protection of the watercourses and riparian land

The NSW Office of Water (NOW) has undertaken desk top mapping and classification of the watercourse on the subject land using the Riparian Corridor Objective Setting (RCOS) stream categorisation methodology to identify minimum riparian corridor widths.

The RCOS stream classification uses three categories which reflect the environmental significance of watercourses. The minimum widths to achieve the riparian categories are as follows:

- Category 1 – Environmental Corridor (Red):
  - Purpose: to protect and enhance ecological connectivity between key remnant native vegetation.
  - Minimum width : a CRZ width of **40 metres** (measured from the top of bank) along both sides of the watercourse **+ a 10 metre** vegetated buffer
- Category 2 – Terrestrial and Aquatic Habitat (Green):
  - Purpose: to provide for a viable and robust node or reach of riparian habitat (both aquatic and terrestrial).
  - This habitat does not necessarily provide connectivity to other key remnant native vegetation due to constraints from existing development.
  - Minimum width: a CRZ width of **20 metres** (measured from the top of bank) along both sides of the watercourse **+ a 10 metre** vegetated buffer.
- Category 3 – Bank Stability and Water Quality (Blue):
  - Category 3 recognises the critical role of riparian vegetation for stabilising the bed and banks of watercourses and filtering catchment run-off and the contribution this makes to overall catchment health and retention of land (eg protection of property and assets).
  - Minimum width: a CRZ width of **10 metres** (measured from the top of bank) along both sides of the watercourse (generally no buffer is required).

Note: Category 1 and 2 watercourses comprise two distinct zones (the CRZ and VB). Category 3 watercourses are only required to comprise a CRZ. The CRZ is the land contained adjacent to (and including within) the channel of the watercourse. A VB is that part of the riparian corridor that is outside the CRZ.

Please note, the above riparian widths are minimum widths and opportunities for achieving greater corridor widths are encouraged. Additional width may be required for geomorphological and environmental considerations (eg to protect and enhance remnant native vegetation adjacent to the riparian corridor and biodiversity). The riparian corridors should be protected and/or enhanced with native riparian vegetation.

The requirements detailed above have now been included as a part of the amended lot layout (Appendix 1). SEEC Morse McVey have also assessed the issues raised and have incorporated the buffers into their plan WCMP01, which forms part of the Water Cycle Management Study, (Appendix 2).

8.2 Surface Water & Groundwater

Surface Water and Groundwater

The Office of Water is responsible for administering the Water Act 1912, which manages and regulates the use of surface water and groundwater resources.

The EA does not provide adequate details to assess any water licensing requirements under the Water Act 1912. As a base requirement the Office of Water requires the location and capacity of existing structures including the year of their construction and proposed capacity and location of any new proposed structures.

A surface water embargo exists for all streams located in the South Coast area of operations for surface water diversions for commercial activity. There are exemption categories in the embargo and a copy of the 2007 South Coast embargo notice is attached which outlines the exemption clauses.

A groundwater embargo also exists for subsurface water licences. There are exemption categories in the embargo and a copy of the 2008 embargo notice is attached which outlines the exemption clauses.

Again, we believe the above issues have been adequately addressed as a part of SEEC Morse McVey's Water Cycle Management Study (Appendix 2).

8.3 Water Supply

Water Supply

The source/availability of a sustainable water supply for this proposal is an issue of **high importance** and it needs to be dealt with **prior to consent being determined**.

The EA indicates no sewer is available to the site and the area lies outside the town water reticulation network. The Office of Water recommends that the subject site is connected to reticulated town water and sewerage. This provides a more secure (quality and quantity), reliable and manageable water supply and reduces the stress on local surface and ground water resources.

If reticulated town water supply is not an option, it needs to be demonstrated that each new allotment will have a sustainable water supply with minimal reliance on accessing valuable surface and groundwater resources (ie the use of tank storage and harvesting roof runoff). The EA currently notes that stormwater runoff generated from roofed and paved areas will be discharged onto the allotment in a controlled manner and flow overland to existing drainage channels/gullies (page 40).

The issue regarding reticulated sewer was also raised by the Department of Environment, Climate Change & Water and is discussed at point 6.1 of this report. This request for the extension of the existing Council reticulation is neither accepted by Bega Valley Shire Council nor financially viable to the developer. As such, an Onsite Sewerage Management Assessment was undertaken by SEEC Morse McVey and their findings and recommendations are outlined as a part of the Water Cycle Management Study, (Appendix 2).

In addition, Bega Valley Shire Councils Development Control Plan 10 "*Rural Water Supply Areas*" was developed and adopted by Council in November 2002. This DCP was created in order to delineate rural areas where water supply can be economically provided and not create additional burden on ratepayers. Map 6 of this DCP refers specifically to the Millingandi precinct and shows the subject property to be outside Councils nominated area for supply. As such, the departments request for reticulated water supply is not achievable.

Accordingly; SEEC Morse McVey undertook an assessment of the likely water demand for new houses and have included their findings as a part of the Water Cycle Management Study, (Appendix 2).

8.4 Harvestable Rights

Harvestable Rights – water supply options

Section 1.2.1 of the EA refers to three existing dams on the site and notes that the client is in the process of constructing two additional dams (page 15) and the EA also states there would be ample room on each of the remaining lots to provide at least one dam. Please note, existing stock and domestic dams constructed prior to the 1st of January 1999 do not require a licence under the Water Act 1912 if their capacity exceeds the harvestable right. However, when the use of these dams changes to a town water supply (ie supplying water to more than one lot) then a water licence would be required for each dam.

Water supply options for the site include the use of harvestable right dams under the Harvestable Rights.

The Office of Water's Farm Dams Assessment Guide provides details on Harvestable Rights and the calculation of the Maximum Harvestable Right Dam capacity (MHRDC).

Following the advice provided above, a re-evaluation of the existing and proposed dams was undertaken. It was determined that the additional dams previously proposed should be removed from the plan. During the preparation of the Water Cycle Management Study and subsequent Onsite Sewerage Management Assessment, it was determined that the new lots were not large enough to contain both the effluent management beds and an additional dam site.

The harvestable right issue was also explored and as a result, the development now does not propose any additional dams and the existing dam on Lot 4 will also be removed. As such, the site will only retain the 2 existing dams on Lots 1 & 8, which were constructed prior to 1999 and therefore should not necessitate any further licensing requirements.

8.5 Basic Landholder Rights

Basic Landholder Rights

The Office of Water is concerned that the proposed subdivision will permit dwelling houses with direct frontage to the watercourse and could result in the creation of new Basic Landholder Rights (BLRs).

The *Water Management Act 2000* identifies BLRs for access to water whereby landholders over an aquifer, or with river or lake frontage, can access water for domestic (household) purposes or to water stock, without the need for a water access licence (although a works approval may still be required for bore construction or to construct a dam). Where riparian frontage continues to be subdivided, creating new basic rights for water extraction, there is the potential to impact significantly and inequitably on existing water users including the environment.

Any proliferation and concentration of dwelling houses in a relatively small geographical area that potentially could take a domestic water supply from a water source will increase the demand and use of water resources, effect other users of the resource including the environment and contribute to declining river health (for eg decline in aquatic habitat, geomorphic stability, water quality and riparian areas etc) unless properly managed.

The proposal must not result in the creation of new BLRs along the frontage of the watercourse or over any vulnerable aquifers. Any pattern of subdivision must not increase lot frontage to the watercourse.

Innovative subdivision design is required for the site which allows for the creation of additional lots without direct frontage to the watercourse and utilises collective or community title to manage waterfront ownership.

The issue of additional basic landholder rights is not considered applicable in this instance. The intermittent watercourse that currently traverses the site is not considered to be substantial enough to be relied upon for the supply of water to any new lot. For the majority of the year this watercourse is a dry swale, which does not hold water and will only flow in major storm events. It has been observed that any water captured during a storm event has generally disappeared within the next 24 hours.

Together with the restrictions placed on each lot and the riparian and vegetated buffers, it is considered that the role of this watercourse will be well protected and is not used for the provision of water downstream.

9.0 Public Submissions

9.1 Infrastructure

1. Infrastructure

- Clarification on whether proposed services to lots will be underground.

As discussed at point 1.5 of this report, the final decision of how the site will be serviced, will be determined by the electrical contractors, (most likely Country Energy), at the time of construction. Unfortunately at this stage our developer is unable to confirm underground provision. It should also be noted that Department of Planning have previously advised that overhead reticulation would be acceptable to service this site.

9.2 Subdivision Design

2. Subdivision Design

- Concerns with the potential for proposed lots to overlook existing properties to the north of the site (along Boggy Creek Road). This issue could be alleviated with appropriate landscaping and screening along the natural watercourse of the proposed development and along the northern boundary of the development (Lot 7 and 8).
- Requests the relocation one of the blocks (e.g proposed Lot 5 or 6) to be relocated at the entrance of the development in front of the existing house to create a streetscape of smaller lots on Millingandi Road.

As discussed throughout this report, the existing watercourse will now be landscaped to ensure both privacy and its ongoing protection. SEEC Morse McVey have provided a general landscape plan showing the species of trees to be planted and their density as a part of their Water Cycle Management Study.

The request for the relocation of a lot to the north of the current dwelling (Lot 1) is not feasible due to the number of existing easements already burdening the site. As a result of these easements there would not be sufficient area for the erection of a dwelling in this location. This issue is considered not applicable and the re-design of the existing proposal should mitigate any privacy concerns any adjoining owners may have.

9.3 Stormwater

3. Stormwater

- Confirmation on whether there will be additional stormwater runoff on properties directly to the north of the site (adjoining proposed Lots 7 and 8).
- Concern with potential loss of ground cover and disturbance to soils as a result of proposed uses on small land holdings. This in turn leads to increased movement of soil, nutrients and biological contaminants into the drainage system, with a real potential to be harmful to the aquatic environment.

This matter is adequately addressed throughout SEEC Morse McVey's Water Cycle Management Study, (Appendix 2).

9.4 Geotechnical and Soils

4. Geotechnical and Soils

- Reference made to Section 2.1.1 of the Environmental Assessment which states that yp and ypa "Yellow Pinch" soil type is "by description, such soils are not readily erodible and allow percolation of surface flow". This description is very misleading and inaccurate. In the 'Soil Landscapes of the Bega - Goalen Point 1:100 000 Sheet' (Tuleau, 1997) (Appendix 4) the Yellow Pinch soil landscape is generally identified as being "shallow soils...non-cohesive soils...subject to mass movement hazard...minor to moderately severe (sheet) erosion hazard". The erosion hazard for urban development on the Yellow Pinch soil landscape is described as high to very high. The aluminium toxicity potential is high to very high. The soil acidity hazard ranges from very strongly acid to extremely acid.
- As such, concern raised with the sediment deposition and leaching of acid, aluminium and other nutrients into an oyster-producing estuary which can have a devastating affect on oyster production. These problems have been experienced in Merimbula Lake on numerous occasions before the true nature of the Yellow Pinch soil landscape was identified. Swift (1989) noted "Urbanisation is taking place on the steep slopes north of Merimbula Lake where heavy rain in 1989 resulted in major erosion and siltation problems throughout the subdivision and into the lake itself" (Tuleau, 1997). Merimbula Lake oyster farmers noted a 66% drop in production on affected growing areas. This was a direct result of Yellow Pinch soil landscape disturbance and movement, and causing sediment deposition in the lake, along with increased acid and aluminium levels in the water. For problems to occur sediment does not need to reach the lake as storm water runoff will effectively carry the dissolved contaminants, nutrients and elements.

Again, this matter is considered to have been satisfactorily addressed as a part of SEEC Morse McVey's Water Cycle Management Study.

9.5 Road Design

5. Road Design

- Appears to be a lack of design criteria and information on the proposed low-level access crossing to Lots 8,9,10 and 11.

Following the approval of this subdivision and the receipt of a development consent, an application for Construction Certificate will be applied for. As part of that application, Road and Low Level Crossing Designs will prepared by a suitably qualified professional and in accordance with the requirements of Bega Valley Shire Council and DWE Guidelines for Controlled Activities Watercourse Crossings.

9.6 Social Impact

6. Social Impact

- There is no statement regarding the social impact that the proposal may have on ongoing farming operations by adjoining landowners to the west and north. These landowners will have issues with the potential of having domestic dogs affecting their stock activities i.e. lambing and calving. There is also the issue of noise from normal farming operations.

The area within which this subject land is contained, is not considered a long term "farming area" and has been nominated by Council as Rural Residential (small holdings) precinct. It is also understood these landowners have proposals to subdivide under the provisions of the Planning Scheme. The type and nature of this development is also considered to be in character and keeping with the recommendations of Councils recent Merimbula Area study.

That study identifies the Millingandi area as being considered a growth area for the Shire, which is further supported by the recent approvals of similar size subdivisions of nearby properties and the vast expansion of the Bald Hills Rural Residential area. The developer has opted for lot areas of larger than Councils minimum lot size for this zoning (5000m^2), to reduce any further impact on the current environment.

The possible issue of increased domestic problems is viewed as part of the changing social nature of the neighbourhood and not limited to this particular proposal.

9.7 Impact on Oyster Industry

7. Impact on Oyster Industry

- There appears to be no reference to the New South Wales Oyster Industry Sustainable Aquaculture Strategy, 2006 (OISAS) in the formulation of the Subdivision proposal.

This issue has been suitably addressed as a part of SEEC Morse McVey's Water Cycle Management Study.

10.0 Conclusion

As a result of the submissions received during the exhibition of the Environmental Assessment (EA) prepared in support of this development, numerous design changes have occurred and additional restrictions placed on the land.

The Water Cycle Management Study prepared by SEEC Morse McVey and Aboriginal Archaeological Assessment prepared by NGH Environmental commissioned by this office, along with this preferred Project Report, conclude that the development now addresses all issues raised by the various government agencies and general public.

As a result of the above studies, it is considered the development will have a neutral or beneficial effect on the downstream SEPP 14 Wetlands and will therefore have nil effect on the existing oyster farms within Merimbula Lake. The existing watercourse will receive improved protection by the ongoing re-vegetation/rehabilitations enhanced by the Riparian Buffer and Core Riparian Zone to be implemented as a part of the subdivision.

As such, it is our opinion based on the external reports, that the proposed development complies with all Local and State Planning Policies, and 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.

11.0 Statement

I certify the validity and accuracy of this Environmental Assessment and that of the contents of this report to the best of my knowledge, are neither false nor misleading.

Report prepared by: Bree-anna O'Brien

12.0 Appendices

1. Subdivision Proposal Plan
2. SEEC Morse McVey Water Cycle Management Study
3. SEEC Morse McVey Preliminary (Stage 1) Contamination Assessment
4. Aboriginal Archaeological Assessment