



TOWN PLANNING
AND URBAN DESIGN

MP 06 0147

**PREFERRED PROJECT REPORT
and RESPONSE TO SUBMISSIONS.**

**Proposed 7 Lot Rural Subdivision and
Boundary Adjustment at Lot 14 DP 750222
and Lot B 33573, off Ivor Jones Drive,
Wonboyn Lake, NSW.**

for Picnic Point Pty Ltd

9 July 2010

PROJECT NO: 206.064

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EXECUTIVE SUMMARY

This project application under the provisions of Part 3A of the *Environmental Planning and Assessment Act 1979 (EP&A Act)* relates to the proposed 7 lot rural subdivision and boundary adjustment at Lot 14 DP 750222 and Lot B 33573 off Ivor Jones Drive, Wonboyn Lake, NSW.

Project Application under Part 3A of the EP & A Act 1979 (ref MP No.06-0147)

A Clause 6 request and Preliminary Assessment was lodged with the Department of Planning (DoP) in April 2006, under Part 3A of the *EP & A Act 1979*.

The Minister declared the proposed development to be a project for which Part 3A applies for the purposes of Section 75B of the *EP&A Act 1979*. On the same day 16 June 2006 the Minister authorised a project application pursuant to section 75M of the *EP&A Act 1979*.

Director General's Environmental Assessment Requirements (DGEARs) were issued for application ref *MP No.06-0147* in August 2006 and most recently in March 2009.

Environmental Assessment (EA)

This project application Environmental Assessment (EA) was prepared in response to and in compliance with those DGEARs. The EA was publicly exhibited from 2 October 2009 until 3 November 2009.

Following the exhibition, letters were received from the Department of Planning dated 11th and 27th November 2009. These letters contained submissions from:

- The Department of Planning ("DoP")
- Bega Valley Shire Council ("the Council"),
- Department of Environment, Climate Change and Water ("DECCW"),
- NSW Rural Fire Service ("RFS"),
- Department of Environment, Climate Change and Water – NSW Office of Water ("NOW"). and
- Department of Industry and Investment (Division of Primary Industries, Fisheries, Conservation and Aquaculture").

In addition, 2 public submissions were received in support of the proposal from Ken and Barbara Holder and Peter Ashton.

Preferred Project Report and Response to Submissions

This preferred project report has been prepared to describe and address the minor changes to the proposed access road (to minimise potential impact on "hollow-bearing"



trees) and other requested details of the proposal. This report also includes a response to all submissions and **a revised statement of commitments.**

Structure of this Report

To ease the assessment process, this report has been structured to follow, and respond to the issues of concern raised by the Department (Attachment 1 of the DoP 27/11/2009 letter) together with concerns raised in the additional submissions received from agencies, (Attachment 2 of the DoP 27/11/2009 and 11/11/2009 letters). **Table 1** below summarises the key issues raised by the Department and where these issues are addressed in this report.

For completeness, and as a background reference, a copy of all submissions are included as **Appendix A.**

Table 1: Response to Issues of Concern from the Department of Planning

Department of Planning Key Issues	Section of this Report
1 – Flora and Fauna	Section 2 and Appendix C (Lesryk Environmental)
a) Inadequate Surveys	Section 2.1
(i) power line and fire trails	
(ii) Core Koala Habitat	
(iii) Ground dwelling fauna	
(iv) Extent of Surveying	
b) hollow bearing trees assessment	Section 2.2
c) Glider trees and Black Cockatoo Feed Trees	Section 2.3
d) clearing of native vegetation	Section 2.4
(i) proportion of retained vegetation	
(ii) Map to illustrate clearing	
(iii) Clearing for roads	
e) Part 3A Guidelines for Threatened Species Assessment	Section 2.5
f) Ecological Constraints	Section 2.6
g) Restrictions to conserve EEC	Section 2.7
2 – Water Cycle Management	Section 3 and Appendix D (SEEC)
a) On site effluent disposal	Section 3.1
(i) Bega Valley DCP No 5 Compliance Table	Section 3.1.1
(ii) Criterion for site & soil assessment	Section 3.1.2
(iii) Detailed Assessment re AS 1547	Section 3.1.3
(iv) Slope of proposed Lot 5	Section 3.1.4
(v) Scaled Plan of EMAs	Section 3.1.5
(vi) 1000l/day per lot base load figure	Section 3.1.6
(vii) details of maintenance requirements for onsite effluent disposal systems.	Section 3.1.7
DECCW, BSC, I&I concerns	Section 3.1.8
b) Stormwater	Section 3.2
(i) DCP 36	Section 3.2.1
(ii) all existing catchments	Section 3.2.2
(iii) plans to depict stormwater treatment train	Section 3.2.3



Department of Planning Key Issues	Section of this Report
(iv) pre and post development flows	Section 3.2.4
DECCW, BSC, I&I concerns	Section 3.2.5
c) Flooding	Section 3.3
Details of the main road flooded	
d) Water Supply	Section 3.4
Justify sustainable water supply	Section 3.4.1
Location of water tanks.	Section 3.4.2
NOW and RFS concerns	Section 3.4.3
3 – Impact on Oyster Leases	Section 4
SEPP No 62 Assessment	Section 4.2
NSW Oyster Industry Sustainable Aquaculture Strategy assessment	Section 4.3
DECCW, BSC, I&I concerns	Section 4.4
4 – Traffic and Access	Section 5 and Appendix E (R W Surveying and Valuations)
Traffic Report in accordance with DCP 2	
(i) Public Road (if more than 5 lots)	Section 5.2
(ii) Passing Bays internal and external – further clarification & justification	Section 5.3
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Outside of Class 1 or 2 agricultural lands?	
NSW Agricultural Land System	Section 7.2
7 – Bushfire	Section 8 and Appendix E
Amended Bushfire Report required	Section 8.1
(i) Asset Protection Zones	Section 8.2
(ii) Water Supply	Section 8.3
(iii) Access	Section 8.4
8 – Subdivision and Restrictions	Section 9
(i) Residual Lot	Section 9.2
(ii) Building Envelopes	Section 9.3
(iii) Core riparian Zones	Section 9.4
(iv) Setbacks	Section 9.5
(v) Restrictions	Section 9.6
	Section 10 – Revised Statement of Commitments
Attachment 2	
Department of Environment, Climate Change and Water (DECCW)	Water Quality – Section 3 / Appendix D Sediment and Erosion – Section 3 / Appendix D EECs – Section 2 / Appendix C



Department of Planning Key Issues	Section of this Report
	Threatened Species - Section 2.5 / Appendix C
NSW Rural Fire Service (RFS)	Bushfire Protection - Section 8 / Appendix E
Bega Valley Shire Council (BVSC)	Oysters – Section 4 Sewage management – Section 3.1 / Appendix D Road access – Section 5 / Appendix E The foreshore/CRZ – Section 9.3 / Appendix 2 Residual lot – Section 9.1 / Appendix E.
DECCW (NSW Office of Water)	Riparian land – Water supply -
Department of Industry and Investment (Division of Primary Industries, Fisheries Conservation and Aquaculture).(I&I)	SEPP 62 – Section 4.2 / Appendix D Water Cycle – Section 3 / Appendix D MUSIC modelling – Section 3 / Appendix D Oysters – Section 4
	Appendix A – Summary of all submissions



1. INTRODUCTION

This project application under the provisions of Part 3A of the *Environmental Planning and Assessment Act 1979 (EP&A Act)* relates to the proposed 7 lot rural subdivision and boundary adjustment at Lot 14 DP 750222 and Lot B 33573 off Ivor Jones Drive, Wonboyn Lake, NSW.

Director General's Environmental Assessment Requirements (DGEARs) were issued for application ref *MP No.06-0147* on August 2006 and most recently in March 2009. The project application Environmental Assessment (EA) was prepared in response to and in compliance with those DGEARs. The EA was publicly exhibited from 2 October 2009 until 3 November 2009. A summary of all submissions following the exhibition of the EA is included within **Appendix A**.

1.1 THE PREFERRED PROJECT

In response to the Department of Planning's letter of 27 November 2009 (Ref 06_0147 / file 9042935), this report includes a "*Preferred Project Report*" as minor changes have been made to the project to respond to submissions made, and to further minimise its environmental impact. The minor changes that have occurred to the proposal since its exhibition are as follows:

- Confirming flora and fauna,
- Adjusting the alignment of the fire trail following detailed survey of "hollow-bearing trees",
- Confirming a Core Riparian Zone of 40m,
- Confirming access road, width and passing bays,
- Revised effluent management areas (EMAs), and
- Creation of an Offset Strategy.

Targeted flora and fauna surveys

In response to issues raised by the Department of Planning and DECCW (letter of 5/11/2009, Attachment B), targeted flora and fauna surveys have been undertaken along the proposed power line and fire trail. Additional surveys undertaken identify and confirm all relevant hollow-bearing trees, koalas and ground dwelling fauna.

Fire Trail Alignment and Hollow Bearing Trees

So as to minimise potential tree clearing, the alignment of the Power Line and Fire Trail have been slightly adjusted to avoid existing trees, especially hollow bearing trees. The alignment of the fire-trail (west of Lot 6), is maintained generally along a ridge, as combining with the east-west electricity easement at this location would result in crossing



the head of a gully that contains some Scented Paperbark Heath vegetation, (the same vegetation type which has been avoided in the trail's south-north alignment. Putting the fire trail through this vegetation would also pose some erosion risk. Alignment along this ridge also provides better sight lines for fire fighting.

Revised EMSs

Revised Effluent Management Areas (EMAs) of 1400m² are now incorporated (see SEEC "Water Cycle Management and Site Catchment Plan" Drawing No 1, Project 10000001 updated 19/01/2010 – see **Appendix B**).

Core Riparian zone

As requested, a 40m Core Riparian Zone (CRZ) is provided as part of the proposed development. The CRZ is included later within **Figure 9.3** (see also RWS Drawing no 0833B sheets 1 and 2 Rev 16 dated 31/01/10). The CRZ includes the zone between high water mark and across the lake frontages to the lots within the subdivision. This CRZ is to be provided as a Restrictive Covenant under the *Conveyancing Act 1919* (See draft covenant attached within **Appendix F**).

dedicated "off-set" land area of 7.62 hectares

As part of the proposal, a dedicated "off-set" land area of 7.62 hectares for conservation purposes is proposed in the south-west section of Portion 14 (i.e. west of the existing electricity easement and north of the southern boundary) (Figure 7 within **Appendix C**). This area contains habitat suitable for all the threatened species affected by the proposal, including the provision of hollow-bearing trees. Securing habitat here will also provide a corridor for movement of fauna from Portion 14 to bushland to the south in Lot 15 DP 650087 and beyond, which extends along the Wonboyn River.

Adjusted Drawings and Reports

Drawings which illustrate the proposed development were included within Appendices A to I of the EA document lodged with the Department in August 2009. Drawings which have been adjusted to illustrate the currently proposed preferred project are included within **Appendix B, D and E** of this report and are as follows:

Appendix B

SEEC – *Road and Drainage Design (previously Appendix B of the EA).*

- Drawing 01 Overall Site and Catchment Plan
- Drawing 02 Rev B: Plan and Longitudinal Section of Access Road Ch 00-Ch 360
- Drawing 03 Rev B: Plan and Longitudinal Section of Access Road Ch 360-Ch 735



- Drawing 04 Rev B: Plan and Longitudinal Section of Access Road Ch 735-Ch 738
- Drawing 05 Rev B Access Road Cross Sections Ch 15 – Ch 285
- Drawing 06 Rev B Access Road Cross Sections Ch 300 – Ch 585
- Drawing 07 Rev B Access Road Cross Sections Ch 600 – Ch 885
- Drawing 08 Rev B Access Road Cross Sections Ch 900 – Ch 930 and typical details and sections

Appendix D

SEEC “*Water Cycle Management and Site Catchment Plan*” Drawing No 1, Project 10000001 (updated 19/01/2010 with revised EMAs of 1400m2)

Appendix E

- R W Surveying and Valuations - *Drawing No. 0833B Rev 17 (dated 27/04/2010), update of Sheets 1 & 2 (previously Appendix A of the August 2008 EA),*
- R W Surveying and Valuations - *Drawing No. 0833H Rev 5 (dated 27/04/2010), update of Sheets 1 & 2 (hollow bearing trees along road/power alignments),*

Reports

The following updated reports also provide additional requested information in responses to submissions, as well as describing the Preferred Project:

- LesryK Addendum “*Flora and Fauna Report*” April 2010 (see **Appendix C**
- SEEC “*Water Cycle Management Study*” April 2010 (see **Appendix D**), and
- Updated Assessment Report (Traffic, Bushfire and Subdivision) by R W Surveying and Valuations June 2010 (see **Appendix E**),

1.2 RESPONSE TO SUBMISSIONS

A summary of all submissions following the exhibition of the EA is included within **Appendix A**.

This report has been structured to follow and address each of the Key Issues and submissions summarised in **Appendix A**, as outlined in **Table 1** above.



2. FLORA AND FAUNA

This section addresses Key Issue 1 of the DoP's concerns. The main response to this issue is provided by Lesryk Environmental in their update of their previous reports:

- *Flora and Fauna Survey – April 2008*, and
- *Habitat Tree Inspection Report – 25 June 2009*.

The Lesryk Environmental “*Flora and Fauna Update Report*” - April 2010” is attached within **Appendix C**. The main flora and fauna aspects to be addressed are considered in **Sections 2.1 to 2.7** below.

2.1 A) INADEQUATE SURVEYS

The suggestion of inadequate surveys is considered and addressed by Lesryk in their updated report (see **Appendix C**) and summarised in **Table 2.1** below:

Table 2.1: Adequacy of Surveys

Department of Planning Key Issues	Response	Section of LesryK Updated Flora and Fauna Report 2010 (Appendix C)
1 – Flora and Fauna		
a) Inadequate Surveys		
(i) power line and fire trails	By the completion of the current survey, combined with the April 2008 and June 2009 studies, all areas of likely impact have been adequately surveyed.	Section 2, Table 2 and Figures 1, 2 and 3.
(ii) Core Koala Habitat	No areas of Core koala habitat are present. Some secondary feed trees occur. Though targeted during the current 2010 survey and previous April 2008 study, no individuals of this species were detected.	Section 2.5, Table 2 & Figure 1.
(iii) Ground dwelling fauna	Though targeted, no threatened ground dwelling fauna species were detected.	Sections 2.2 & 2.3, Figures 1 & 2 LesryK
(iv) Extent of Surveying	All areas of likely impact have been adequately surveyed.	Figures 1, 2 & 3.

2.2 B) HOLLOW BEARING TREES ASSESSMENT

The assessment of hollow bearing trees is considered and addressed by Lesryk in their updated report (see **Appendix C**) and summarised in **Table 2.2** below:



Table 2.2: Hollow Bearing Trees Assessment

Department of Planning Key Issues	Response	Section of LesryK <i>Updated Flora and Fauna Report 2010</i> (Appendix C)
1 – Flora and Fauna		
b) hollow-bearing trees assessment	The location of hollow-bearing trees in relation to the proposed development was undertaken. Infrastructure easements have been adjusted in the latest plan (No. 0833B prepared by RW Surveying and Valuations) to minimise the removal of those hollow-bearing trees present.	Section 2.7 and Figure 4.

2.3 C) GLIDER TREES AND BLACK COCKATOO FEED TREES

The assessment of Glider trees and Black Cockatoo Feed Trees is considered and addressed by Lesryk in their updated report (see **Appendix C**) and summarised in **Table 2.3** below:

Table 2.3: Glider trees and Black Cockatoo Feed Trees Assessment

Department of Planning Key Issues	Response	Section of LesryK <i>Updated Flora and Fauna Report (Appendix C)</i>
1 – Flora and Fauna		
c) Glider trees and Black Cockatoo Feed Trees	Confusion over feed tree identifications was due to errors in the original mapping provided. This situation has been clarified and the species using those feed trees detected and provided. Only one active Yellow-bellied Glider feed tree was recorded, this being present within the 75m set back zone. The remainder of the feed trees detected indicated the presence of the Glossy Black-cockatoo.	Section 2.7 and Figure 6.

2.4 D) CLEARING OF NATIVE VEGETATION

The assessment of clearing of native vegetation is considered and addressed by Lesryk in their updated report (see **Appendix C**) and summarised in **Table 2.4** below:



Table 2.4: Clearing of native vegetation Assessment

Department of Planning Key Issues	Response	Section of LesryK <i>Updated Flora and Fauna Report (Appendix C)</i>
1 – Flora and Fauna		
<i>d) clearing of native vegetation</i>		
(i) proportion of retained vegetation	94% of the site's vegetation would be retained.	Section 4.
(ii) Map to illustrate clearing	Provided. This map illustrates the extent of potential clearing. n.b. not all 7000m ² in each lot would be cleared/modified.	Section 4 and Figure 4.
(iii) Clearing for roads	This has been included in the calculations for the amount of clearing required.	Figure 4.

The potential areas within which vegetation clearance could occur were indicated previously within Figure 1.9 of the EA (included below as **Figure 2.1**).

The proposed development would result in the removal or modification of approximately 7.62ha of native vegetation/fauna habitat at the subject site. This means that more than 94% of the site's vegetation would be retained. The 7.62ha area estimate is composed of:

- Building envelopes: $7 \times 4000\text{m}^2 = 2.8\text{ha}$;
- Right of way and fire trail: $2000\text{m} \times 10\text{m} = 3.8\text{ha}$;
- Electricity easement: $750 \times 20\text{m} = 1.5\text{ha}$
- Effluent management areas: $7 \times 1400\text{m}^2 = 0.98\text{ha}$; and
- Access and passing bays: approximately 0.34ha.

In the Lesryk (2008) report it was previously estimated that 6.1ha of vegetation would be affected by the proposal. The revised figure is a result of revisions to the plan, a more detailed analysis of likely impacts and the requirement of Council's engineer that the access road/fire trail have a 10m width of "leaf to leaf" clearing.

7000m² building envelopes have been identified on each lot in the environmental assessment. However, given the asset protection zone stipulations required (Straight 2009) and envisaging that each lot would have an approximately 2000m² building footprint, the amount of clearing on each lot would be approximately 0.4ha.

In terms of the vegetation communities present, the 7.62ha of vegetation clearing and modification would be comprised of:

- approximately 1.85ha of Silvertop Ash – Red Bloodwood Woodland;
- 4.76ha of White Stringybark – Rough-barked Apple – Silvertop Ash Woodland;
- 1ha of Coast Grey Box – Woollybutt – White Stringybark Tall Open Forest; and
- 0.01ha of Scented Paperbark Scrub.

Figure 2.1 Potential disturbed area within the entire site as a result of future development.



Figure 2.1 above illustrates the potential areas which may be disturbed as a result of the proposed subdivision and any future dwellings (resulting from future DAs) located within the nominated building envelopes.

It should be noted as previously detailed in Section 2 of the EA, that the full extent of the building envelopes will not be cleared as a result of future dwellings on each of the lots. The building envelopes were designed to allow some flexibility within them for the placement of a dwelling. The actual disturbed area will only result from the dwelling, associated structures, access, sewage treatment and provision of APZs (as estimated above).



2.5 E) PART 3A GUIDELINES FOR THREATENED SPECIES ASSESSMENT

The *Part 3A Guidelines for Threatened Species Assessment* are addressed in Section 4 of the Updated LesryK Report (see **Appendix C**).

An assessment matrix based on Appendix 3 of the draft guidelines has been prepared and is attached with the LesryK report. In short, it is considered that there would be some adverse, permanent, irreversible impacts on the following species as a result of the proposal:

- Yellow-bellied Glider,
- Greater Broad-nosed Bat,
- Glossy Black-Cockatoo,
- Gang-gang Cockatoo,
- Powerful Owl and
- Varied Sittella.

As impacts on these species cannot be further avoided or mitigated, an offset strategy for the loss of habitat needs has been considered and included as part of the proposal. It is proposed that this takes the form of securing habitat for the affected species elsewhere on site through the dedication of land for conservation purposes.

The impact assessment found that there would be a low level of impact on each of the threatened species affected. Each affected species is listed as vulnerable (rather than endangered or critically endangered) on the *TSC Act* and there are substantial areas of similar habitat in the study region including within conservation reserves. Taking into account these factors, it is considered that amount of land dedicated for conservation purposes on the site should be at a ratio of 1:1 to that lost.

Dedicated “off-set” land of 7.62 hectares

It is proposed that the dedicated land totalling 7.62 hectares be located in the south-west section of Portion 14 (i.e. west of the existing electricity easement and north of the southern boundary), see Figure 7 of the updated LesryK report in **Appendix C**. This area contains habitat suitable for all the threatened species affected by the proposal, including the provision of hollow-bearing trees. Securing habitat here would also provide a corridor for movement of fauna from Portion 14 to bushland to the south in Lot 15 DP 650087 and beyond, which extends along the Wonboyn River.

2.6 F) ECOLOGICAL CONSTRAINTS

The assessment of ecological constraints is considered and addressed by Lesryk in their updated report (see **Appendix C**) and summarised in **Table 2.5** below:



Table 2.5: Ecological Constraints

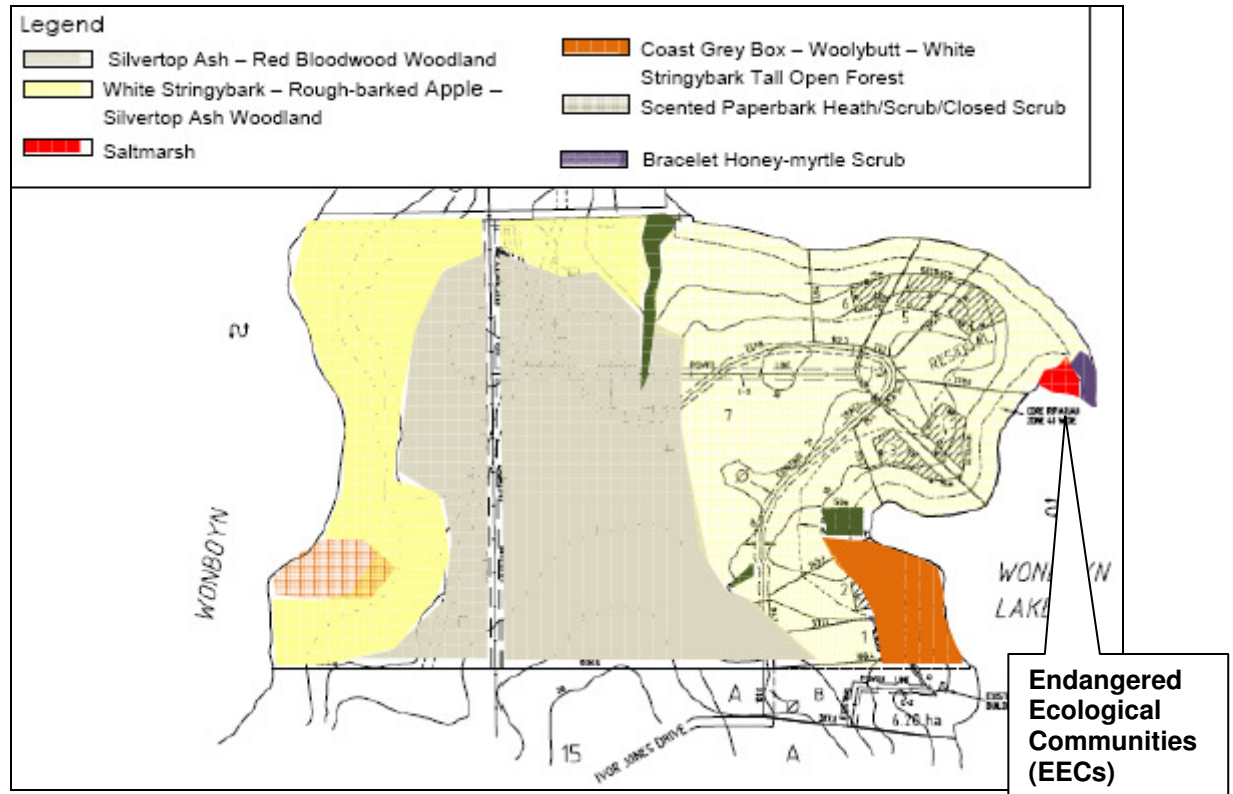
Department of Planning Key Issues	Response	Section of LesryK <i>Updated Flora and Fauna Report (Appendix C)</i>
1 – Flora and Fauna		
f) Ecological Constraints	Hollow-bearing trees were identified as the main constraint. These have now been plotted and the proposal adjusted to minimise impacts, (removal of around 45 hollow-bearing trees will result from the total development or approximately, 2% of all hollow-bearing trees present within the site) Though Endangered Ecological Communities are present, these occur outside of the area proposed for development or are present within those buffers established between the proposal and Wonboyn Lake.	Sections 2.7 and 3.2.6. Plan 0833B prepared by RW Surveying and Valuations

2.7 G) RESTRICTIONS TO CONSERVE EEC

Restrictions to conserve Endangered Ecological Communities (EECs) are considered in Section 4 of the Updated LesryK report (see **Appendix C**). Vegetation Communities are illustrated in **Figure 2.2**.

There will be no clearing of Saltmarsh or Bracelet Honey-myrtle Scrub as a result of the proposed development - these two vegetation types being examples of the endangered ecological communities Coastal Saltmarsh and Swamp Oak Floodplain Forest, respectively. Nevertheless, these communities would be protected by covenants (where they occur above the mean high water mark) and by erection of signage indicating their conservation significance and sensitivity to disturbance.

Figure 2.2: Vegetation Communities



Source: Figure 5 - Updated LesryK Report : July 2010



3. WATER CYCLE MANAGEMENT

This section addresses Key Issue 2 of the DoP's concerns. The main response to this issue is provided by SEEC in their update of their *Water Cycle Management Study*. The SEEC "*Water Cycle Management Study*" April 2010 is attached within **Appendix D**. The main water cycle aspects to be addressed are considered in **Sections 3.1 to 3.4** below.

3.1 ON-SITE EFFLUENT DISPOSAL

The 8 issues identified by the DoP related to on-site effluent disposal are considered below.

3.1.1 (i) Bega Valley DCP No 5 Compliance Table

The assessment of the suitability of the proposed on-site sewage management method for each proposed lot has been undertaken in accordance with the recommendations of the *Bega Valley DCP No 5* as detailed in Section 5.5 of the revised *SEEC WCMS Report* within **Appendix D**.

Section 5.5.2 relates to "*Proximity To Sensitive Environments*". SEEC note that Council's DCP 5 does not permit effluent management areas (EMAs) to be located within defined buffer distances to particular sensitive environments, some of which occur at this site. Section 5.5.2 of the SEEC Report provides a commentary on each and how the proposal complies with objectives (i) to (vii) of DCP 5 (and the associated Guideline 4.1.3(d) of October 2009).

At a minimum, the *SEEC WCMS Report* recommends secondary treatment on all lots. A number of suitable system options are put forward, with the final choice dependent on usage pattern and the preference of the new owners, but subject to stated effluent quality (NWQMS, 2000).

3.1.2 ii) Criterion for site & soil assessment

A basic site and soil assessment addressing the minimum criterion specified by the DoP is provided in sections 3.2.2 and Appendix 1 of the revised WCMS. Appendix 1 provides specific site descriptions from each of the 7 proposed lots.

The report concludes that the soils of the subject site pose a series of moderate limitations to effluent management, but no major ones. They have only a moderate to low ability to entrain pollutants and phosphorous and so disposal of primary treated effluent is not recommended on any lot. A minimum secondary level of treatment is required, as has been adopted in the proposal.



3.1.3 (iii) Detailed Assessment re AS 1547

An assessment has been undertaken in accordance with the principles of both the *Environmental and Health Protection Guidelines* and *Australian Standard 1547*, see Section 5.5 and Appendix 1 of the revised WCMS attached as **Appendix D**.

3.1.4 (iv) Slope of proposed Lot 5

No Environmental Management Area (EMA) was, or is, proposed on land with a slope of more than 10 percent.

3.1.5 (v) Scaled Plan of EMAs

A scaled plan showing the location of the EMAs has been provided. See SEEC Drawing 10000001-WCMS-01.

3.1.6 (vi) 1000L/day per lot base load figure

A base figure of a minimum of 1000L/day per lot is adopted. Reference is also made to Appendix 3 of the revised WCMS, attached in this document as **Appendix D**.

3.1.7 (vii) Details of maintenance requirements for onsite effluent disposal systems.

Details of the maintenance requirements for onsite effluent disposal systems by future occupants and its enforcement are discussed in Section 5.6.3 of the revised WCMS. This section deals with *Onsite Wastewater Management Systems* and some of its recommendations are also included within the revised Statement of Commitments (see **Section 10**).

3.1.8 DECCW, BSC, and I&I concerns

Concerns raised by Agencies are included within Attachment 2 of the DoP letter. Issues additional to those detailed and discussed above are as follows:

DECCW

- **No migration of nutrients off-site**

As outlined in **Section 3.1.2** above, the revised WCMS (Section 3.2.2 and Appendix I) provides basic site and soil assessment addressing the minimum criterion specified by the DoP. The report concludes that the soils of the subject site pose a series of moderate limitations to effluent management, but no major ones. They have only a moderate to low ability to entrain pollutants and phosphorous and so disposal of primary treated effluent is not recommended on any lot. A minimum secondary level of treatment is required and has been adopted in the proposal.



Cumulative Nutrient Impact Assessment is addressed in Section 5.5.4 of WCMS, and summarised in this document within **Section 4.4.1**.

There is minimal risk that surface water reaching receiving waters will be contaminated with effluent as:

- the EMA has been designed in accordance with Council policy,
- the proposed development (ie EMA) is not within the 150m buffer to Wonboyn Lake, and
- subsurface disposal is proposed.

Nutrient balances are undertaken so as there is no impact of treated effluent disposal outside of the confines of the site. The soils and vegetation in each EMA has the capacity to entrain nutrients for at least 50 years. There is little risk of impact outside the EMA.

- ***Impact on the Coastal salt marsh ecosystem***

Vegetation Communities are illustrated in **Figure 2.2**.

The Coastal salt march ecosystem and the Bracelet Honey-myrtle scrub are identified as EECs and are located within a small peninsula at the centre and eastern part of the site, within the proposed 40m Core Vegetation Area, which will be protected by a proposed “88B Instrument”.

Whilst neither of the endangered ecological communities at the site would be affected by the proposed development, there would be impacts on the habitat for a range of fauna species listed as vulnerable on the *TSC Act*.

- ***Justify assumptions of Music modelling***

Justification of the assumptions made in the music modelling is detailed in Section 6.2 and Appendix 2 of the updated SEEC WCMS (see **Appendix D** of this report).

- ***Riparian Buffer of 100m to Wonboyn Lake to protect water quality***

A Riparian Buffer of 40m has been included as part of the proposed development, (See **Section 9.3** of this report). This, together with the building envelope set backs of 75m, and the EMA setbacks of 150m from the lake, are considered together as appropriate to protect water quality.

BSC

- ***No phosphorous leak point for the soil has been established***

The soils pose a series of moderate limitations to effluent management, but no major ones. They have only a moderate to low ability to entrain pollutants and phosphorous and so disposal of primary treated effluent is not recommended on any lot. A minimum secondary level of treatment is required and therefore proposed. Wastewater management is discussed in detail in Section 5.5 of the SEEC WCMS report. Section 5.5.2 of the SEEC Report provides a commentary on each and how the proposal meets the objectives of BSC DCP 5 (and the associated Guideline 4.1.3(d) (October 2009).



- ***Green Cape rainfall data questioned***

Climate Data is described in section 6.2.2 of the SEEC WCMS (see **Appendix D** of this report). Creation of a MUSIC catchment file requires an associated meteorological data file. The rainfall data required is known as pluviograph rainfall data. It is not the same as monthly data used for the hydraulic balance in Section 5.5.3.3 or the daily rainfall data used in RATES (Section 6.1).

Pluviograph rainfall data is specialised data that measures rainfall in small time steps and is only available from a selected number of rainfall stations. The closest suitable rainfall stations to this site are Green Cape and Genoa. Therefore, data used here is that for Green Cape 1978/79 and for Genoa 1983 to 1987, both in 6 minute time steps. Data for these periods were chosen because:

- The Green Cape data is mostly complete and has an average close to, but slightly less than, the local mean rainfall (684 mm compared to 750 mm); and
- The Genoa data is mostly complete, has a similar rainfall pattern and represents significantly higher rainfall (985 mm compared to 750 mm). It represents a wet period.

Potential evapotranspiration (PET) data are derived from Genoa. Basic rainfall and PET statistics for Green Cape and Genoa are given in Tables 4 and 5 and the time-series graphs are in Figures 9 and 10 of the SEEC WCMS.

- ***DCP 6 minimum setback from nominated waterways for sewage management systems***

A minimum 150m setback from nominated waterways (ie Wonboyn Lake) for the installation of on-site sewage management systems (EMS), has been accepted as part of this development proposal. There is no conflict with the 75m setback from nominated waterways for the proposed building envelope.

- ***Report should not recommend one “brand name” system***

Section 5.5.3 of the Revised SEEC WCMS recommends a minimum secondary treatment on all lots and describes a number of suitable effluent treatment options such as:

- An Aerated Wastewater Treatment System (AWTS)
- A biological filter system such as Biolytix®, Aqua Claris
- An amended soil system such as Ecomax®
- A sand filter system.

Whilst one “brand name” system is not recommended, the final choice will depend on usage pattern and the preferences of the new owners. However, at a minimum, any system must be able to produce effluent of the following quality (*NSW Health, 2008*) (*NWQMS, 2000*):



- BOD less than 20 mg/L
- Suspended Solids less than 30 mg/L
- Thermotolerant coliforms less than 1,000 cfu/100 ml

I&I

- ***I&I recommends that DoP seek clarification as to how significant water quality improvements are predicted to occur***

Whilst SEEC did not predict significant improvement to water quality, they have shown that there will be little change to existing water quality. Clarification of expected water quality effects are provided by SEEC in their update of the *Water Cycle Management Study*. The SEEC “*Water Cycle Management Study*” April 2010 is attached within **Appendix D**.

3.2 STORMWATER

The stormwater analysis within the WCMS Report of SEEC has been amended to respond to concerns raised. The 4 main issues put forward are considered below.

3.2.1 (i) DCP 36

SEEC believe that it is reasonable to adopt DCP 36 for this site as it applies to lands in very close proximity to the subject site and that drain to the same receiving waters. The pollutant targets are just one water quality aim.

3.2.2 (ii) discussion on all existing catchments

The following SEEC Drawings (see Appendix B of this report and Appendix B of the EA) provide appropriate detail on existing catchments and overland flow paths

- 07000168-01 for general catchments,
- 07000168-02 to 08 for road drainage drawings,, and
- 100000001-WCMS-01 for typical home site detail,

Section 5.3 in the revised WCMS provides a discussion on runoff from proposed home sites.

3.2.3 (iii) plans to depict stormwater treatment train

The following SEEC Drawings (see Appendix B of this report and Appendix B of the EA) provide appropriate detail to depict the stormwater treatment train:

- 07000168-01 for general catchments,
- 07000168-02 to 08 for road drainage drawings, and
- 100000001-WCMS-01 for typical home site detail.



Section 5.3 in the revised WCMS provides a discussion on runoff from proposed home sites.

3.2.4 (iv) pre and post development flows

Water Quality modelling is detailed in Section 6 of the revised WCMS (see **Appendix D**). The modelling assumptions of (i) pre-existing and (ii) post-development are discussed in Section 6.2.3 of the WCMS. Table 3 of the WCMS illustrates the results of the Music modelling with little change to overall flow, a reduction in suspended solids and phosphorous but with a minor increase in nitrogen export.

3.2.5 DECCW, BSC, I&I concerns

The agency concerns in connection with stormwater are discussed in **Section 3.1.8** above.

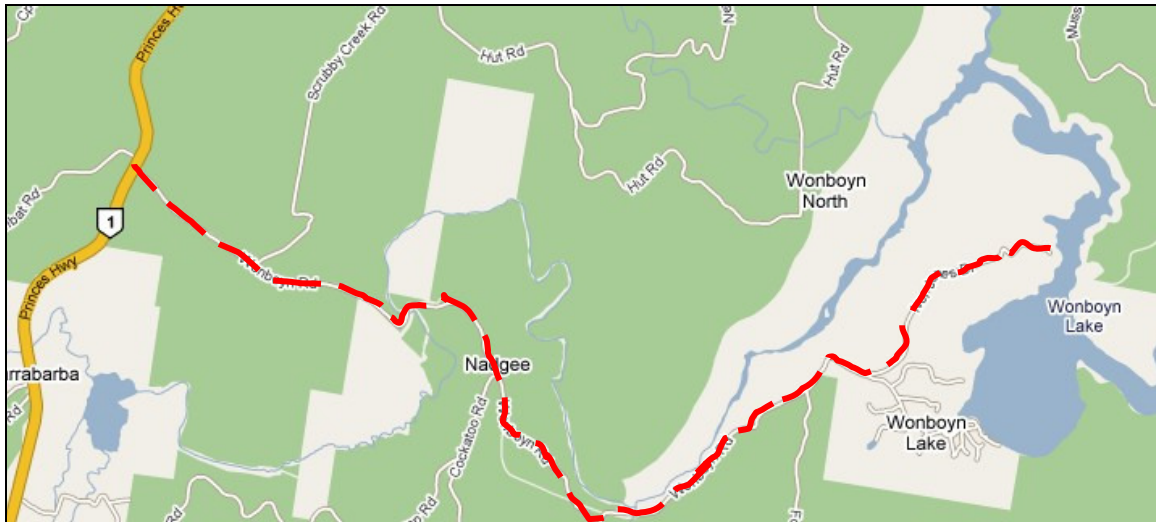
3.3 FLOODING

Flooding is considered in Appendix H (Section 7) of the EA. An update of the flooding situation is provided by R W Surveying and Valuations and included within **Appendix E** of this document.

While it is known that the Wonboyn River does, from time to time, experience flooding, the exact extent of the rise in water levels at these times is unknown. Enquiries with Bega Valley Shire Council by RW Surveys and Valuations have confirmed that they hold no flooding data of the Wonboyn River.

Given the small population of the Wonboyn Village, there is no current warning or evacuation plan for the town, in the event of a flood. In the past, flooding of the main road has occurred at a frequency of approximately once annually, and can last up to 3 days, with most residents unable to leave until such time as the water levels recede. The “main road” referred to is Wonboyn Road. The route to and from the site from the Princes Highway along Wonboyn Road is illustrated in **Figure 3.1**.

Figure 3.1: Route to and from Princes Highway



The Watergums Creek Bridge (one of the main bridges subject to flooding) was upgraded by Bega Valley Shire Council in 2007. This bridge was inundated with water and the Wonboyn Road was closed by Council in early 2010.

Given the lack of recorded flooding data available for the Wonboyn Village, the flooding assessment is based on a lengthy period of local knowledge of the area and discussions with Council, local residents and the current landowners. Notwithstanding the above, the contours of the proposed building envelopes within the proposed lots are situated well above any potential flood levels of the Wonboyn River.

Source: *googlemaps.com*

3.4 D) WATER SUPPLY

The relevant sections of the SEEC and RW Surveying and Valuation reports have been amended to demonstrate that each proposed lot will have access to a sustainable water supply.

3.4.1 Justify sustainable water supply

Appropriate water balance calculations are included within the revised WCMS report, (see Section 6.1 – *Water demand for new homes*).

A minimum 90,000 Litres tank (or a series of tanks to that volume) is recommended and adopted for each new home. The 10 kL recommended to be reserved for fire fighting has been increased to a minimum 20kL. To model the performance of such a tank SEEC have modelled it in an in-house spreadsheet model known as *RATES*. *RATES* uses daily rainfall data (here for a period of 94 years from Pambula (95% reliability)) to model the collection and re-use of rainwater. Inputs are:

- (i) an assumed roof area of 300 m²



- (ii) an assumed daily use of 690 L/day
- (iii) a collection coefficient of 90 percent (0.9).

The results are given in SEEC Table 3 and show that a 100 kL tank could be expected to supply 81 percent of its demand. However, SEEC experience suggests that, as a tank gets low, the owners would most likely lower their water use and achieve better than 81 percent. At 460 L/day the tank could be expected to supply 99 percent of its demand.

3.4.2 Location of water tanks.

Section 5.3 of the WCMS report discusses “*Home sites*”. Water sensitive urban design measures will be incorporated into the design of each home site. Each new house will include a 100kL rainwater tank (or series of tanks) to capture roof run-off. The tank(s) are to be screened and sealed to prevent the entry of leaves, twigs and mosquitoes. Details of the tank(s) will form part of subsequent “House DAs”, after approval of this subdivision application.

At this stage however it is envisaged that the tanks will be above ground, will adjoin each of the future houses. The tank(s) have therefore been considered as part of the described building footprint which will be located within the identified “building envelopes” (see RW Surveying Drawing 0833H). Vegetation clearance resulting from the tank(s) is part of the assessed vegetation clearance which will result from the construction of the future houses.

3.4.3 NOW and RFS concerns

NOW’s concerns about the source and availability of a sustainable water supply are considered and addressed above.

The RFS concerns about the adequacy and availability of water to each site is addressed above and within the revised Bushfire Report (see Attachment 4 within – **Appendix E**).

As there is no guaranteed water supply to any of the subject lots, it is recommended that any future dwellings on any of the lots subject to this report, should supply the following dedicated water for fire fighting purposes:

- A minimum 20,000 litres of dedicated water per lot, in the form of a water tank or part of a larger water tank;
- Water tank to be of a non combustible type construction (metal or concrete, no pvc or plastics);
- To be located in close vicinity to the dwelling it is providing protection for;
- Each tank is to be fitted with a 65 mm Storz outlet with a gate or ball valve;
- Raised tanks should have their stands protected;



- An independent diesel or petrol powered pump (approximately 5hp) to be provided for the tank, which is not reliant on mains electrical supply.
- If the location of a water tank is to be on the hazardous side of the buildings, adequate shielding should be provided for the protection of fire fighters and equipment.



4. IMPACT ON OYSTER LEASES

4.1 INTRODUCTION

This section addresses Key Issue 3 of the DoP's concerns. The DoP has noted that the subject site in Wonboyn Lake is located in close proximity to Priority Oyster Aquaculture Areas (POAAS) pursuant to the *Fisheries Management Act 1994*. There is potential for the proposed rural subdivision of the land to impact on these nearby oyster leases. The proposal's compliance with the relevant provisions of *State Environmental Planning Policy No 62 – Sustainable Aquaculture (SEPP 62)* and the *NSW Oyster Industry Sustainable Aquaculture Strategy* is assessed below.

4.2 SEPP NO 62

The proposed development is assessed under the provisions of Clause 15B, 15C and 15D of *SEPP No 62*.

4.2.1 Aims & Objectives

The aims and objectives of *SEPP 62* are as follows:

- a) to encourage sustainable aquaculture, including sustainable oyster aquaculture, in the State, namely, aquaculture development which uses, conserves and enhances the community's resources so that the total quality of life now and in the future can be preserved and enhanced, and*
- (b) to make aquaculture development permissible in certain zones under the Standard Instrument, as identified in the NSW Land Based Sustainable Aquaculture Strategy, and*
- (c) to set out the minimum site location and operational requirements for permissible aquaculture development (the minimum performance criteria), and*
- (d) to establish a graduated environmental assessment regime for aquaculture development based on the applicable level of environmental risk associated with site and operational factors (including risks related to climate change, in particular, rising sea levels), and*
- (e) to apply the Policy to land-based aquaculture development and oyster aquaculture development in the State and to include facility for extension of the Policy to natural water-based aquaculture.*

The proposed development is not inconsistent with these aims and objectives.

4.2.2 Clause 15B

Clause 15B applies to any development that may impact on oyster aquaculture areas; and if this potential impact applies consultation must be undertaken with the Director-General of Primary Industries. Clause 15B states as follows:

15B Consultation with Director-General of Primary Industries

- (1) Before determining a development application for any development, a consent authority:*
 - (a) must consider whether, **because of its nature and location**, the development may have an **adverse effect on oyster aquaculture development** or a priority oyster aquaculture area, and*



*(b) if it suspects that the development may have that effect, must give notice of the application to the **Director-General of the Department of Primary Industries**.*

(2) In determining a development application for any development, a consent authority must consider any comments received from the Director-General of the Department of Primary Industries pursuant to subclause (1), including, in particular, such comments as identify:

(a) any adverse effect that the development may have on, or ways in which the development may impede or be incompatible with, any oyster aquaculture development or priority oyster aquaculture area, and

(b) any measures to avoid or minimise any such adverse effect, impediment or incompatibility.

Note. Development may be incompatible with or impede oyster aquaculture if, for example, the development will limit access to oyster leases or have an impact on water quality and, consequently, on the health of oysters and of consumers of those oysters.

(3) This clause does not require a consent authority to consider any comments received more than 21 days after notice was given as referred to in subclause (1) (b).

A response to the EA dated 30 October 2009 from I&I (Director of Fisheries Conservation and Aquaculture) has been considered in the report.

The proposed development is located at an appropriate distance for the subdivision not to have any foreseeable adverse effects on oyster aquaculture leases. Appropriate measures will be undertaken to ensure that any impacts from development such as run-off and waste products are captured on-site to avoid transfer to waterways.

The SEEC WCMS report concludes that there will be no appreciable effect on the water quality in Wonboyn Lake. Wastewater will be managed by providing a suitably sized effluent management area in which pathogens, nitrogen and phosphorous will be contained. Water Sensitive Design will be incorporated to infiltrate and treat stormwater runoff from all “urbanised” surfaces.

Modelling shows that phosphorous and suspended solids export will be less than or equal to that now. There is predicted to be a very small increase in nitrogen export (6-12 kg/year), which amounts to an approximate increase in nitrogen concentrations of less than 0.05 percent (probably not a measurable difference). The total flow from the site and the general hydrology of the site will remain essentially unaltered. The target pollutant exports required by BVSC DCP36 (which applies to adjoining land with the same receiving waters) are exceeded by a considerable margin.

For full details see the SEEC WCMS included within **Appendix D** of this report

4.2.3 Clause 15C

Clause 15C states that a development may be refused if it assessed to have an adverse impact on oyster aquaculture activities and/or appropriate mitigation measures have not been proposed.



15C Development consent may be refused if development adversely affects oyster aquaculture

A consent authority may refuse to grant consent to development:

(a) if it is satisfied that the development will have an adverse effect on, or impede or be incompatible with:

(i) any oyster aquaculture development that is being carried out (whether or not within a priority oyster aquaculture area), or

(ii) any oyster aquaculture development that may in the future be carried out within a priority oyster aquaculture area, or

(b) if it is not satisfied that appropriate measures will be taken to avoid or minimise any such adverse effect, impediment or incompatibility.

As discussed above, and as discussed in the SEEC WCMS (see **Appendix D**), the mitigation measures proposed for the development will be sufficient to avoid or minimise adverse effects on the oyster leases.

4.2.4 Clause 15D

Clause 15D outlines that the *NSW Oyster Industry Sustainable Aquaculture Strategy* must be taken into consideration by a consent authority and the Director-General of the Department of Primary Industries in assessing a development that is captured by Part 3A (Clause 15A, 15B, 15C, 15D) of SEPP 62. This strategy is addressed in **Section 4.3** of this report.

4.3 NSW OYSTER INDUSTRY SUSTAINABLE AQUACULTURE STRATEGY

4.3.1 Introduction

The need for this Strategy arose from concerns from the NSW Government and the NSW oyster aquaculture industry about the potential impacts on the oyster aquaculture industry associated with rapid development of the NSW coastline. The relevant chapters from this strategy in relation to the proposed development are considered below.

4.3.2 Chapter 4.1 Recognition of oyster aquaculture in land and water use planning

This Chapter outlines the planning role in maintaining healthy oyster aquaculture activities. It identifies three things that must be done in a planning capacity, including:

- Consider potential impact on oyster aquaculture activities in the preparation of statutory environmental management plans (including specific actions that will contribute to the protection or improvement of water quality for oyster aquaculture activity);



- In determining development applications, the consent authority must consider the potential impacts the proposal will have on oyster aquaculture activities; and
- The NSW oyster aquaculture industry is recognised as a neighbour and relevant neighbour notification procedures be undertaken.

The potential impacts the proposal will have on oyster aquaculture activities has been considered in this report. The cumulative impact assessment of stormwater (SEPP 62) is included as section 6.2.4.3 of the WCMS report. These impacts will be considered by the DoP in determining this application.

4.3.3 Chapter 4.2 Guidelines for harvest area protection

This section of the Strategy contains guidelines for harvest area protection. Both non point and point source actions are outlined for consideration in the assessment of a development application that may impact on oyster leases. These guidelines include the following:

Non point sources

- *Riparian zones in agricultural areas fenced to prevent access of livestock to estuary;*
- *Encourage establishment of riparian filters and settlement areas for run-off drainage in landscape with potential high animal faecal/fertiliser/chemical contamination (eg livestock, golf link, turf farm);*
- *Elevated monitoring and awareness of septic safe programs in areas adjacent to harvest zones;*
- *Marinas and vessel pump out facilities carefully regulated;*
- *Educational and advisory signs for recreational boating warning of the need to protect sanitary water quality;*
- *Avoid artificially attracting large numbers of birds into a harvest zone.*
- *Investigate the need for exclusion of recreational/private boating in specific oyster harvest area to protect sanitary water quality if required; and,*
- *Inclusion of buffer zones between foreshore sub-divisions and the shoreline.*

There is an established riparian zone at the site which it is intended to formalise within a designated 40m wide buffer zone (see **section 9.3** of this report). In addition, there is a 150m buffer to the lake for each of the EMAs and future dwellings will be setback 75m from the lake.

Point sources

- *Sewer systems improved, maintained and operated so that overflows do not occur as a result of maintenance or operational failure, overflows in dry weather are eliminated or occur only under exceptional circumstances and wet weather overflows are minimised;*
- *Identification of priority urban storm water drains and installation of suitable treatment systems;*
- *Priority treatment drains would include those with a catchment from large hard stand car parks and roadway car parks, caravan parks, golf links, subdivision, commercial/business and shopping centers and industrial areas; and,*
- *At source control of stormwater for new developments to reduce stormwater impacts.*



The SEEC WCMS addresses relevant point and non-point sources. The proposed sewage treatment system will be well maintained and operated. Stormwater will be managed within the site and roof rainwater will be captured and reused.

4.3.4 Chapter 8.4 Determining development applications that may affect oyster aquaculture

This section of Chapter 8 of the strategy outlines what must be considered in determining applications that may affect oyster aquaculture.

When considering an application for development that, because of its proposed location, may affect a priority oyster aquaculture area or oyster aquaculture outside such an area, the consent authority must:

- 1. Give the Director-General of the Department of Primary Industries written notice of the development application and take into consideration any written submissions made in response to the notice within 14 days after notice was given, and*
- 2. Take into consideration the provisions of the NSW Oyster Industry Sustainable Aquaculture Strategy.*
- 3. Consider any issues that are likely to make the development incompatible with oyster aquaculture and evaluate any measures that the applicant has proposed to address those issues. Examples of potential land use incompatibility issues include access to oyster leases being limited by the development or the risk of adverse impacts of the development on water quality and, consequently, on the health of oysters and on the health of consumers of those oysters.*

The requirements of Chapter 8.4 have been satisfied. Written notice was given to the Director-General of the Department of Primary Industries on 24th September 2009.

Any potential issues that are likely to make the development incompatible with oyster aquaculture have been considered and appropriate measures have been incorporated into the proposed subdivision for consideration by the DoP. The cumulative impact assessment of stormwater (SEPP 62) is included as section 6.2.4.3 of the WCMS.

4.4 OTHER ISSUES

Most issues in relation to impact on Oyster Leases raised by DECCW, BVC and DoI&I are discussed above. Additional issues raised are addressed below.

4.4.1 Bega Valley Council

BVSC noted the need for a cumulative impact assessment to be undertaken which adequately addresses potential total impact of on-site sewage management systems, land clearing and stormwater run-off on the fishery.

Cumulative Nutrient Impact Assessment-(Section 5.5.4 of WCMS)

A cumulative impact assessment has been undertaken by SEEC. The sections relevant to potential impacts on oyster leases are summarised following.



There is minimal risk that surface water reaching receiving waters will be contaminated with effluent as the EMA has been designed in accordance with Council policy, the proposed development (ie the EMA) is not within the 150m buffer to Wonboyn Lake, and subsurface disposal is proposed. Nutrient balances are undertaken so as there is no impact of treated effluent disposal outside of the confines of the site. The soils and vegetation in each EMA has the capacity to entrain nutrients for at least 50 years. There is little risk of impact outside the EMA.

Cumulative Pathogen Impact Assessment-(Section 5.5.5 of WCMS)

There is minimal risk that surface water reaching receiving waters will be contaminated with effluent as the EMA has been designed in accordance with Council policy, the proposed development is not within the 150m buffer to Wonboyn Lake, and subsurface disposal is proposed. Once in the soil, pathogens progressively die over time as they are outside their natural environment. The distance they can travel in groundwater over this time is variable. It has been calculated that the potential travel distance of these pathogens is much lower than the buffer distance to intermittent water courses or to a lake. As such there will be minimal risk of pathogen export from the confines of the site, subject to adherence with prescribed effluent and water management strategies.

Cumulative Impact Assessment (stormwater)-(Section 5.5.6 of WCMS)

MUSIC modelling has been undertaken by SEEC and predicts a neutral or beneficial effect on total flow, suspended solids and phosphorous export. It predicts a small increase in total nitrogen in the soil of about 6 kg/year.

MUSIC modelling predicts the total nitrogen input from the catchment in which the site is located is in the order of 15-35 tonnes per year (dry and wet periods respectively). The small increase in nitrogen in the soil is seen as immeasurable in relation to this and is therefore very unlikely to have an impact on the ecology of the lake and the oyster aquaculture industry.

4.4.2 Department of Industry and Investment

The particular issue raised by the Department of Industry and Investment in relation to a clarification of the *Neutral and Beneficial Effects* has been addressed by SEEC. The MUSIC model has been updated and re-run with the latest version of the programme. SEEC have concluded there will be a neutral or beneficial effect in relation to Total Suspended Solids and phosphorus export. It predicts an immeasurable increase in nitrogen (see section 6.2.4.3 SEEC Report – **Appendix D**).

The analysis compares “pre-development”, i.e. the current situation, and “post-development”. The modelling is based on data from Green Cape weather station (close to average rainfall for the site) and Genoa weather station (similar weather patterns, greater rainfall). The SEEC WCMS outlines the initiatives proposed as part of water cycle management (including sewage treatment and disposal) for the development. The SEEC



report concludes that *“the water cycle management plan shows how wastewater and stormwater will be managed to ensure there is no appreciable effect on the water quality in Wonboyn Lake. Wastewater will be managed by providing a suitably sized effluent management area in which pathogens, nitrogen and phosphorous will be contained”*.

5. TRAFFIC AND ACCESS

This section addresses Key Issue 4 of the DoP’s concerns. The initial Traffic and Access Assessment provided in Appendix H (Section 4) of the EA was considered inadequate by the DoP and has therefore been updated. The updated Traffic Report (RW Surveying and Valuations *“Traffic Report”* April 2010) has been prepared in accordance with Council’s *DCP No 2 – Subdivision Standards (DCP 2)* and is attached as **Appendix E** of this report.

5.1 INTRODUCTION

Road access to the subject land is via the existing Ivor Jones Drive, which is a public road. Access to the land can also be gained via boat from the Wonboyn River.

Internal access from Ivor Jones Drive is proposed to be via a private access road (right of way – ROW). The proposed access road will allow suitable access to each of the new lots as well as a continuation as a fire trail to the west of the proposed lots, allowing access to the western side of the land. This fire trail will connect with the existing north-south power line easement (and maintenance trail), thus providing an alternative means of evacuation from the land in the event of a bushfire.

The road design (within the land) has been prepared by SEEC. The road alignment has been adjusted to minimise the impact on existing trees (see separate Updated Flora and Fauna Report within **Appendix C**). The updated road design drawings are attached within **Appendix B** of this report. The design of the passing bays along Ivor Jones Drive has been undertaken previously by RW Surveying and Valuations (see EA Appendix H).

Council discussions re road design

Following receipt of the DoP comments of November 2009 a meeting was held between Jason Armstrong of SEEC and Peter Newton of Bega Valley Council in relation to the proposed road design. A subsequent discussion was held between Mr Don Ross (proponent) and Mr Peter Newton (BVSC Engineer) on 12 April 2010. An outline of the agreement resulting from these discussions is attached as a copy of an Email within **Appendix E**.

From these discussions it was agreed that:

1. A ROW (rather than a public road) would be acceptable on the basis that the road served no public places.



2. The road reserve will be 20 metres to allow for upgrading in the future if so required.
3. The road reserve will be entirely within the residual land of Lot 14.
4. The existing 4 metre road design to service the 7 Lots in Lot 14 is acceptable provided the application to develop Lot 11 is withdrawn from council. (It is noted that this application expired on 15 July 2010).
5. Council indicated that the DoP would be guided by council's decisions on the road.
6. BVSC are not the controlling authority and that Rural Fire Service has the final say. However the existing road should be acceptable provided there was "leaf to leaf" clearing of 10 metres, i.e 3 metres each side of the 4 metre road.

5.2 PUBLIC ROAD

As a result of discussions with BVSC discussed above, the proposal contains no public road, although an option of 4 passing bays within Ivor Jones Drive is put forward in **Section 5.3** below.

5.3 PASSING BAYS

As requested, further clarification and justification of the proposed passing bays is detailed in the revised Traffic Report (see **Appendix E**) and summarised below.

The proposed development contains three types of road within which "passing bays" are proposed, as outlined in **Table 5.1**.

Table 5.1: Passing Bays

Road Types	Description	Drawing Ref	Road Widths and treatment
Type 1) Existing Ivor Jones Drive	4 bays (ch 1.1km, 1.4km, 1.8kb and 2.1km), - (20m long by 2m wide).	RW Surveying & Valuations 0833C – 3 sheets	Existing (variable) – (4-4.5m gravel formation)
Type 2) Private Right of Carriageway (ROW) Ch 00 to 750	5 bays (20m long by 2m wide).	SEEC 0700168 drg 01, 02, 03 & 04 Rev B	20m corridor (4m seal)
Ch 750 to 931.838	1 bay (20m long by 2m wide).	SEEC 0700168 drg 01, 04, Rev B	
Type 3) Fire Trail Ch 931.838 to Electricity Easement	5 bays (20m long by 2m wide (at max 200m centres)	SEEC 0700168 drg 01, & 04, Rev B.	20m corridor (4m wide gravel - unsealed)

Type 1 Road – Existing Ivor Jones Drive

Figure 4.4 of the EA shows Improvement Works along Ivor Jones Drive. It is to be noted that Ivor Jones Road is an existing public road with a 4 to 4.5m wide gravel formation).

It is not a requirement of the proponents, as developers, to upgrade Ivor Jones Drive, beyond their frontage. Ivor Jones Drive is a Council maintained Public Road, and it is therefore the responsibility of the Council to provide appropriate access beyond requirements of their subdivision guidelines. However, given the poor state of Ivor Jones Drive, if Council were to enforce requirements of further upgrades to this access, beyond that of the immediate proposal, then it is suggested that the passing bays along Ivor Jones Drive, be considered, in lieu of any significant upgrade works.

The location of these passing bays has been designed to comply with Bushfire Access requirements (see **Appendix E**). RW Surveying and Valuations have also discussed the locations of the passing bays with Mr Graham Moore, (the Aboriginal Cultural Heritage Conservation Officer for National Parks & Wildlife Service) and it was suggested the passing bays are located away from prominent ridgelines. The locations of the proposed passing bays are reflective of this advice.

WONBOYN RIVER

POR 14

POR 15

FOR ENLARGEMENT SEE SHEET 3

CH 2.4km

B DP 33573

EXISTING PROPERTY ACCESS

CH 2.2km

PASSING BAY No. 1

CH 1.8km

DRIVE

PASSING BAY No. 2

CH 1.4km

FOR ENLARGEMENT SEE SHEET 2

PASSING BAY No. 3

CH 1.1km

PASSING BAY No. 4

JONES

EXISTING PROPERTY ACCESS

CH 0.5km

IVOR

GLEESON ROAD

WONBOYN ROAD

CH 0.0

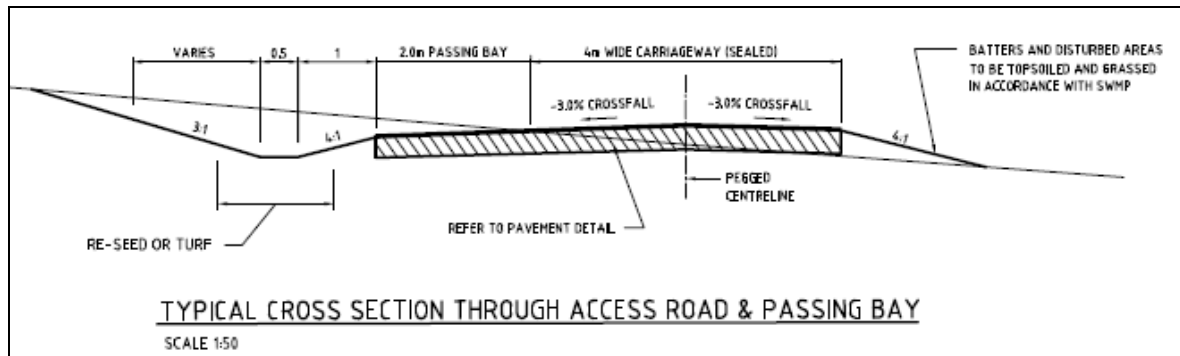
WONBOYN LAKE



Type 2 Road - Right of Way (ROW)

The first part of the Type 2 Road – Private Right of Way runs from Ch 00 to 750 and contains 5 passing bays (located at distances approximately 110m to 145m apart). This first part of the Private Right of Way from Ivor Jones Drive, services existing lot B and proposed lots 1, 2 and 3. Turning facilities are available within the driveway entrances to Lot B, and Lots 1 to 3. A typical cross section is attached as **Figure 5.2**.

Figure 5.2: Typical Cross Section – Private Right of Way



The second part of the Type 2 Road - Private Right of Way runs from Ch 750 to 931.838. This part services proposed lots 4, 5, 6, 7, and existing Lot 11.

Type 3 Road – Fire Trail

The Type 3 Road – Fire Trail runs from Ch 931.838 to the existing access road along the electricity easement. The proposed fire trail will include 5 passing bays (at maximum 200m centres) within a 20m wide easement. These passing bays are 20m long X 2m wide.

5.4 ROAD WIDTHS

Road widths are included in **Table 5.1: Passing Bays**. Tables of Compliance with DCP 2 and *Planning for Bushfire Protection Guidelines (RFS 2006)* are included as **Table 5.2** and **Table 5.3**.



Table 5.2: Table of Compliance – DCP 2

Bega Valley Council DCP 2 Dec 2007		
Clause/Ref/Requirement	Comment (re proposal road types)	Compliance?
Clause 34: Rural road standards		
(i) Rural Road / 175 PE Standard / 6.4m seal / 20m Public Road / 20% max gradient	(Type 1) Existing Ivor Jones Drive (public road)	Existing (4-4.5m gravel formation) (proposed 4 passing bays if required)
(ii) Class 2 Access / >30 cars per day / over 5 lots / 6.4m gravel / 20m easement / 15% max gradient		No public road
(iii) Class 1 Access / up to 5 lots / 4m gravel / 20m easement / 15% max gradient	(Type 2) Private Right of Carriageway Ch 00 to 931.838	6 passing bays & 4m seal within 20m easement. 4m seal preferred over a 4m gravel width in a slow speed environment to service 7 lots within Lot 14.
	(Type 3) Fire Trail Ch 931.838 to Electricity Easement	5 passing bays & 4m wide gravel within 20m easement.
Road reserves and easements must be sufficiently wide to contain the entire width of the road formation including cuttings and embankments.		Complies ✓
Rural road reserves shall be not less than 20 metres wide.		Complies ✓

Table 5.3: Table of Compliance – PfBPG 2006

NSW RFS: Planning for Bushfire Protection Guidelines 2006		
Performance Criteria / Acceptable Solutions	Compliance	Comment
<i>Section 4.1.3 of Planning for Bushfire Protection Guidelines, (Design criteria of Access (2) Property Access Roads) – (assuming the proposed type 2 roads are assessed as “property access roads”)</i>		
(Access to properties is provided in recognition of the risk to fire fighters and/ or evacuating occupants). –		
at least one alternative property access road is provided for individual dwellings (or groups of dwellings) that are located more than 200 metres from a public through road.	Complies ✓	An alternate property access route for evacuation is available via the proposed fire trail and along the maintenance track within the existing north/south electricity easement



(the capacity of road surfaces and bridges is sufficient to carry fully loaded firefighting vehicles. all weather access is provided.).		The road is designed for the capacity of fully loaded RFS vehicles. No bridges are required. All weather access provided.
• bridges clearly indicate load rating and pavements and bridges are capable of carrying a load of 15 tonnes	N/A	No bridges are required.
• roads do not traverse a wetland or other land potentially subject to periodic inundation (other than a flood or storm surge).	N/A	roads do not traverse a wetland or other land potentially subject to periodic inundation
(road widths and design enable safe access for vehicles) –		
• a minimum carriageway width of four metres for rural landholdings with a distance of greater than 70 metres from the nearest hydrant point to the most external part of a proposed building (or footprint).	Complies ✓	The proposed 4m sealed road has been agreed with BVSC. BVSC do not want to adopt the road and continue with road maintenance costs.
• in forest, woodland and heath situations, rural property access roads have passing bays every 200 metres that are 20 metres long by two metres wide, making a minimum trafficable width of six metres at the passing bay.	Complies ✓	6 passing bays proposed & 4m wide seal within 20m easement (type 2 road)
• a minimum vertical clearance of four metres to any overhanging obstructions, including tree branches.	Complies ✓	10m “leaf to leaf” separation to be designed above 4m bitumen seal.
• internal roads for rural properties provide a loop road around any dwelling or incorporate a turning circle with a minimum 12 metre outer radius.	Complies ✓	Turning circle within each lot can be provided.
• curves have a minimum inner radius of six metres and are minimal in number to allow for rapid access and egress.	Complies ✓	Min inner radius of 6m has been provided
• the minimum distance between inner and outer curves is six metres.	Complies ✓	the minimum distance of 6m is provided
• the cross-fall is not more than 10 degrees.	Complies ✓	
• maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads.	Complies ✓	
• access to a development comprising more than three dwellings have formalised access by dedication of a road and not by right of way.	Does not comply X but separate agreement reached with Council	The proposed 4m sealed road has been agreed with BVSC. BVSC do not want to adopt the road and continue with road maintenance costs.
Section 4.1.3 of Planning for Bushfire Protection Guidelines, (Design criteria of Access (3) Fire Trails) – (assuming the proposed type 3 road is assessed as “a fire trail”)		
the width and design of the fire trails enables safe and ready access for firefighting vehicles		
• a minimum carriageway width of four metres with an additional one metre wide	Complies ✓	10m “leaf to leaf” separation to be designed above 4m



strip on each side of the trail (clear of bushes and long grass) is provided.		wide gravel.
the trail is a maximum grade of 15 degrees if sealed and not more than 10 degrees if unsealed.	Complies ✓	
a minimum vertical clearance of four metres to any overhanging obstructions, including tree branches is provided.	Complies ✓	10m "leaf to leaf" separation to be designed
the crossfall of the trail is not more than 10 degrees.	Complies ✓	
the trail has the capacity for passing by:		
- reversing bays using the access to properties to reverse fire tankers, which are six metres wide and eight metres deep to any gates, with an inner minimum turning radius of six metres and outer minimum radius of 12 metres; and/or	Complies ✓	
- a passing bay every 200 metres, 20 metres long by three metres wide, making a minimum trafficable width of seven metres at the passing bay.	Complies ✓	5 passing bays proposed & 4m wide gravel within 20m easement.
<i>fire trails are trafficable under all weather conditions. Where the fire trail joins a public road, access shall be controlled to prevent use by non authorised persons.</i>		
the fire trail is accessible to fire-fighters and maintained in a serviceable condition by the owner of the land.	Complies ✓	
appropriate drainage and erosion controls are provided.	Complies ✓	See SEEC Primary Erosion and Sediment Control Plan (EA Appendix D)
the fire trail system is connected to the property access road and/or to the through road system at frequent intervals of 200 metres or less.	Complies ✓	
fire trails do not traverse a wetlands or other land potentially subject to periodic inundation (other than a flood or storm surge).	Complies ✓	roads do not traverse a wetland or other land potentially subject to periodic inundation
gates for fire trails are provided and locked with a key/lock system authorized by the local RFS.	Complies ✓	All access to Lots 14 and 11 will be gated and locked with keys provided to Country Energy, Telstra and RFS.
<i>fire trails designed to prevent weed infestation, soil erosion and other land degradation</i>		
fire trail design does not adversely impact on natural hydrological flows.	Complies ✓	See SEEC Primary Erosion and Sediment Control Plan (EA Appendix D) and SEEC Site & Catchment Plan (Appendix B of this report).
fire trail design acts as an effective barrier to the spread of weeds and nutrients	Complies ✓	See SEEC Primary Erosion and Sediment Control Plan (EA Appendix D)
fire trail construction does not expose acid-sulphate soils.	Complies ✓	See Section 8 of this report



5.5 BVSC, & RFS CONCERNS

Other concerns additional to those addressed above, raised by Bega Valley Shire Council and the NSW Rural Fire Service, are discussed below.

BVSC

Council in its letter dated 11 November 2009 stated that it “*would raise no objection to the creation of a suitable right of access (as opposed to a public road) provided the access is constructed to a bitumen sealed standard*”. A 4m bitumen sealed road has therefore been incorporated into the proposal, as outlined above.

NSW Rural Fire Service

Concerns expressed by the NSW RFS in their letter of 6 November 2009 have been addressed in the *Revised Bushfire Report* dated April 2010 which is attached as **Appendix E** of this report. A Table of Compliance with *NSW RFS: Planning for Bushfire Protection Guidelines 2006* is also included as **Table 5.3** above.



6. ACID SULFATE SOILS

6.1 INTRODUCTION

This section addresses Key Issue 5 of the DoP's concerns. Acid Sulfate Soils (AS Soils) were previously considered in Section 11.13 and Section 14 of the EA. AS Soils are considered in the revised WCMS Section 3.2.7 Acid Sulfate Soils (SEPP 62) (see **Appendix D**). Clause 82 of the BV LEP 2002 is also relevant in the consideration of Acid Sulfate Soils.

AS Soils occur on low lying coastal and estuary flood plains below 10 m AHD. Undisturbed they are referred to as Potential Acid Sulfate Soils (PASS) and are relatively harmless. However, once exposed to air, pyrite in these soils rapidly oxidises to create sulphuric acid. This acid can degrade concrete and steel infrastructure including pipes, building foundations, bridges and roads. It also enters estuaries following rainfall events, causing significant ecological degradation.

AS Soils risk mapping by the Department of Land and Water Conservation (DLWC, now part of DECCW) identified several small patches of coastal land in proximity of this site that have a high risk of being ASS (see **Figure 6.1**). There is a small area of foreshore on the site within residual lot 7 that contains soils identified on the DECCW map as having a low probability of containing AS Soil to 1m-3m below the surface. Although SEEC did not specifically investigate this area for acid sulphate soils, they concur that there may be a high risk of AS Soils in this area (see areas coloured yellow and reference Eu1 within **Figure 6.1**).

However, none of the proposed development is (in plan) near any of these AS Soils locations and, more importantly, all proposed development is on relatively elevated lands, well above AHD 10 m. The potential AS Soils are also within the 40m Riparian Corridor where there will be no disturbance to the soils. Therefore, SEEC have assessed that there is no risk that acid sulfate soils will occur in any of the proposed development sites.

6.2 NSW ACID SULFATE SOIL PLANNING MAPS

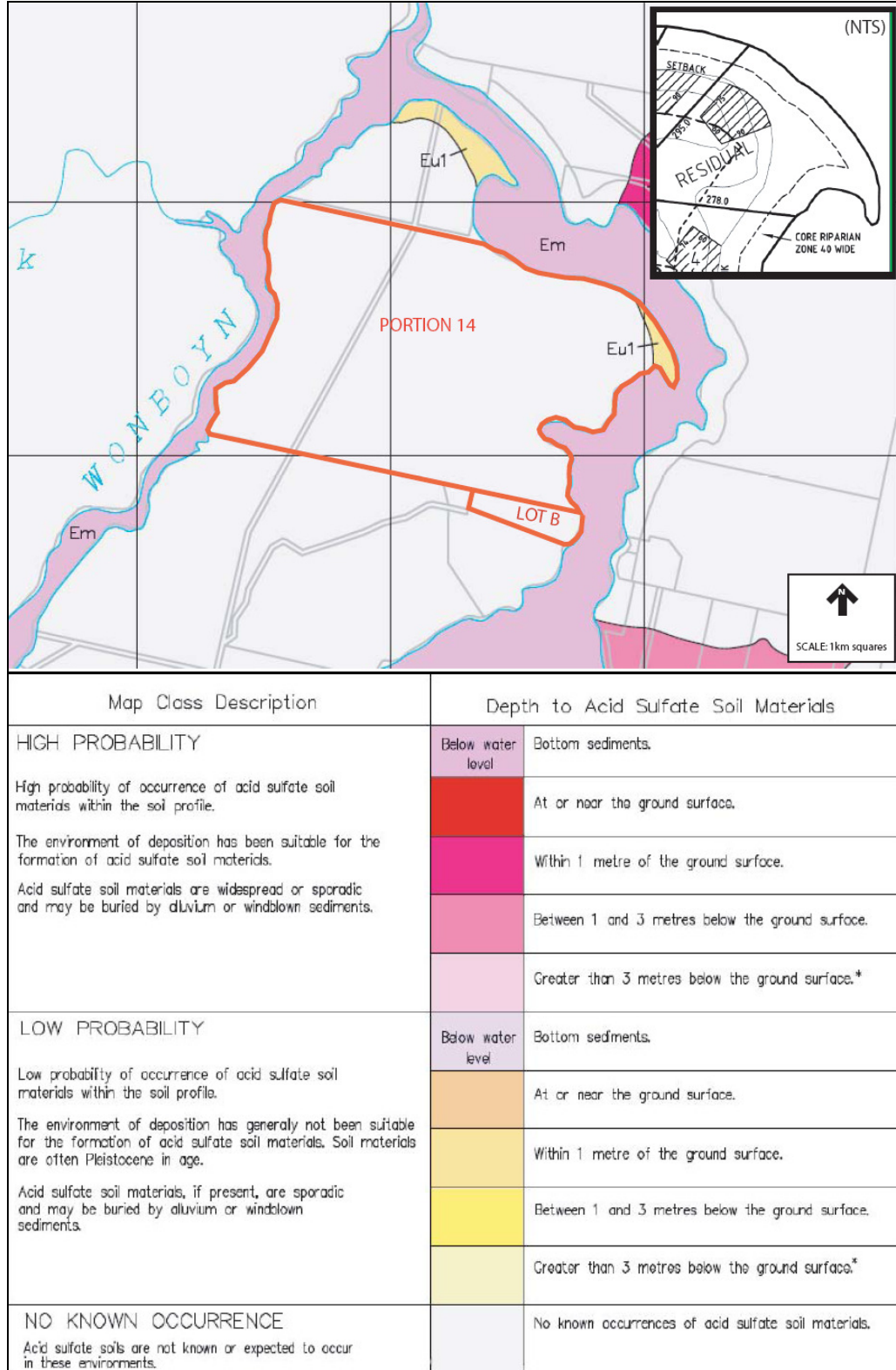
Potential Acid Sulfate Soils do not occur near the development areas and will not be disturbed.

6.2.1 NSW Acid Sulfate Soil Planning Maps

The NSW Acid Sulphate Soil Planning Maps {and ASS risk mapping by the Department of Land and Water Conservation (DLWC, now part of DECCW)} have been referred to. Included below are extracts from the two maps as they apply to the site. The ASS Risk Map (**Figure 6.1a.**) shown is to scale and clearly identifies the site. The NSW ASS Soil Planning Map (**Figure 6.1b**) is sourced from the NSW Natural Resource Atlas website (interactive maps) and therefore is not to scale. However, when viewed in conjunction

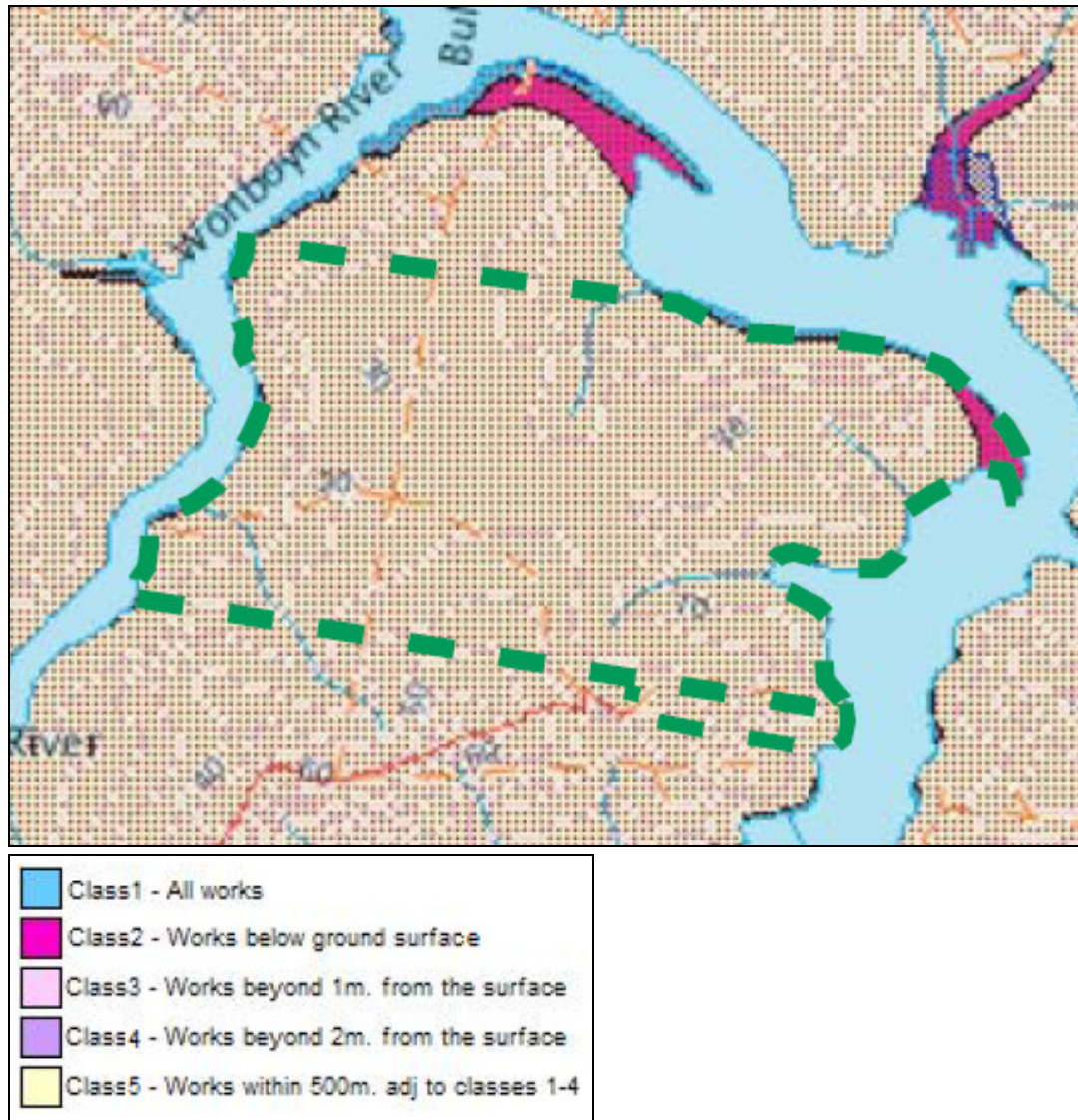
with the ASS Risk Map, the ASS Classes and how they affect the site can be clearly interpreted.

Figure 6.1a.: NSW Acid Sulfate Soil Risk Map Extract (Site outlined in orange)



Source: Dept. Land & Water Conservation Acid Sulfate Soil Map – Kiah (8823S1)

Figure 6.1b. NSW ASS Planning Map (Site (approx) outlined in green)



Source: <http://www.nratlas.nsw.gov.au/> (NTS)

6.2.2 Clause 82 BVLEP2002

Clause 82 of BVLEP 2002 states as follow:

82 Development on land identified on acid sulfate soils planning maps

(1) Consent usually required A person shall not, without development consent, carry out works described in the following Table on land of the class specified for those works, except as provided by subclause (3).

Class of land as shown on acid sulfate soils planning maps	Works
1	Any works
2	Works below natural ground surface Works by which the watertable is likely to be lowered
3	Works beyond 1 metre below natural ground surface Works by which the watertable is likely to be lowered beyond 1 metre below natural ground surface



4	Works beyond 2 metres below natural ground surface Works by which the watertable is likely to be lowered beyond 2 metres below natural ground surface
5	Works within 500 metres of adjacent Class 1, 2, 3 or 4 land which are likely to lower the watertable below 1 metre AHD on adjacent Class 1, 2, 3 or 4 land

(2) For the purpose of the Table to subclause (1), **"works"** includes:

- (a) any disturbance of more than one tonne of soil (such as occurs in carrying out agriculture, the construction or maintenance of drains, extractive industries, dredging, the construction of artificial waterbodies (including canals, dams and detention basins) or foundations, or flood mitigation works), or
- (b) any other works that are likely to lower the watertable.

(3) Exception following preliminary assessment.

This clause does not require consent for the carrying out of works if:

- (a) a copy of a preliminary assessment of the proposed works undertaken in accordance with the Acid Sulfate Soils Assessment Guidelines has been given to the Council, and
- (b) the Council has provided written advice to the person proposing to carry out works confirming that results of the preliminary assessment indicate the proposed works need not be carried out pursuant to an acid sulfate soils management plan prepared in accordance with the Acid Sulfate Soils Assessment Guidelines.

(4) Considerations for consent authority.

A consent required by this clause must not be granted unless the consent authority has considered:

- (a) the adequacy of an acid sulfate soils management plan prepared for the proposed development in accordance with the Acid Sulfate Soils Assessment Guidelines, and
- (b) the likelihood of the proposed development resulting in the discharge of acid water, and
- (c) any comments received from the Department of Land and Water Conservation within 21 days of the consent authority having sent that Department a copy of the development application and of the related acid sulfate soils management plan.

(5) Public authorities not excepted

This clause requires consent for development to be carried out by councils, county councils or drainage unions despite:

- (a) clause 35 and clauses 2 and 11 of Schedule 1 to the Environmental Planning and Assessment Model Provisions 1980, as adopted by this plan, and
- (b) clause 10 of State Environmental Planning Policy No 4 Development Without Consent and Miscellaneous Complying Development.

Clause 82 has been considered, as the subject site is located within an area identified as containing ASS in the NSW Acid Sulphate Soil Planning Maps (see **section 6.2.1** above). The requirements of Clause 82 have however not been considered to apply to the proposed development as:

- The identified potential AS soils are generally along the foreshore edge of the site and do not extend beyond 75m from the High Water Mark (which defines the "building setback"),
- The identified potential AS soils are "low-probability" as per Figure 6.1a above,
- Generally no "works" are proposed within the 40m Riparian Corridor or the 75m building setback which is the only area of potential AS soils,
- The proposed "works" as part of this subdivision application do not fall within the definition of Clause 82(2)(a), and
- the proposed works which are the subject of this application will not lead to the lowering of the watertable as outlined in Clause 82(2)(b).

7. AGRICULTURAL LAND CLASSIFICATION

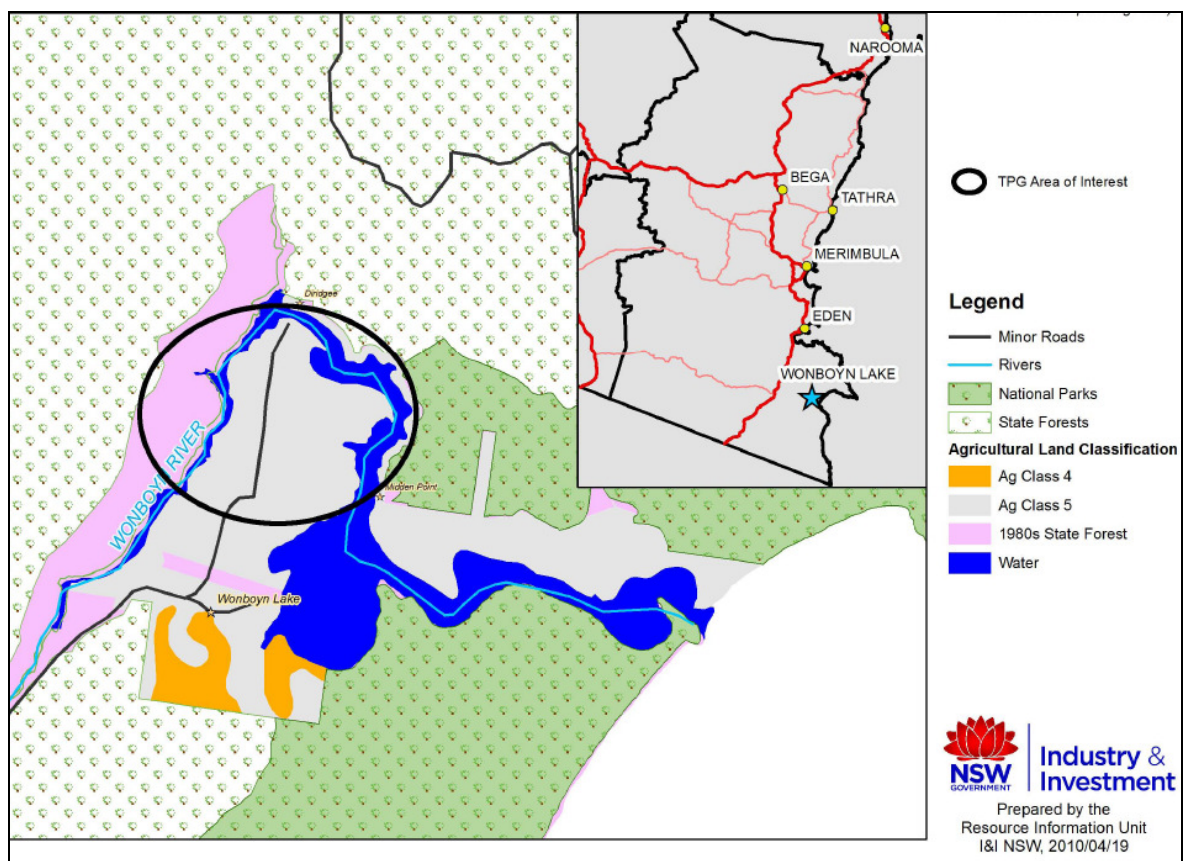
This section addresses Key Issue 6 of the DoP's concerns. The subject land is considered generally unsuitable for agriculture.

The NSW Agricultural Land Classification System characterises land in NSW based on its agricultural potential and capacity. The publication Agfact AC.25 prepared by NSW Agriculture outlines the different classifications of land. The different classes are suited to different agricultural uses, or are deemed unsuitable for agriculture.

The subject site is on land which is Class 5 Agricultural Land, as identified in **Figure 7.1**. Class 5 land is defined in Agfact AC.25 as:

Class 5: Land unsuitable for agriculture, or at best suited only to light grazing. Agricultural production is very low or zero as a result of severe constraints, including economic factors which prevent land improvement.

Figure 7.1: NSW Agricultural Land Classification Map



Source: Resource and Information Unit; Industry and Investment NSW April 2010



8. BUSHFIRE

8.1 INTRODUCTION

This section addresses Key Issue 7 of the DoP's concerns. The site is on land classified as bushfire prone on the Bega Valley Bushfire Prone Map, prepared in accordance with the requirements of Section 146 of the *EP&A Act 1979*. A detailed Bushfire Risk Assessment report for the proposed development has previously been undertaken to determine the requirements for the proposed subdivision. The report by RW Surveying and Valuations was included in Appendix H of the EA.

An update of the Bushfire Report has been prepared in response to RFS concerns in relation to future dwelling sites, and their ability to:

- Afford occupants adequate protection from exposure to a bush fire;
- Make adequate water available to each site; and
- Ensure that operational access and egress for emergency service personnel and residents is available.

The update of the Bushfire Report which addresses RFS concerns is attached as **Appendix E** – RW Surveying and Valuations *"Updated Bushfire Risk Assessment Report"* July 2010.

The specific issues identified by the DoP in relation to asset protection zones, water supply and access, are discussed below in **sections 8.2, 8.3 and 8.4**.

8.2 ASSET PROTECTION ZONES

APZs have been calculated and provided in accordance with the *"Planning for Bushfire Protection Guidelines, 2006"* (see Appendix H of the EA.) Within Appendix 2 of the Bushfire Risk Assessment Report within the EA, APZs have been calculated using the Asset Protection Zone Calculator on the NSW Rural Fire Service website (www.rfs.nsw.gov.au) in conjunction with *Planning for Bushfire Protection 2006*.

APZ's have been determined for each of the lots and have been assessed in accordance with the recommendations of that Calculator. The previously calculated APZs have been reviewed as part of the July 2010 *"Updated Bushfire Risk Assessment Report"*.

The calculated distances of the APZs were previously tabulated in section 3.3 of the *May 2008 Bushfire Risk Report*, as well as being tabulated and included as Figure 4.1 within Section 4.1.1 of the EA. The APZs were illustrated on Figure 4.1 (of the EA) so as to provide the required APZs for each lot that will in future be required around each of the future dwellings. (Note: The APZs are shown diagrammatically for each lot and not marked on the plan, as the actual dwelling locations within each of the building envelopes have not yet been selected). The diagram and figure do however demonstrate that the proposed dimensions for the APZs can all be accommodated.



Confirmation has also been sort as to whether the APZs will overlap with the hollow bearing trees and whether this complies with the requirements of inner and outer protection areas within the APZs. The Updated Bushfire Report (see **Appendix E** Attachment 5) recommends that any hollow bearing trees located within the identified Asset Protection Zones should be left, where possible, and any other specific recommendations of the Updated Flora and Fauna Report (see **Appendix C**), should be complied with. This recommendation is not considered to adversely impact on the effectiveness or objectives of the Asset Protection Zones. A plan showing the location of the hollow bearing trees and feed trees to be preserved has been attached to this Bushfire report.

8.3 WATER SUPPLY

The project will provide an adequate water supply for bushfire fighting services for each proposed lot. As there is no guaranteed water supply to any of the subject lots, it is recommended that any future dwellings on any of the lots subject to this report, should supply the following dedicated water for fire fighting purposes:

- A minimum 20,000 litres of dedicated water per lot, in the form of a water tank or part of a larger water tank;
- Water tank to be of a non combustible type construction (metal or concrete, no pvc or plastics);
- To be located in close vicinity to the dwelling it is providing protection for;
- Each tank is to be fitted with a 65 mm Storz outlet with a gate or ball valve;
- Raised tanks should have their stands protected;
- An independent diesel or petrol powered pump (approximately 5hp) to be provided for the tank, which is not reliant on mains electrical supply; and
- If the location of a water tank is to be on the hazardous side of the buildings, adequate shielding should be provided for the protection of fire fighters and equipment.

8.4 ACCESS

The project has been designed to provide safe and operational access for both residents and emergency services personnel in accordance with the requirements of *Planning for Bushfire Protection, 2006*, (see **Section 4** earlier on *Traffic and Access*).

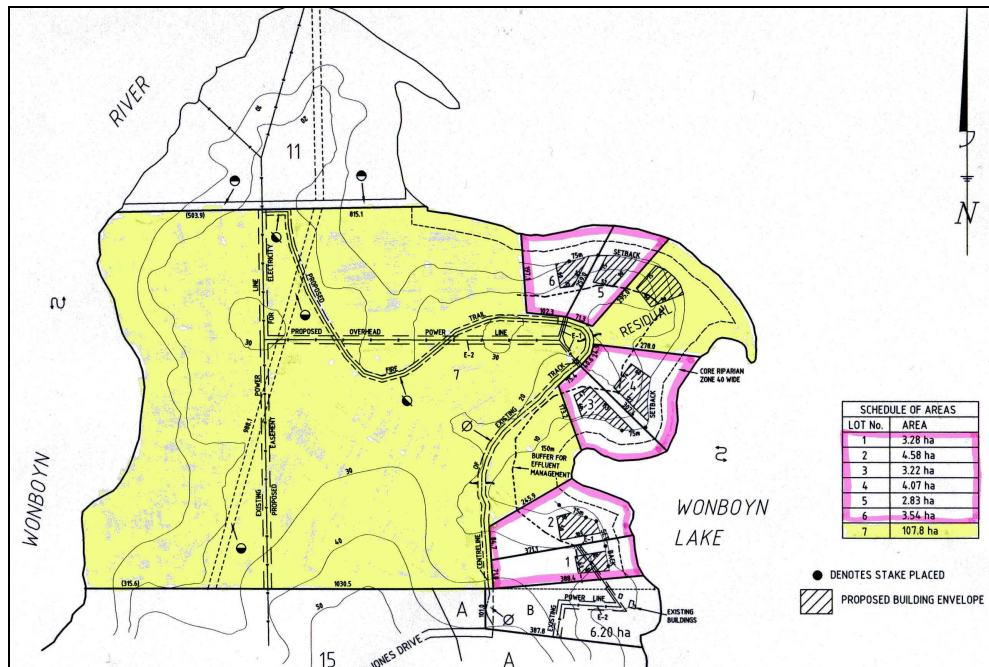
9. SUBDIVISION AND RESTRICTIONS

The general concerns of the DoP identified as Key Issue 8, relating to the subdivision and restrictions, are addressed in **sections 9.1 to 9.5** below.

9.1 RESIDUAL LOT

Confirmation is provided that the parcels of land located between proposed Lots 2 and 3 and between Lots 4 and 5, are part of the proposed residual lot (ie indicated as proposed Lot 7 on the subdivision plan. For further clarification, “residual” Lot 7 is shown coloured yellow on the attached **Figure 9.1**.

Figure 9.1: Residual Lot 7 (shaded yellow)



9.2 BUILDING ENVELOPES

Additional information is provided by RW Surveying and Valuations to include the dimensions of the proposed building envelopes on an amended subdivision plan. This information is provided as Sheet 1 of 2 (Drawing reference 0833 B REV 16) at a scale of 1:8000, attached within **Appendix E** of this report.

9.3 CORE RIPARIAN ZONE AND SETBACKS

40m core riparian zone setback

As requested, a 40m Core Riparian Zone (CRZ) is provided as part of the proposed development. The CRZ is included within **Figure 9.3** (see also RWS Drawing no 0833B



sheets 1 and 2 Rev 16 dated 31/01/10). The CRZ includes the zone between high water mark and across the lake frontages to the lots within the subdivision. This CRZ is to be provided as a Restrictive Covenant under the *Conveyancing Act 1919*. See draft covenant attached within **Appendix F**.

The CRZ prohibits any building or land clearing in recognition of:

- the scenic quality of the foreshore,
- the very high water quality in the estuary and
- the significance of the existing riparian vegetation.

Riparian corridors form a transition zone between terrestrial and aquatic environments and perform a range of important environmental functions. Riparian corridors:

- provide bed and bank stability and reduce bank and channel erosion,
- protect water quality by trapping sediment, nutrients and other contaminants,
- provide a diversity of habitat for terrestrial, riparian and aquatic flora and fauna species,
- provide connectivity between wildlife habitats,
- allow for conveyance of flood flows and control the direction of flood flows, and
- provide an interface between developments and waterways.

The CRZ is within the 75m building setback described below. The Proposed Restrictive Covenant for the CRZ will be included in the Riparian Corridor Agreement included within the Section 88B Instrument. Within the covenant "*land clearing*" does not include walking paths or means of access to a landing area on Wonboyn Lake.

75m building and building envelope setback

The proposal includes a building setback of 75m from the high water mark of Wonboyn Lake. The setback from the water provides a zone in which building envelopes, roads and easements are excluded. The setback line also marks the boundary between the 7(b) (Environment Protection Foreshore) zoned land (water side) and the 1(a) zoned land (land side) – see **Figure 9.2**. This 75m setback will ensure that existing riparian vegetation is maintained along the foreshore within the 7(b) zoned land. The minimum 75m setback of a building from a nominated waterway is also a requirement of BVSC DCP No 6.

Figure 9.2: The 1(a) and 7(b) Zones within the site (red line)

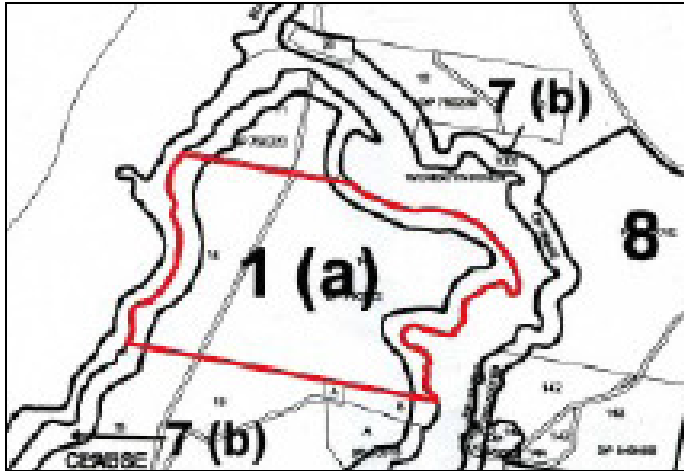
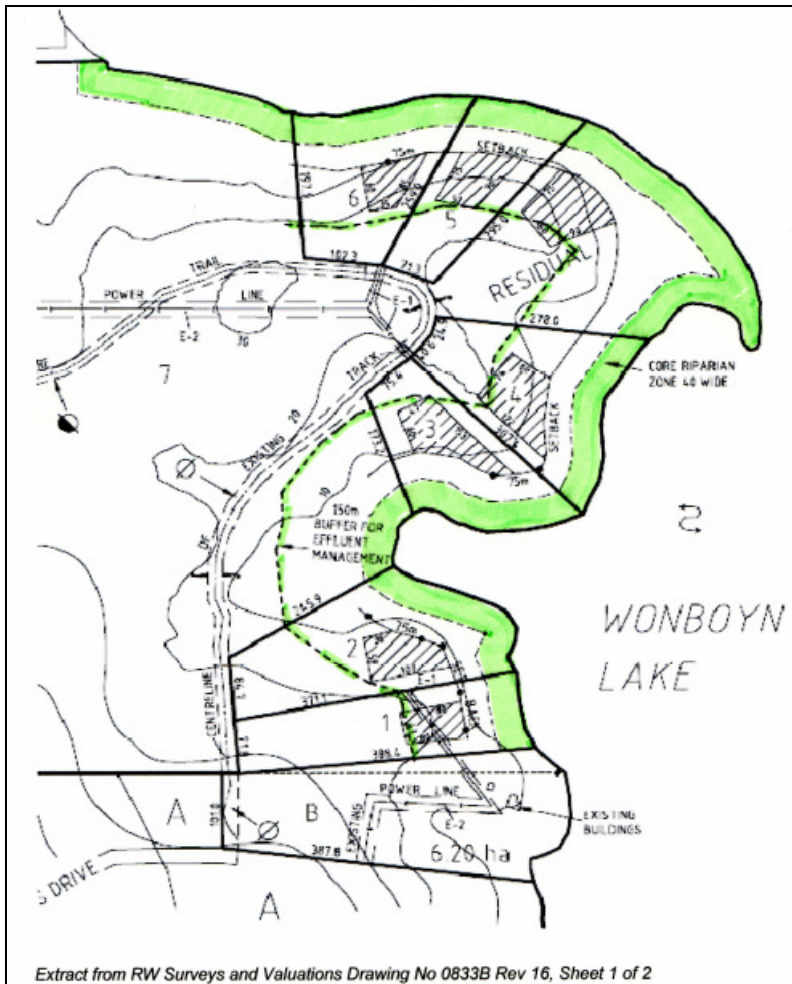


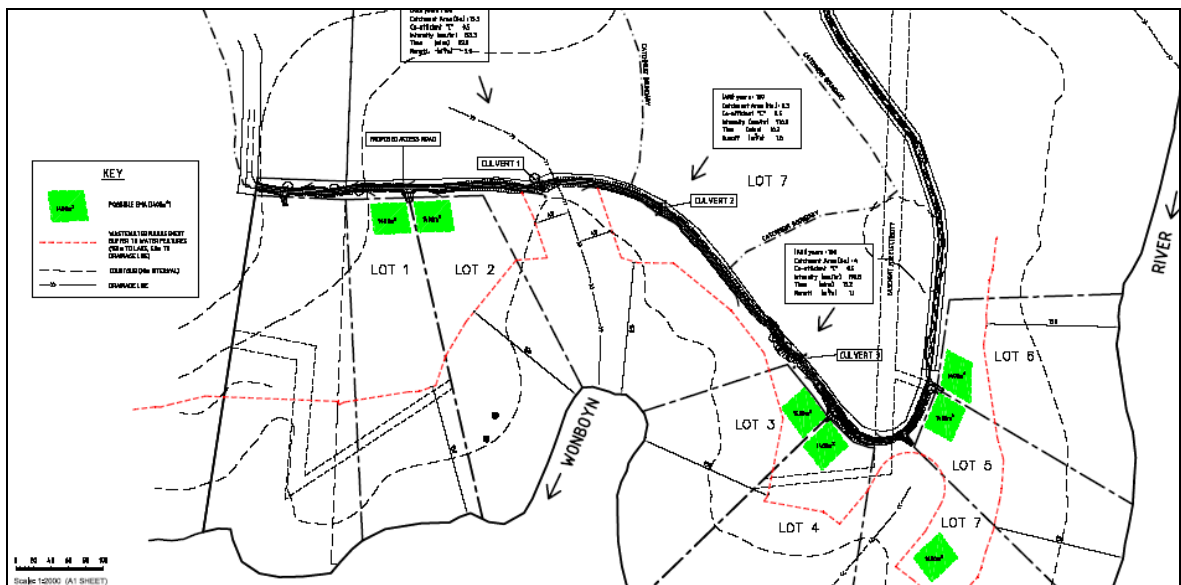
Figure 9.3: Riparian Zone



150m Effluent Management Buffer and setback

A minimum 150m setback from nominated waterways (ie Wonboyn Lake) for the installation of on-site effluent management systems (EMS) has been accepted as part of this development proposal in accordance with the requirements of BVSC DCP6. The identified areas for the possible Effluent Management Areas (EMA) are all in excess of the minimum 1,400m² area requirement and are all located outside the distance of 150m from the lake, and 40m from the nearest drainage line (see SEEC Drawing no 01 / Project No 10000001 – **Figure 9.4**).

Figure 9.4: Location of possible Effluent Management Areas (green squares)



Extract from SEEC Drawing 01 / Project 10000001

Note: red dotted line indicates 150m setback from the Lake and 40m setback from the nearest drainage lines.

9.4 RESTRICTIONS

As detailed in the EA, the subdivision is proposed to be under Torrens Title.

In connection with the **internal access road**, a maintenance agreement will be included within a Section 88B Instrument, which will be lodged and registered with the final plan of subdivision. Essentially, Lot 7 – the “residual lot” (whoever owns it now, or in the future) will be encumbered by the road (with all lots to benefit from the Right of Carriageway), although it will be the responsibility of each lot owner to contribute to the maintenance of the road.

In connection with the **Effluent Management System** for each lot:

- either a maintenance agreement will be included within a Section 88B Instrument, which will be lodged and registered with the final plan of subdivision, or



- a maintenance contract agreement will be entered into with Council requiring inspection and reporting of the treatment system every three months.

The Draft Statement of Commitments has been revised (see **Section 10** following) to include all easements and restrictions which are to be incorporated on the title including rights of carriageways, easements and restrictions.

10. STATEMENT OF COMMITMENTS

The Revised Statement of Commitments for the 7 lot subdivision and Boundary Adjustment of Portion 14 and Lot B Wonboyn Lake are included below.

The project consists of a 7 lot subdivision and boundary adjustment in accordance with the subdivision plans Drawing No. 0833B Rev 15 Sheets 1 & 2 included in **Appendix A** (prepared by RW Surveying and Valuations).

Large building envelopes have been included on each of the lots. These building envelopes have been assessed to ensure that they are suitable for a future dwelling to be sited within them. They are large in size to allow a choice of sites for future houses and have been provided with the appropriate setbacks to all boundaries to ensure that appropriate setback in relation to APZs, DCPs and from the waterways could be accommodated within the nominated building envelope.

No buildings are included in this application as they will be part of future applications for dwellings on each of the lots. The access road, subdivision, boundary adjustment and clearing for provision of electricity lines are the only items included in this application.

The Revised Draft Commitments are included in **Table 10.1** below:

Table 10.1 below includes the Draft Statement of Commitments relating to the proposed project. It aims to outline environmental management, mitigation and monitoring measures to be implemented to minimise any potential impacts of the project.



Table 10.1: Revised Draft Statement of Commitments

Project component and Environmental outcome (commitment)	Measure (commitment)	Purpose of measure	Timing for completion
1. Construction of subdivision works			
1.1 Maintenance Agreement S88B.	(i) Internal Road Maintenance A maintenance agreement is to be drafted by the proponent, agreed by the Department of Planning and included within the Section 88B Instrument, which will be lodged and registered with the final plan of subdivision.	Essentially, Lot 7- the residual lot (whoever owns it now or in the future) will be encumbered by the road (with all lots to benefit from the Right of Carriageway), although it will be the responsibility of each lot owner to contribute to the maintenance of the road.	Lodged and registered with the final plan of subdivision.
	(ii) Protection of endangered ecological communities (EECs) - (signage) EECs will be protected by covenants (where they occur above the mean high water mark) and by erection of signage indicating their conservation significance and sensitivity to disturbance.	Whilst there will be no clearing of Saltmarsh or Bracelet Honey-myrtle Scrub as a result of the proposed development - these two vegetation types being examples of the endangered ecological would be protected by covenants (where they occur above the mean high water mark) and by erection of signage indicating their conservation significance and sensitivity to disturbance.	Lodged and registered with the final plan of subdivision.



Project component and Environmental outcome (commitment)	Measure (commitment)	Purpose of measure	Timing for completion
	(iii) Maintenance of Vegetation “Off-Set” area - 7.62ha of native vegetation/fauna habitat. Area reserved for conservation purposes.	This area contains habitat suitable for all the threatened species affected by the proposal, including the provision of hollow-bearing trees. Securing habitat here also provides a corridor for movement of fauna from Portion 14 to bushland to the south in Lot 15 DP 650087 and beyond, which extends along the Wonboyn River.	Lodged and registered with the final plan of subdivision.
	OTHERS (iv) Maintenance of Water Quality Control (see 1.4A below) (v) Riparian Corridor Agreement (see 1.5A below) (vi) On-site wastewater management obligations (see 2.1A below)		
1.2 On-Site Works: Construction in accordance with approved drawings.	All construction is to be undertaken in accordance with SEEC’s drawings 00-08 dated February 2008, as updated by drawings in Appendix B of this report) in relation to the road and drainage works. The contractor shall comply with all notes included on 07000168 -00-Rev B (Title Sheet) prepared by SEEC. This includes all relevant notes included in the following:	Ensure that construction of the road and drainage works is undertaken in accordance with the approved plans.	Prior to commencement of works and during construction of the road and



Project component and Environmental outcome (commitment)	Measure (commitment)	Purpose of measure	Timing for completion
	<i>Prior to commencement of work the contractor shall comply with the following:</i> • Introductory Notes (A1 to A4), • General Notes (G1 to G14), • Stormwater Drainage Notes (SD1 to SD4), • Erosion & Sediment Control (ES1 to ES3), • Traffic Control (TC1 and TC2), and • RM Details (Reference mark corner pegs see Sheet 02).		drainage works
1.3 Off-Site Works: Discussion with, and approval of BVSC.	(If required by the Minister in relation to the option of passing-bays on Ivor Jones Drive), discussions will be held with BVSC to gain Council's approval to the details of the proposed 4 passing bays as "off-site works".	Ensure that construction of the 4 passing bays is undertaken in accordance with the plans agreed with Council within the existing Ivor Jones Drive public road corridor.	After approval of the subdivision and associated works.
1.3A Off-Site Works: Construction in accordance with approved drawings.	All construction of the 4 "off-site" passing bays is to be in accordance with RW Surveys and Valuations drawings 01-03, Reference 0833C Rev 0, dated 7 June 2007.	Ensure that construction of the road and drainage works is undertaken in accordance with the plans prepared.	Prior to commencement of works and during construction of the road and drainage works



Project component and Environmental outcome (commitment)	Measure (commitment)	Purpose of measure	Timing for completion
1.3B Ivor Jones Drive Passing Bays – Traffic Control Plan.	Construction of the 4 “off-site” passing bays will be in accordance with the Traffic Control Plan, suitable for the direction of traffic during the construction of passing bays along Ivor Jones Drive (if required). (The Traffic Control Plan is included as Attachment 3 of the RW Surveying and Valuation Report included in Appendix E of this report).	Ensure traffic safety during construction.	Implemented during construction as applicable.
1.4 Erosion and Sediment Control.	Construction will be in accordance with SEEC’s <i>Primary Erosion and Sediment Control Plan (ESCP)</i>. The plan consists of a series of drawings (Drawing Numbers 07000168–ESCP-01-03) that show the layout of appropriate soil and water management works. Details of erosion and sediment control measures are included within Appendix 3 (Standard Drawings) of the ESCP as follows: ▪ Stockpiles – SD4-1, ▪ Replacing Stockpiles – SD4-2, ▪ Rock Check Dam – SD5-4, ▪ Earth Bank (Low-Flow) – SD5-5, ▪ Earth Bank (High-Flow) – SD5-6, ▪ RECP-Concentrated Flow – SD5-7, ▪ Energy Dissipater – SD5-8, ▪ Sediment Fence – SD6-8, ▪ Stabilised Site Access – SD6-14, and ▪ Seedbed Preparation – SD7-1. The principles and measures incorporated in these drawings will be adopted and used where relevant during construction works, together with the	To ensure that appropriate soil and water management is implemented during construction of roads, electricity works, and related works.	After approval of the subdivision.



Project component and Environmental outcome (commitment)	Measure (commitment)	Purpose of measure	Timing for completion
	following relevant sections of the ESCP report: • General Instructions (Section 5) • The Plan (Site Preparation and Construction Phase), (Section 6), • Methods of Erosion Control (Section 7), • Methods of Pollution Control (Section 8), and • Site Monitoring and Maintenance (Section 9).		
1.4A Maintenance of Water Quality Control Measures.	An ongoing regime for maintenance of the various water quality control measures will be undertaken to ensure their continued performance and stability. Monitoring and maintenance will include the following: <i>Pavements and Watercourse Crossings</i> These will be checked regularly, paying particular attention to ▪ table drains, to ensure they are stable and well armoured against erosion; ▪ pavement surfaces, to ensure they are not subject to deterioration; ▪ pipe outlets, to ensure they are free from blockages and are appropriately armoured against erosion; ▪ batters, to ensure they are well vegetated and do not show signs of sheet or rill erosion; ▪ tail-out drains, to ensure they are not filled with sediment, they are stable and they remain connected to the main table drains. ▪ causeways, to ensure they are free from blockages and are providing suitable passage for water; ▪ drainage systems, to ensure they are operating as intended and are not causing erosion issues elsewhere.	Minimise impacts on water quality.	After construction of water quality control measures



Project component and Environmental outcome (commitment)	Measure (commitment)	Purpose of measure	Timing for completion
	<i>Diversion Drains and Infiltration Contour Banks</i> These will be checked regularly by the owners of each lot, paying particular attention to: - the bases - to ensure they are well vegetated and stable under flow, and - the level-spreader outlets (SD 5-8, Appendix 3 of the ESCP) to ensure flow is dissipated.		
1.5 Flora and Fauna Mitigation Measures.	The following summarised recommendations of the Flora and Fauna Assessment and Habitat Tree Inspection have been accepted and incorporated into the proposed development and will be implemented (full details in Appendix E of the EA as updated by Appendix C of this PP Report). Flora and Fauna Mitigation Measures: - The Yellow-bellied Glider sap tree to be clearly marked. - The likely location of the Yellow-bellied Glider roost tree should be identified - The alignment of the proposed access road/firetrail should minimise the removal of any hollow bearing trees. - The alignment of the proposed access road/firetrail should avoid any removal or modification of the Scented Paperbark Scrub/Closed Scrub community. - The Glossy Black-Cockatoo feed trees identified within Site 1 to be clearly marked on site. No works should be undertaken in the vicinity of these plants. - Supplementary hollows/nest boxes to be erected within the study	These measures are to ensure that the works are undertaken in an ecologically sustainable manner, in accordance with the accepted recommendations of the ecologist's report and that the proposal has no adverse impact on those habitats that occur beyond the limits of the development.	After approval of the subdivision.



Project component and Environmental outcome (commitment)	Measure (commitment)	Purpose of measure	Timing for completion
	area. • The EEC' Coastal Saltmarsh and Swamp Oak Floodplain Forest, signage should be erected and low fencing considered. • The placement of any infrastructure (including site compounds and storage areas) should be located within previously disturbed and cleared areas or support low, understorey vegetation. • In woodland areas, the extent of permissible clearing to be clearly defined through temporary fencing. • All areas beyond the limits of works to be identified to ensure they are not disturbed. • Cleared and disturbed areas to be stabilised with suitable native grasses and ground cover plants as soon as possible. • All vehicles to restrict movements to the development areas and existing tracks and roads. • Where possible, the removal of the study areas vegetation, particularly any hollow bearing plants, should occur during the late summer early autumn months. • Mature hollow bearing trees removed to be checked for sheltering animals prior to their clearing. • A qualified ecologist to be present on site during the course of all tree removals (only hollow bearing plants). • Protocols to be developed in relation to the handling and treatment of injured wildlife. • Cleared vegetation to be mulched and used in the site's stabilisation		



Project component and Environmental outcome (commitment)	Measure (commitment)	Purpose of measure	Timing for completion
	works post trenching. Provision of a “7.62ha of native vegetation/fauna habitat Off-Set”(see Commitment 1.1 earlier)		
1.5A Riparian Corridor	A Riparian Corridor Agreement included within the Section 88B Instrument. A 40 metre Core Riparian Zone (CRZ) will be provided from the mean high water mark across the lake frontages to the individual lots within the subdivision. The CRZ will be provided as a Restrictive Covenant under the <i>Conveyancing Act 1919</i> and will prohibit any buildings or land clearing for non-permitted purposes in recognition of the scenic quality of the foreshore, the very high water quality of the estuary and the significance of the existing riparian vegetation.	The Riparian Corridor Agreement will prohibit any buildings or land clearing for non-permitted purposes in the CRZ in recognition of the scenic quality of the foreshore, the very high water quality of the estuary and the significance of the existing riparian vegetation. See draft covenant attached within Appendix F.	Lodged and registered with the final plan of subdivision.
1.6 Electricity Provision.	Provision of electricity will be undertaken as designed by RW Surveying in consultation with Country Energy. (Refer to report and drawings included in Appendix H of the EA, as updated by drawings in Appendix B of this Preferred Project Report) A 20m wide easement for electricity and a 10m easement for electricity (underground and above ground) will extend from the two existing power lines. Country Energy will be the benefited authority for both easements.	To provide electricity to the proposed lots in accordance with measures detailed in the Country Energy report and correspondence.	After approval of the subdivision.
1.7 Waste Management.	Construction waste will be carefully managed and disposed of at a registered landfill, recycling materials where possible.	Minimise waste and recycle where possible.	During construction
1.8 Construction	Some short term noise impacts during road construction to be managed through nominated hours of construction works as specified by the Minister.	Minimise impact periods of construction noise	During construction



Project component and Environmental outcome (commitment)	Measure (commitment)	Purpose of measure	Timing for completion
Noise and hours of work.			
2 Future House Applications			
2.1 Effluent Management Areas (EMAs)	All onsite Effluent Management Areas (EMAs) will be located at least 150m away from Wonboyn Lake. On site systems to be constructed in accordance with SEEC's specifications in their Water Cycle Management Study. At a minimum secondary treatment is to be provided on all lots and any system must be able to produce effluent of the following quality (NSW Health, 2008) (NWQMS, 2000): (i) BOD less than 20 mg/L (ii) Suspended Solids less than 30 mg/L (iii) Thermotolerant coliforms less than 1,000 cfu/100 ml	To comply with DCP 5 and ensure a suitable effluent management system is provided on site for future residents.	Future construction when individual house applications are approved.
2.1A Monitoring onsite wastewater management systems.	Future Applications to install wastewater management systems will be assessed under the requirements of the <i>Local Government Act 1993</i> and the <i>Environmental Planning and Assessment Act 1979</i> and in accordance with the <i>Bega Valley Shire Council DCP 5</i> (revised in 2008). Future applications will be assessed under all relevant procedures of <i>DCP 5</i>, but with particular regard to - <i>procedure 4.1.3(b) – The Approvals to Operate and Reinspection Program</i>. As the proposed onsite waste management systems (OWMS) will be	To comply with DCP 5 and ensure a suitable effluent management system is provided on site for future residents.	



Project component and Environmental outcome (commitment)	Measure (commitment)	Purpose of measure	Timing for completion
	classified as <i>Low Risk</i> (as no EMA is within prescribed buffer distances from a sensitive environment), the OWMSs will be subject to a five-year operational approval and will be self-certified, after initial Council Inspection. Targeted re-inspections might be undertaken by Council Officers. The following actions will be undertaken: 1) Quarterly inspections of the systems will be undertaken by an approved wastewater contractor (if required by Council). At those times compliance with the system's NSW Department of Health's approval document will be provided by each householder. 2) Service reports will be submitted to Council as requested. 3) As part of their understanding of their obligations to onsite wastewater management homeowners will periodically check their system and its EMA to ensure: ▪ Any alarm is responded to within 24 hours, ▪ Any filters are cleaned, ▪ Distribution lines are buried and protected, ▪ No effluent is disposed at the surface, ▪ The vegetation in the EMA is regularly maintained (trimmed, mown, slashed, weeded etc.), and ▪ Any unusual odours are reported to the manufacturers as soon as possible and remedial action taken if required.		
2.2 Future Dwellings	Future dwellings will be located within the building envelopes established in the subdivision plans prepared by RW Surveying and Valuations (see	Building envelopes have been assessed as suitable for dwellings.	Individual house applications will be lodged in



Project component and Environmental outcome (commitment)	Measure (commitment)	Purpose of measure	Timing for completion
within agreed Building Envelopes.	Appendix B of this report).		future.
2.2A Water Sensitive Urban Design	Water sensitive urban design measures will be incorporated into the design of each home site. Each new house will include: ▪ (i) A 100 kL rainwater tank (or series of tanks) to capture roof runoff. These tanks will: - have 20 kL water supply dedicated to fire fighting; - be plumbed to provide all internal and external water; - be plumbed to capture as much of the roof runoff as is feasibly possible. - have a first-flush device; - be screened and sealed to prevent the entry of leaves, twigs and mosquitos; - be installed and maintained according to the manufacturer's instructions. ▪ (ii) Water saving fixtures will be installed on any fittings. Toilets will have AAA-rated (minimum), and dual flush cisterns. ▪ (iii) An infiltration contour bank will be provided to trap and percolate runoff water into the soil. This contour bank will: - be located down-slope of each house, at the extremity of the inner protection zone; - be long enough (about 100 m) to capture runoff from the entire urbanised area (inner protection zone);	These measures are to ensure that the works are undertaken in an ecologically sustainable manner,	Individual house applications will be lodged in the future.



Project component and Environmental outcome (commitment)	Measure (commitment)	Purpose of measure	Timing for completion
	- have a 1 m wide base that will be scarified and have gypsum incorporated into it to improve percolation rate and control potential dispersiveness; and - be well vegetated with local native grasses. ▪ (iv) A stabilised up-slope diversion bank to deflect run-on away from the “urbanised” area. The up-slope diversion drain must not drain to the contour bank (to prevent the infiltration contour bank being overloaded).		
2.3 Water collection and Supply System.	The proposed water supply adopted by the proponent as part of the proposal include a minimum of 90,000L to be supplied for each lot with a minimum of 20,000L dedicated for fire fighting purposes. As the site is situated outside the reticulated water supply area each allotment will establish its own collection system.	Provide an adequate water supply of water for domestic and fire fighting purposes on each lot.	Future construction when individual house applications are approved.
2.4 Tele-communications	Telecommunications lines are located on the site (within the route of the existing power lines) and it is proposed to connect telecommunication services to each of the lots via standard connection arrangements with Telstra or an appropriate carrier.	Provide telecommunications to each of the lots	Future construction when individual house applications are approved.
2.5 Bushfire Protection.	The proponent will implement the recommendations put forward by RW Surveying and Valuations in their Bushfire Assessment Report (see Appendix E of this Report). These commitments are outlined below: ▪ Asset Protection Zones will be put in place.	To comply with the bushfire assessment and requirements of Planning for Bushfire Protection.	Future construction when individual house applications are



Project component and Environmental outcome (commitment)	Measure (commitment)	Purpose of measure	Timing for completion
	- All buildings should be designed and constructed to a minimum Bushfire Attack Level 29, in accordance with AS 3959-2009, unless the greater separation distances are complied with. Note: The existing dwelling meets the minimum construction standard (Bushfire Attack Level 12.5), provided that all increased setbacks are complied with, as outlined in the Bushfire Attack Assessor. - Any electricity supply connections put in place for the proposed subdivision and any future dwellings will be in accordance with <i>Planning for Bushfire Protection Guidelines</i>. - All future dwellings will make provisions for onsite water supply dedicated for fire fighting purposes. - Any gas bottles to be installed onsite will be installed in accordance with the recommendations in the RW Surveying and Valuations Report. - Landscaping will be placed in accordance with the aims of <i>Planning for Bushfire Protection 2006</i>, and the recommendations of the <i>RW Surveying and Valuations Bushfire Report</i>. - Access roads should be constructed in accordance with the design plans as proposed and in accordance with <i>Planning for Bushfire Protection</i>. - Clearing for asset protection zones will be sympathetic to the recommendations of the <i>Threatened Species Assessment</i> (see Lesryk		approved.



Project component and Environmental outcome (commitment)	Measure (commitment)	Purpose of measure	Timing for completion
	Report). - Objectives of the Wonboyn Lake Village Protection Plan will be complied with. - Any comments/recommendations regarding Aboriginal Heritage items be complied with. Objectives of the Wonboyn Lake Village Protection Plan will be complied with.		
2.6 Erosion and Sediment Control.	SEEC's <i>Primary Erosion and Sediment Control Plan (ESCP)</i> consists of a series of drawings (Drawing Numbers 07000168–ESCP-01-03) that shows the layout of appropriate soil and water management works. These will be adopted and used where relevant during construction works and the relevant sections of the report adhered to as follows: - General Instructions - Site Preparation - Construction Phase - Methods of Erosion Control. - Methods of Pollution Control - Site Monitoring and Maintenance	Reduce potential impacts of erosion and sediment control during construction of future dwellings and associated structures.	Future construction when individual house applications are approved.
2.7 Vegetation Management	Vegetation Management (generally in relation to future house sites – Commitment 1.5 above relates to overall flora and fauna commitments relating to the subdivision works). (i) Wherever possible, existing vegetation will be maintained as per the current NSW vegetation management regulations. Only those areas of	To maintain water quality	



Project component and Environmental outcome (commitment)	Measure (commitment)	Purpose of measure	Timing for completion
	native vegetation that require clearing for access, effluent management or for the inner asset protection zone will be cleared. (ii) The outer asset protection zone will remain under native vegetation, although it will be thinned to the requirements of the bushfire management plan. Although it will be thinned, the ground cover will not be removed and so the change in vegetative cover will not be enough to affect water quality.		



11. CONCLUSION

Background

This project application under the provisions of Part 3A of the *Environmental Planning and Assessment Act 1979 (EP&A Act)* relates to the proposed 7 lot rural subdivision and boundary adjustment at Lot 14 DP 750222 and Lot B 33573 off Ivor Jones Drive, Wonboyn Lake, NSW.

Director General's Environmental Assessment Requirements (DGEARs) were issued for application ref *MP No.06-0147* on August 2006 and most recently in March 2009. The Environmental Assessment (EA) for this project application was prepared in response to and in compliance with those DGEARs. The EA was publicly exhibited from 2 October 2009 until 3 November 2009.

Following the exhibition, letters were received from the Department of Planning dated 11th and 27th November 2009 and enclosed submissions from the DoP, BVSC, DECCW, NOW and the Department of I&I. An appropriate response has been provided to all submissions made and included within this report. The project has been slightly adjusted in response to submissions.

Structure of this Report

To ease the assessment process, this report has been structured to follow, and respond to the issues of concern raised by the Department (Attachment 1 of the DoP 27/11/2009 letter) together with concerns raised in the additional submissions received from agencies, (Attachment 2 of the DoP 27/11/2009 and 11/11/2009 letters).

Assessed Preferred Project

Following the exhibition period and the receipt of submissions, further additional flora and fauna surveys have been undertaken and the impact of the proposed subdivision on that flora and fauna has been further assessed. Updated reports have been prepared to address:

- Flora and Fauna
- Water Cycle Management
- Traffic, and
- Bushfire risk.

Road Design

Further discussions have also been held with Council's Engineer to ascertain the preferred form of access to the site. As a result, the internal access road and power line within the proposed development has been adjusted to minimise potential impact of feed bearing trees, and to ensure that the road design complies with the requirements of



BVSC. An outline of the agreement resulting from these discussions is attached as a copy of an Email within **Appendix E**.

From these discussions it was agreed that:

1. A ROW (rather than a public road) would be acceptable on the basis that the road served no public places.
2. The road reserve will be 20 metres to allow for upgrading in the future if so required.
3. The road reserve will be entirely within the residual land of Lot 14.
4. The existing 4 metre road design to service the 7 Lots in Lot 14 is acceptable provided the application to develop Lot 11 is withdrawn from council.
5. Whilst the Rural Fire Service has the final say in relation to road design in bushfire prone areas, the above requirements should be acceptable provided there was "leaf to leaf" clearing of 10 metres, i.e 3 metres each side of the 4 metre road.

Subdivision Application

This application now seeks approval for the subdivision, the access road, utilities and clearing associated with the provision of these. This application is considered to be in accordance with the relevant Bega Valley Shire Council planning instruments and controls which would otherwise apply to the site.

Each lot has been provided with a large building envelope which is setback from the foreshore by at least 75m. A 40m Core Riparian Zone has been created along the Lake Wonboyn foreshore and will be protected by the provisions of an 88B Instrument. A 150m setback of the EMAs from the lake will further ensure water quality.

Each lot contains setbacks in accordance with relevant DCPs and the APZs recommended in the *Planning for Bushfire Protection Guideline*. The subdivision and its controls ensure that future houses (as part of future DAs) can be appropriately accommodated within the building envelopes nominated.

The purpose of providing large building envelopes was to provide a degree of flexibility in the final selection of house sites within each of the envelopes. Each of the envelopes have been designed and assessed to be suitable for this purpose. The final location of houses within each lot will be determined in future applications for the individual houses.

Dedicated "off-set" land of 7.62 hectares

The proposed development will result in the removal or modification of approximately 7.62ha of native vegetation/fauna habitat at the subject site. An assessment based of the Draft *Part 3A Guidelines for Threatened Species Assessment* has therefore been prepared and concluded that there would be some adverse, permanent, irreversible impacts on five specified fauna species as a result of the proposal.



As impacts on these species cannot be further avoided or mitigated, an offset strategy for the loss of habitat needs has been considered and included as part of the proposal. It is proposed that this takes the form of securing habitat for the affected species elsewhere on site through the dedication of land for conservation purposes.

It is proposed therefore that a dedicated land area totalling 7.62 hectares be located in the south-west section of Portion 14 (i.e. west of the existing electricity easement and north of the southern boundary). This area contains habitat suitable for all the threatened species affected by the proposal, including the provision of hollow-bearing trees. Securing habitat here would also provide a corridor for movement of fauna from Portion 14 to bushland to the south in Lot 15 DP 650087 and beyond, which extends along the Wonboyn River.

It is considered that the environmental outcomes required in the *Draft Guidelines for Threatened Species Assessment* (DEC & DPI 2006) would be met by the proposed development when taking into account the proposed offset for impacts on the site's biodiversity.

Conclusion

The proposal is considered to achieve the best possible environmental outcome whilst still providing 6 additional lots on the site. This has been achieved through the development of the subdivision design which avoids sensitive areas and constraints whilst leaving the majority of the original lot undisturbed and therefore in its natural state.

We support this application and recommend its approval.

APPENDIX A

Summary all submissions

APPENDIX B

Updated Drawings to illustrate the Preferred Project

DRAWINGS

Ref	Title	EA August 2009	PPR (App B) April 2010
R W Surveying and Valuations -			See App E
1	<i>Plan of Proposed Torrens Title Subdivision - Drawing No. 0833B Rev 16 (dated 31/01/2010), Sheets 1 & 2</i>	(Appendix A - Rev 15)	Rev 17 – updated with 40m CRC, 20m ROC and envelope dimensions
	<i>Plan showing proposed improvement works along Ivor Jones Drive, Wonboyn – drawing No 0833C (dated 07-06-2007), sheets 3 of 3.</i>	(Appendix H – App 2 & 3 of RW Survey Report)	
	R W Surveying and Valuations - Drawing No. 0833H Rev 5 (dated 27/04/2010), update of Sheets 1 & 2 (hollow bearing trees along road/power alignments),		Rev 5, 27/4/2010
SEEC			See App B
3	<i>Primary Erosion and Sediment Control Plan</i>	Appendix D (see App 3 of Report – Standard Drawings)	
4	<i>“Water Cycle Management and Site Catchment Plan” Drawing No 1, Project 10000001</i>		(updated 19/01/2010 with revised EMAs of 1400m2))
5	<i>Road and Drainage Design</i>	<i>Appendix B</i>	
	Drawing 01 Overall Site and Catchment Plan	(Rev A)	Rev B
	Drawing 02: Plan and Longitudinal Section of Access Road Ch 00-Ch 360	(Rev A)	Rev B
	Drawing 03: Plan and Longitudinal Section of Access Road Ch 360-Ch 735	(Rev A)	Rev B
	Drawing 04: Plan and Longitudinal Section of Access Road Ch 735-Ch 738	(Rev A)	Rev B
	Drawing 05 Access Road Cross Sections Ch 15 – Ch 285	(Rev A)	Rev B
	Drawing 06 Access Road Cross Sections Ch 300 – Ch 585	(Rev A)	Rev B
	Drawing 07 Access Road Cross Sections Ch 600 – Ch 885	(Rev A)	Rev B

APPENDIX C

“Updated Flora and Fauna Report 2010” – Lesryk Environmental

APPENDIX D

“Water Cycle Management Study” SEEC April 2010

APPENDIX E
Updated Assessment Report (Traffic, Bushfire and Subdivision) by R W
Surveying and Valuations June 2010

APPENDIX F
Draft Covenant for Riparian Restriction - Conveyancing by Localegle June
2010