



WATKINSON APPERLEY PTY LIMITED

ABN 15 617 504 208

DIRECTORS

S. H. APPERLEY - R.F.D., B. SURV. Registered Land Surveyor NSW, M.I.S. AUST.
A. A. RIEPSAMEN - B.E. (Civil) (Hons), B. Surv. (Hons), M.I.E. AUST.
BRONWYN SEIDEN - B. App. Sc. (Env. Planning)

51 Graham Street Nowra 2541
P.O. Box 495 Nowra 2541
Tel: (02) 4421 4500
Fax: (02) 4423 1496
EMAIL: mail@watapp.com.au
Kiama Tel/Fax (02) 4433 2006

11 March 2009

Our Ref: 102166

NSW Department of Planning
Level 1 23-33 Bridge Street
SYDNEY NSW 2000

Attention: Chris Wilson

Dear Mr Wilson

RE: PRELIMINARY ENVIRONMENTAL ASSESSMENT FOR A MAJOR PROJECT
APPLICATION PURSUANT TO PART 3A OF THE EP&A ACT 1979 FOR A
RESIDENTIAL SUBDIVISION AT LOT 1 DP1021332 GEORGE EVANS ROAD,
MUNDAMIA IN THE CITY OF SHOALHAVEN

We are writing on behalf of our client, Shoalhaven City Council, owners of Lot 1 DP1021332 George Evans Road, Mundamia to seek the Minister's confirmation under Section 75E of the Environmental Planning & Assessment Act, 1979 (the EP&A Act) that the proposed development falls under Schedule 2 (specified sites -- coastal areas) Schedule 2, (Clause 1 (i) *subdivision of land in a residential zone into more than 25 lots or in a rural/residential zone into more than 5 lots, but in the case of the metropolitan coastal zone only if the land is wholly or partly within a sensitive coastal location*) of State Environmental Planning Policy (Major Projects) 2005 and therefore, is a "major project" to be determined under Part 3A of the EP&A Act.

Should the Minister form the opinion that our proposal is a Project and that Part 3A of the Act applies, we request the Director General under Section 75F of the EP&A Act issue the requirements as to the level and scope of the necessary documentation and assessment for the preparation of an Environmental Assessment to accompany a Project Application for the proposed development.

To support the request for the Director-General's requirements relating to the environmental assessment, a Preliminary Environmental Assessment relating to the project is provided below. The Preliminary Assessment provides detail on the site location and an outline of the project, and identifies the key environmental and planning issues associated with the proposal.

General

The proposal seeks approval to construct a residential subdivision comprising part of a proposed village centre (shops and public open space) and a mixture of residential lots ranging in sizes and densities to produce a range of housing types on Lot 1 DP1021332 George Evans Road, Mundamia. While the exact number and arrangement of lots is yet to be determined a concept plan of the possible future development has been prepared as part of a *Master Plan for the Mundamia* which was adopted by Shoalhaven City Council 22 July 2008 (Figure 1). While the Masterplan shows commercial land on both sides of the spine road this is currently being reviewed. It should be recognised that this plan is preliminary in nature and will need to be further developed during the preparation of the environmental assessment report.

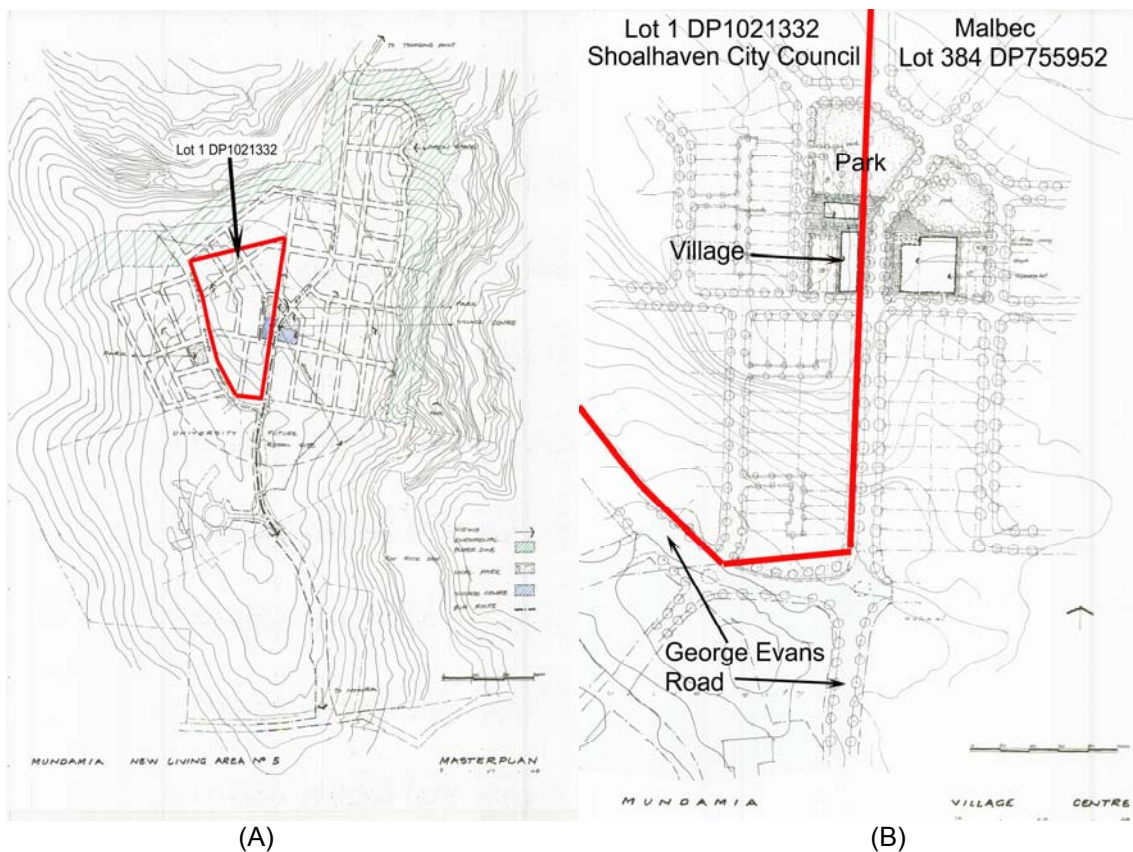


Figure 1: (A) Shows the subject site within the Mundamia residential release area, (B) shows the proposed village centre. For a larger copy of the plan refer to Attachment 1. Note: This figure only shows the approximate position of the lot boundaries

Background

The subject land is located within an urban release area referred to as New Living Area No. 5 identified in the *Shoalhaven Council's Nowra Bomaderry Structure Plan* (Figure 2), which was endorsed by the NSW Department of Planning in February 2008. The *Nowra Bomaderry Structure Plan* has included extensive specialist investigations and studies undertaken over several years to determine the areas suitable for residential development incorporating all socio-economic and environmental factors. The Structure Plan also went through an exhaustive public and agency consultation process.

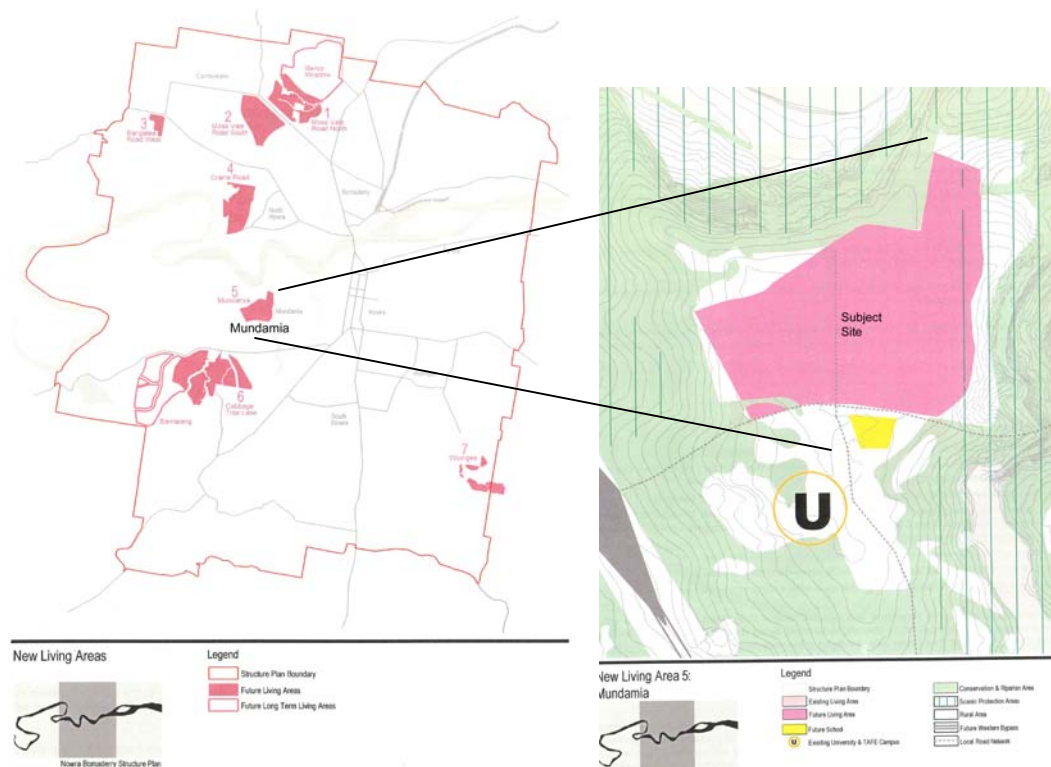


Figure 2: Living Area No. 5 identified in the Shoalhaven Council's Nowra Bomaderry Structure Plan

Mundamia New Living Area No. 5 is identified in the Structure Plan as land to be released in the short term that is in the first phase of urban release as it satisfies Council's strategic requirements with regard to location, infrastructure and attributes. The Structure Plan identified the Mundamia living area (Area 5) as having an area of 53ha, with a proposed dwelling density of 12 per ha and 20 per ha for medium density comprising a residential capacity of approximately 720 dwellings with a population of 1, 800 people. The desired future character of Mundamia living area is the neighbourhood of Mundamia will be a contained area of residential development to the west of Nowra, within an area of abundant native bushland.

The planning and design principles provided in the structure plan for Area 5 are:

- The neighbourhood will achieve a considered balance between urban development and the protection of environmentally significant areas. Threatened species and valuable ecological communities will be retained and protected through appropriate land use zones, continuous riparian corridors, stormwater and drainage management. The natural bushland adjoining the neighbourhood will be conserved. The local landscape character of the neighbourhood will be enhanced by retaining existing vegetation within open spaces, road reserves and on individual lots, where appropriate. Planting local native species in open spaces, streets and private gardens will also contribute to the local landscape character.
- View corridors along streets will provide long distance views of the Cambewarra Range and adjoining bushland. Views from along the Shoalhaven River to the steep river embankments and native vegetation will be preserved by providing a treed buffer between the neighbourhood and the river.
- An entry point into the neighbourhood will create a sense of arrival and place. A grid based street layout is required that is predictable, easy to navigate (legibility) and move through (permeability), and maximises north/south facing lots (optimising the potential to minimise energy use). George Evans Road (off Yalwal Road) will provide vehicle access to the neighbourhood and connections to the University and Thompson's Point rock climbing area will be maintained.
- Access points for pedestrians and cyclists to the adjoining bushland will be formalised to clearly define access routes. In some instances it will be necessary to restrict public access to adjoining areas that are environmentally significant.
- Meet current planning requirements for coastal land, threatened species and potential natural hazards.

Shoalhaven City Council resolved on 2 November 2005 to prepare an Local Environmental Plan (LEP) which would give affect to the objectives and strategies within the Nowra Bomaderry Structure Plan including the rezoning of Mundamia New Living Area No. 5 and to prepare a citywide Draft Local Environmental Plan with the objective of making Shoalhaven City Council Local Environmental Plan 1985 consistent with the NSW Government's Standard Local Environmental Plan provisions (Attachment 2 & 3 respectively). The Section 54 Notifications were sent to the Department of Planning on 8 December 2005 (Nowra Bomaderry) and 12 December 2005 (Citywide) respectively.

The rezoning of the Mundamia release area comprises part of the Draft Citywide LEP which was reported to Council in July 2008 and adopted by an internal senior staff "panel" in August 2008. Shoalhaven City Council in accordance with Section 64 of the Environmental Planning and Assessment Act 1979 submitted

the Draft Citywide LEP to the Director-General of the Department of Planning requesting a Section 65 certificate to enable public exhibition. The Draft Citywide LEP is expected to be on public exhibition in the first half of 2009.

It is envisaged the preparation of the environmental assessment for the Project Application would occur concurrently with the assessment of the draft LEP in accordance with Section 72J of the EP&A Act, to ensure consistency in approach and that the permissibility of the development is resolved prior to the Minister's determination.

The Site

Mundamia is located approximately 190km south of Sydney in the Shoalhaven region. The Shoalhaven region starts approximately 160 kilometres south of Sydney and stretches 160 kilometres from Berry in the north to Durras in the south. The subject land is Lot 1 DP1021332 George Evans Road, Mundamia (Figure 1). The site is located on the eastern side of George Evans Road. The lot is irregular in shape and has a total area of 9.495ha. The site is located west of Nowra's CBD and immediately north of the University of Wollongong (Shoalhaven Campus) at George Evans Road, Mundamia (Figure 3).

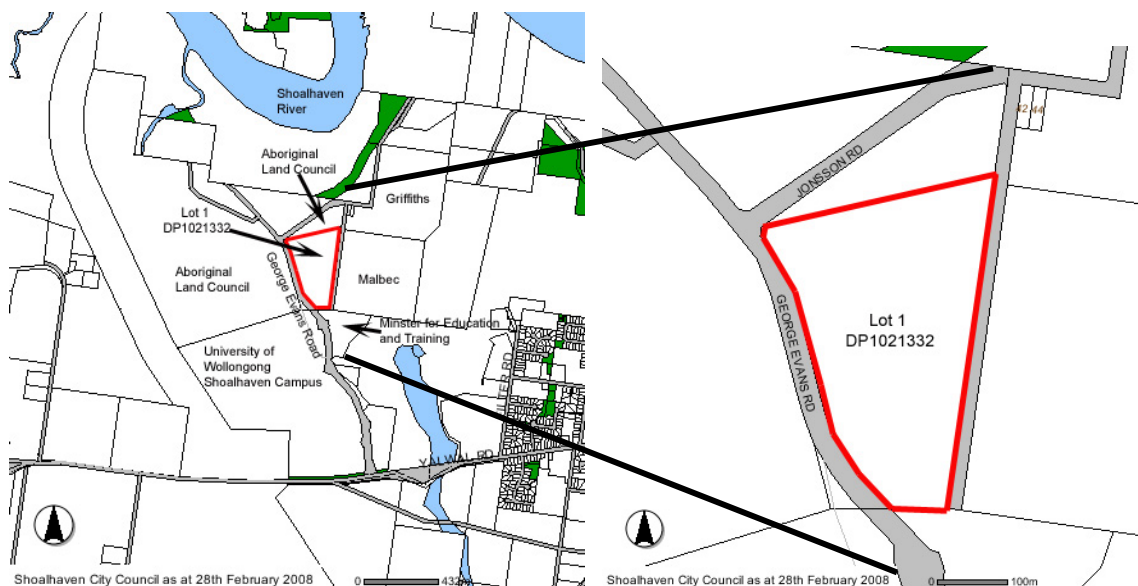


Figure 3: Locality Plan

The site is currently unoccupied and consists of a large area of severely disturbed land primarily as the result of previous quarrying activities (soil and sandstone extraction). The vegetation on the site comprises predominantly Scribbly Gum - Bloodwood Woodland around the outer edges of the area previously affected by the quarrying operation and in the north western corner.

The native vegetation regeneration in the disturbed area is limited and comprises a combination of exotic grass and sandstone outcrops (Figure 4).



Figure 4: Aerial view of the subject site.

The site lies at an altitude of approximately 40-60 m Australian Height Datum (AHD) and forms part of a sandstone plateau. The site is generally level to very gentle sloping land, however, there are some steeper down slopes (approximately 3° - 5°) located around the edge of the area previously affected by the quarrying operation. The land overall generally slopes in a north westerly direction.

The site according to the Wollongong 1:250 000 Geological Series Sheet is underlain by the Nowra Sandstone formation, a thick to very thickly bedded sequence of coarse grained quartzite sandstone with pebbly and conglomeratic horizons. This rock unit is part of the Shoalhaven Group of Permian age.

Soils are generally shallow over most of the site especially in the area previously affected by the quarrying operation. The site contains numerous sandstone rock outcrops. Soils are typically a sandy loam and sand of the Nowra Soil Landscape. According to Hazelton (1992) the crests and upper slopes have up to 40cm hardsetting dark reddish brown loam fine sandy overlies <30cm dark sandy clay, which overlies <30cm bright brown moderately pedal light medium clay. The midslopes have up to 10cm loose yellowish brown sand or hardsetting gravelly massive yellow brown clayey sand overlies <20cm brown sandy clay loam overlies <100cm bright brown moderately pedal light medium clay. The lower slopes and drainage lines have up to 15cm loose yellowish brown sand

overlies <15cm brown sandy clay loam, which overlies <70 cm light clay with mottles. The soil profile generally has a low to moderate fertility. Topsoils are generally hardsetting. The soils are often moderately deep but are stony, strongly to moderately acid with generally low CEC. The topsoils generally have a low erodibility, while the subsoil has a high erodibility (Hazelton, 1992).

The surrounding area (Figure 5) to the subject site comprises crown land, the University of Wollongong Shoalhaven campus, rural residential properties and unoccupied freehold rural properties. The surrounding area contains a relatively diverse range of vegetation communities including dry sclerophyll woodlands and open-forests with heathy understoreys, shrublands, paperbark forests, and moist taller forests. The crown land is heavily vegetated however, most of the natural vegetation on the privately owned land has been cleared and converted to pasture. The Shoalhaven River is located 580 metres to the north of the site. The Shoalhaven River has downcut into the massively bedded sandstone creating a broad but relatively shallow (up to 100 m deep) steep-sided gorge. Flat Rock Creek, a higher order tributary of the Shoalhaven River (which has also been downcut by erosion), is located approximately 1.6 kilometres east of the site has also formed narrow, steep sided gullies. Flat Rock Creek flows in a northerly direction past the site to its confluence with the Shoalhaven River.



Figure 5: Aerial view of the surrounding area.

The climate of the Shoalhaven is best described as coastal temperate and is characterised by warm summers and mild winters. Summer mean daily temperatures range between 16.1°C and 25.8°C. Winter mean daily temperatures range between 6.2°C and 15.8°C. The median rainfall for individual months ranges between 37.6mm in August and 88.4mm in January. The annual average rainfall is 1,142.1mm. During the spring and summer months the prevailing winds are easterlies in the afternoon. In the autumn and winter months this pattern changes to westerly and north westerly prevailing winds which are generally strongest in the morning.

Outline of the Proposal

The proposal seeks approval to construct a residential subdivision comprising part of the proposed village centre (shops and public open space) and a mixture of residential lots ranging in size and densities to provide for a range of housing types on Lot 1 DP1021332 George Evans Road, Mundamia. At this stage a definitive lot yield has not been determined. Upon receipt of the DGR's design options for a more detailed subdivision layout will be prepared and provided to the Department for feedback.

Access to the residential development is proposed via a realigned George Evans Road. A roundabout is proposed to be provided at the entrance to the development, which will also provide access to the new school east of the realigned George Evans Road. Within the site, internal circulation roads will be designed in accordance with the principles in Council's Subdivision Code (DCP 100). Internal roads will be designed to accommodate the swept paths of garbage trucks, furniture delivery vans and buses as required by a future network plan. It should be noted that on the 24 February 2009 Shoalhaven City Council resolved to "ensure that a road reserve of 25 metres width be established from the University entrance to the intersection directly north of the proposed CBD/shops area at Mundamia". This resolution will result in the extension of the spine road along the Crown road reserve from the proposed realignment of George Evans Road being created with a road reserve width of 25 metres. The Crown road is 20m in width, so it is proposed that the 5m widening would occur on Council's land up to the proposed neighbourhood centre. Thereafter the road deviates through Malbec land to meet up with the northern orientation of Jonsson Rd and the 25m road width would continue along its length.

A concept plan of possible future development has been prepared as part of a Master Plan for Mundamia which was adopted by Shoalhaven City Council 22 July 2008 (Attachment 1). While the Masterplan shows commercial land on both sides of the spine road this is currently being reviewed. It should be recognised that this plan is preliminary in nature and will need to be further developed during

the preparation of the environmental assessment report. This project application aims to facilitate the following works on the site:

- Subdivision;
- Street layout;
- Village centre and
- Associated capital infrastructure works

The Mundamia Urban Release Area Master Planning Principles as adopted by Council on 28th August 2007, are:

1. Provide a residential living area of unique character and ambiance which will provide a different choice to Worrigee and West Nowra.
2. The rural landscaping along the University access road be extended via a major spine road through the sub-division to northern focal point at Thompson's Reserve.
3. Commercial Centre including a village shop, community hall and public open space be located on the major spine road towards the southern boundary of the properties, within walking distance of the University.
4. The passive open space be integrated with the major spine service road rather than "small pocket" reserves.
5. The major east/west collector road shown on the Nowra Bomaderry Structure Plan be incorporated as an APZ zone on the southern boundary of the site or not integrated.
6. The internal road layout and provision of services must allow each owner to develop independently.
7. Both high quality and affordable medium density be located in the vicinity of the commercial/community area within walking distance of the University.
8. The existing George Evans Road needs to be retained to provide access to the western residential sector and Jonsson Road to be included as an APZ perimeter road.
9. The perimeter road around the total precinct to act as an APZ zone.
10. Ensure a bus route can circulate through the subdivision, starting and finishing at the Community/Commercial focal point.
11. As Council has contributed to the water and sewerage capacity, the Council land will be serviced first with spare capacity.
12. The internal subdivision roads should provide rural views at end to the buffer zone.
13. Solar access will need to be considered for all lots.
14. Larger lots may be required on steeper slopes.
15. Easements will be required for existing services, including the water pipeline.
16. Pedestrian/bicycle paths should be strengthened along the major spine road.
17. The acquisition of land from the Department of Education needs to be undertaken for the main spine road during Stage 1.

18. Staging and implementation of the subdivision should radiate from the central Commercial/Community focal point where possible.
19. Drainage should be dissipated rather than concentrated and downstream approvals need to be given for staging.
20. Lot sizes need to be determined at master planning stage and relate to solar access, views, drainage.
21. Consideration to be given to architectural covenants over lots, to create a theme or standard.
22. The ultimate boundary of the precinct to be defined by diversity certification.

Since the preparation of the Nowra Bomaderry Structure Plan and the Mundamia Masterplan Shoalhaven City Council has undertaken further investigations within the Mundamia release area resulting in an increase in the amount of “developable” area available from 53 hectares to 58.69 hectares. The Mundamia Urban Release Area comprises a number of landholdings totalling approximately 58.69 hectares of “developable” area comprising ten (10) separate parcels of land (Figure 6):

1. Lot 2 DP568613 of 0.1115 hectares owned by A & Y Fleming;
2. Lot 1 DP 1021332 of 9.1 hectares owned by Shoalhaven City Council;
3. Lot 3 DP 568613 of 12.65 hectares owned by L & J Griffiths;
4. Lot 1 DP568613 of 0.1114 hectares owned by A & S Santos;
5. Pt Lot 458 DP 1063107 of 2.82 hectares owned by the Nowra Local Aboriginal Land Council;
6. Lot 384 DP 755952 of 18.63 hectares owned by Malbec Mundamia Pty Ltd;
7. Lot 474 DP1102909 of 0.1589 hectares owned by the Crown.
8. Pt Lot 473 DP 1102909 of 10.01 hectares owned by the Nowra Local Aboriginal Land Council;
9. Pt George Evans Road & Jonsson Road of 2.57 hectares; and
10. Unnamed Road and Pt Jonsson Road of 2.11 hectares.

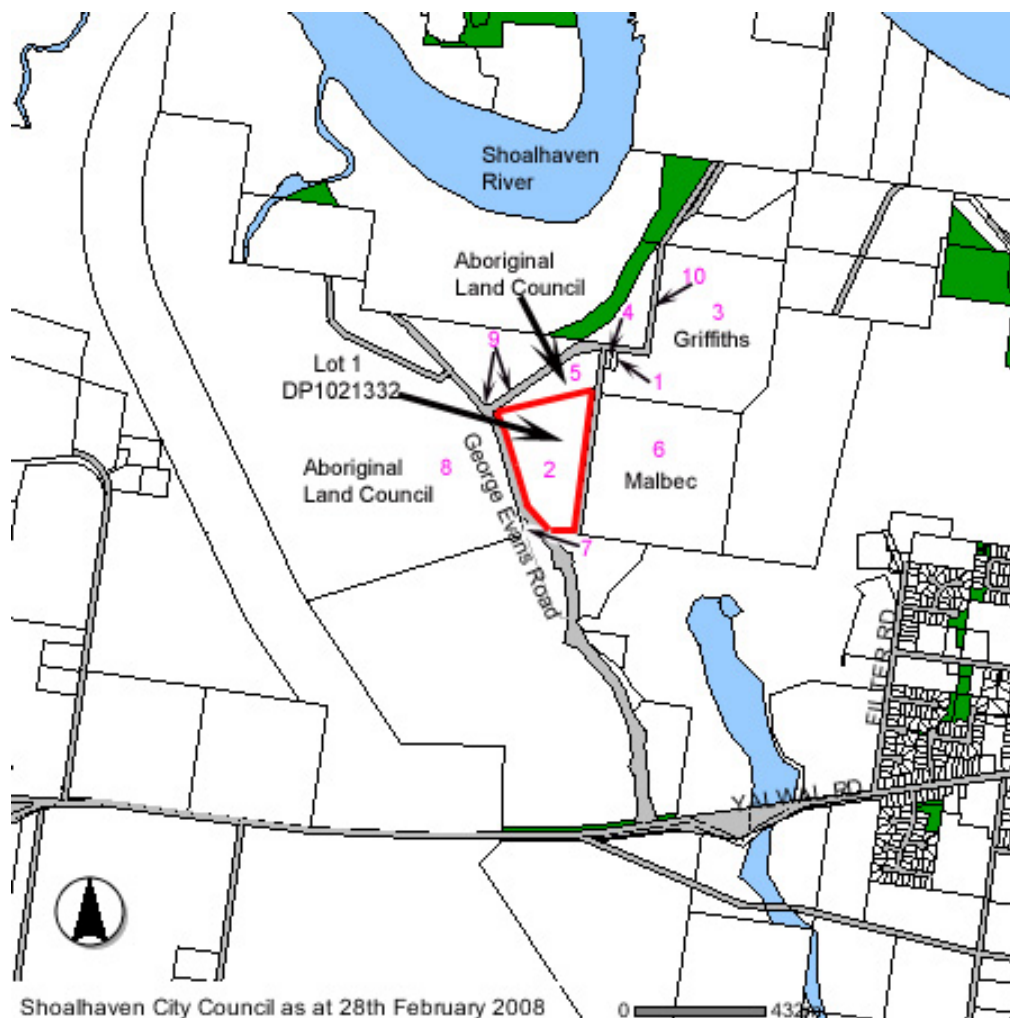


Figure 6: Landholdings within the Mundamia Urban Release Area

Relevant Planning Instruments and Controls

The following planning instruments and policy documents are of key relevance to the proposed development:

- Commonwealth Environment Protection and Biodiversity Conservation Act 1999;
- New South Wales Environmental Planning and Assessment Act 1979;
- Threatened Species Conservation Act 1995 and Threatened Species Conservation Amendment Act 2002;
- *Coastal Protection Act 1979*;
- State Environmental Planning Policy (Major Projects) 2005;
- State Environmental Planning Policy Infrastructure 2007;
- State Environmental Planning Policy 71 - Coastal Protection;
- Shoalhaven Local Environmental Plan 1985;
- Draft Citywide Local Environmental Plan;

- Illawarra Regional Environmental Plan 1986;
- South Coast Regional Strategy;
- Shoalhaven City Council Development Control Plan 100 - Subdivision Code;
- Shoalhaven City Council Development Control Plan 71 – Medium Density
- Shoalhaven City Council Development Control Plan 57 – Dual Occupancy Development;
- Shoalhaven City Council Development Control Plan 93 – Controls for site waste minimisation and management;
- Shoalhaven Housing Strategy 2006
- Nowra Bomaderry Structure Plan (Feb. 2008)

State Environmental Planning Policy (Major Projects) 2005

The whole of the subject property falls within the 'coastal area' according to SEPP 71 (Coastal Protection) and the 'Coastal Zone'; as defined in the *Coastal Protection Act 1979 (CP Act)* (Figure 7).

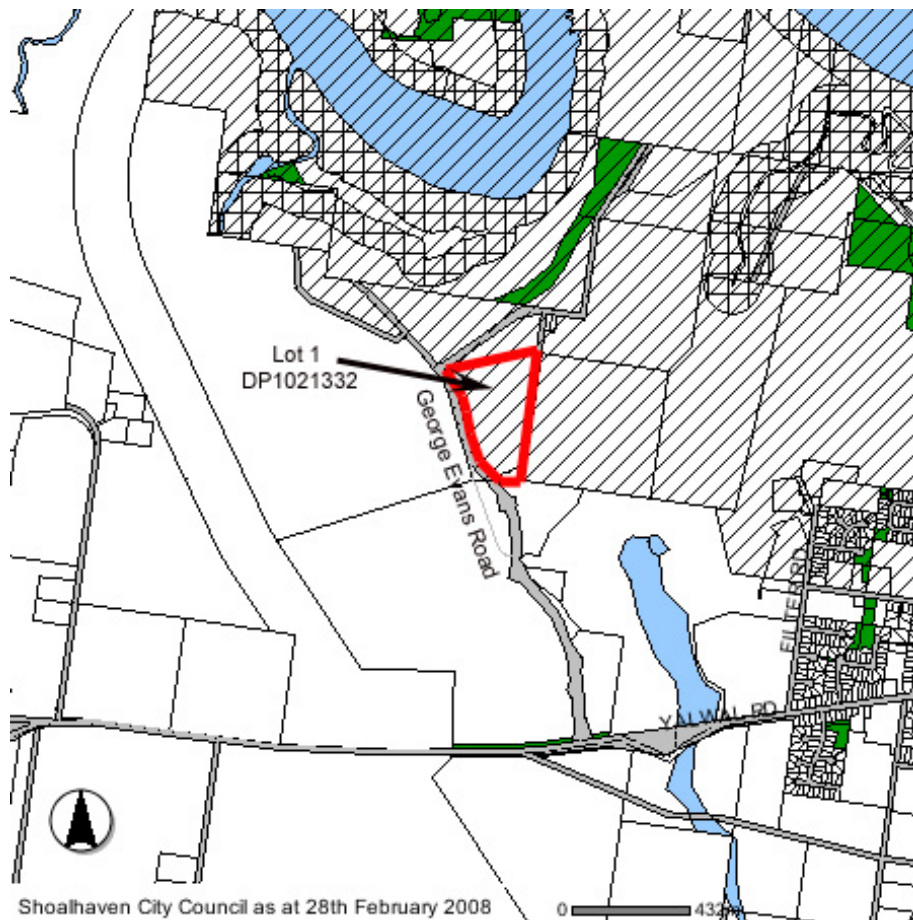


Figure 7: Coastal Location (hatched) & Sensitive Coastal Location (double hatched) in relation to the subject site

Schedule 2, Clause 1 of SEPP (Major Projects) 2005 states that the following sites in the coastal areas are projects to which Part 3A applies:

(i) subdivision of land in a residential zone into more than 25 lots or in a rural/residential zone into more than 5 lots, but in the case of the metropolitan coastal zone only if the land is wholly or partly within a sensitive coastal location.

In the context of the proposed Shoalhaven city wide LEP the proposed development is a subdivision of land located within a coastal residential area into more than 25 lots. It is therefore requested that the Director-General issue the requirements for an environmental assessment for a Project Application for the proposed development.

Existing Zone Provisions

The land is subject to the provisions of Shoalhaven Local Environmental Plan 1985 (with amendments). The land is zoned 1 (d) Rural "D" (General Rural). Clause 9 of the LEP outlines the objectives of zones, which are as follows:

Zone No 1 (d) (Rural "D" (General Rural) Zone)

- (a) To provide opportunities for a range of rural land uses and other development, including those, which by virtue of their character require siting away from urban areas,
- (b) To recognise the potential for high intensity bush fire over wide areas of the zone and to ensure that development does not lead to significant risks to life or property from bush fire or to the implementation of bush fire mitigation measures which will have a significant environmental impact, and
- (c) To ensure that wherever possible the location, design and management of development is consistent with:
 - (i) The protection of important natural and cultural environments,
 - (ii) The conservation of renewable natural resources such as forests and prime crop and pasture land,
 - (iii) The maintenance of opportunities for economic development of important extractive resources,
 - (iv) Minimising conflict between land uses, and
 - (v) Any plans for public infrastructure provision or management.

Division 5 – Environmental Management (Clause 28: Danger of Bushfire) is also applicable to the subject site.

Future Zone Provisions

Shoalhaven City Council's draft Citywide LEP will give effect to the rezoning of New Living Area No. 5 identified in the Nowra Bomaderry Structure Plan. It is envisaged that the new residential zoning for New Living Area No. 5 will allow a range of residential zoning densities and uses and will therefore facilitate the development proposed in this preliminary assessment.

The Draft Citywide LEP currently identifies the subject site as being zoned R1 (General Residential) (Figure 6) (Draft LEP09 (S.64 Stage)).

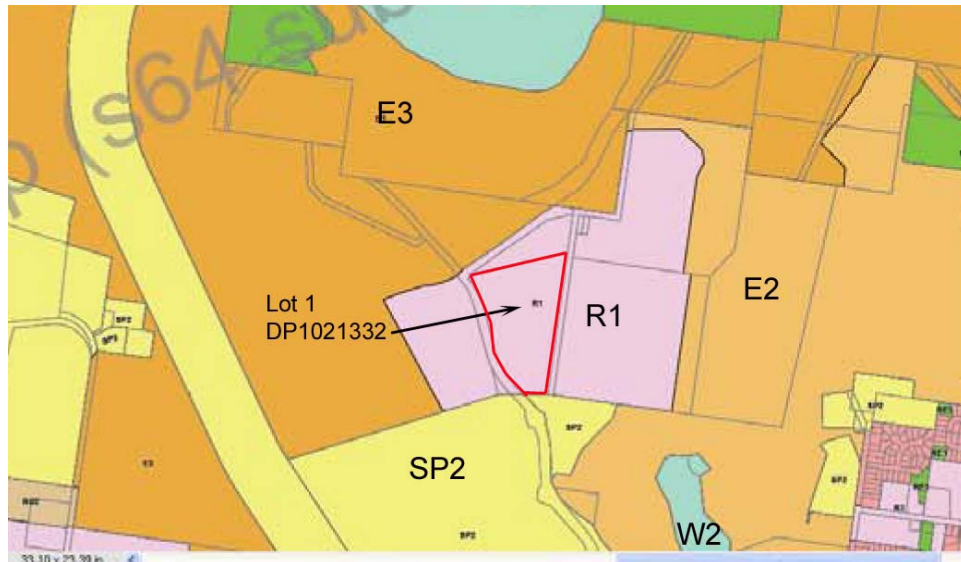


Figure 8: The Draft Citywide LEP zoning map for the subject site.

Note: This figure only shows the approximate position of the lot boundaries

The objectives of the zone

- To provided for housing needs of the community;
- To provide for a variety of housing types and densities;
- To enable other uses that provided facilities or services to meet the day to day needs of residents; and
- To identify land suitable for future urban expansion.

The types of development which are proposed to be permissible with development consent include but are not limited to the following: attached dwellings, community facilities, dual occupancies, dwelling houses, multi-dwelling houses, residential flat building and shops.

It is proposed that the preparation of the environmental assessment for the Project Application would occur concurrently with the Shoalhaven city wide draft LEP in accordance with Section 72J of the EP& A Act, to ensure consistency in approach and that the permissibility of the development is resolved prior to the Minister's determination of the project application.

Consultation

Shoalhaven City Council as part of the strategy planning has envisaged residential development on this land for a considerable period of time. The development proposed is entirely consistent with the Nowra Bomaderry Structure Plan that was prepared by Shoalhaven City Council and was endorsed by the Department of Planning in February 2008.

The preparation of the Nowra Bomaderry Structure Plan has included an extensive public and agency consultation process (including DECC, RTA, Department of Water and Energy, etc) along with an extensive internal Council consultation process. Shoalhaven City Council in accordance with Section 64 of the Environmental Planning and Assessment Act 1979 submitted the Draft Citywide LEP to the to the Director-General of the Department of Planning requesting a Section 65 Certificate to enable public exhibition. The Draft Citywide LEP is expected to be on public exhibition in the first half of 2009.

Key Environmental Impacts

As part of the Environmental Assessment report prepared to accompany the Project Application a risk assessment analysis will be undertaken and site specific investigations and reports will be prepared in accordance with DGR's. The aim of this analysis will be to identify all key environmental risk factors relevant to the project, so they can be appropriately managed and taken into consideration during the detailed design of the subdivision layout.

The key environmental and planning considerations associated with the proposed development are as follows:

- Site Suitability;
- Flora and Fauna;
- Water Cycle Management;
- Zoning and Development Control Plans;
- Transport and Access;
- Infrastructure Provision,
- Development Staging and Delivery
- Bushfire Management;
- Heritage and Archaeology;
- Air and Noise; and
- Cumulative Impacts.

Site Suitability

The proposed development is situated in an area that has been identified for urban release in the Nowra Bomaderry Structure Plan, and is proposed to be rezoned to R1 (General Residential) under Shoalhaven City Council Draft Citywide LEP. There are a number of existing roads in the locality and the subdivision has been designed to incorporate and utilise access from these roads.

Shoalhaven City Council revised population projections (Table 1) estimate that the population will increase from 34,019 in 2006 to 44,104 by 2036, a major proportion of which will need to be accommodated in the designated growth and release areas. The South Coast Regional Strategy adopted by the Department of Planning, proposes to accommodate over 26,300 dwellings in the Shoalhaven local government area over the next 25 years of which 23,900 can potentially be accommodated by existing vacant urban land and existing investigation areas, which includes Mundamia New Living Area No. 5. The Nowra Bomaderry Structure Plan identified the Mundamia living area (Area 5) as having a residential capacity of approximately 720 dwellings with a population of 1,800 people. The proposed subdivision of the subject site for the purposes of residential development is consistent with the local and regional growth strategies for the area that have been endorsed by both the Council and the Department of Planning.

Area / Year	2001	2006	2011	2016	2021	2026	2031	2036
Nowra Bomaderry Structure Plan Area	29,909	31,891	34,019	36,498	38,844	40,863	42,566	44,104

Table 1: Revised Population Projections Adopted by Council 13th May 2008

Flora and Fauna

Bushfire and Environmental Services undertook a number of Flora and Fauna Surveys as part of the preparation of the Nowra Bomaderry Structure Plan including:

- *Bushfire and Environmental Service (BES) (2004) Targeted Flora Assessment – Pterostylis vernails survey area 5 (Mundamia); and*
- *Bushfire and Environmental Service (BES) (2004) Flora and Fauna Assessment – Nowra Bomaderry Structure Planning Study Area 5 (Mundamia).*

BES concluded that the Mundamia living area (Area 5) comprises a diverse range of vegetation communities including dry sclerophyll woodlands and open-forests with healthy understoreys, shrublands, paperbark forests, and moist taller forests and that much of the area has been disturbed primarily by quarrying and

clearing for agricultural and rural residential land uses. There is also evidence of selective logging and disturbance associated with utility easements.

BES concluded the vegetation on the site is predominantly Scribbly Gum - Bloodwood Woodland around the outer edges of the area previously affected by the quarrying operation and in the north western corner. The native vegetation regeneration in the disturbed area is limited and contains introduced grassland.

Scribbly Gum - Bloodwood Woodland community forms a canopy which is dominated by Red Bloodwood *Corymbia gummifeta* and Hard-leaved Scribbly Gum *Eucalyptus sclerophylla*, but 'also includes Grey Gum *Eucalyptus punctata*, Silvertop Ash *Eucalyptus sieberi*, White Stringybark *Eucalyptus globoidea*, and the stringybark *Eucalyptus irnita* to a height of 12-15 m with foliage projective cover of approximately 20 %. Silvertop Ash dominates the canopy in places, particularly within and on the western margins of the former quarry . There is often a sub-canopy of saplings of the canopy species, Saw Banksia *Banksia serrata*, and Black She-oak *Allocasuarina littoralis* to a height of approximately 5-8 m.

The understorey is dominated by heathy shrubs such as Bushy Needlebush *Hakea sericea*, Mountain Devil *Lambertia formosa*, Swamp Banksia *Banksia paludosa*, Hairpin Banksia *Banksia spinulosa*, and Conesticks *Petrophile pedunculata* to a height of 2.5 m with foliage projective cover of approximately 20-40 %. The understorey also typically includes species such as Broadleaved Hakea *Hakea dactyloides*, NSW Coral Heath *Epacris pulchella*, Spiny Bossiaea *Bossiaea obcordata*, Bearded Heath *Leucopogon ericoides*, Round-leaf Tea-tree *Leptospermum rotundifolium*, Yellow Tea-tree *Leptospermum polygalifolium*, Flaky-barked Teatree *Leptospermum trinervium*, Native Currant *Leptomeria acida*, Prickly Moses *Acacia ulicifolia*, Sunshine Wattle *Acacia terminalis*; and *Acacia obtusifolia*.

The groundcover includes a diverse range of shrubs, herbs, grasses and sedges including Curly Sedge *Caustis flexuosa*, Silky Purple Flag *Patersonia sericea*, Fish Bones *Lomandra obliqua*, Leafy Purple Flag *Patersonia glabrata*, Common Bracken *Pteridium esculentum*, Soft Twig-rush *Baumea rubiginosa*, Pomax *Pomax umbellata*, Variable Sword-sedge *Lepidosperma laterale*, Wiry Panic *Entolasia stricta* and Scale-rush *Lepyrodia scariosa* to a height of 0.5 m with foliage projective cover of approximately 20%.

The woodland vegetation located in the north western corner of the site would provide some foraging resources for native fauna species however the highly disturbed areas in the centre of the site would provide limited resources. The flora and fauna survey undertaken by BES found that there were approximately 15 hollowing bearing trees and three Glossy Black Cockatoo feed trees located in the north western corner of the site (Figure 7).

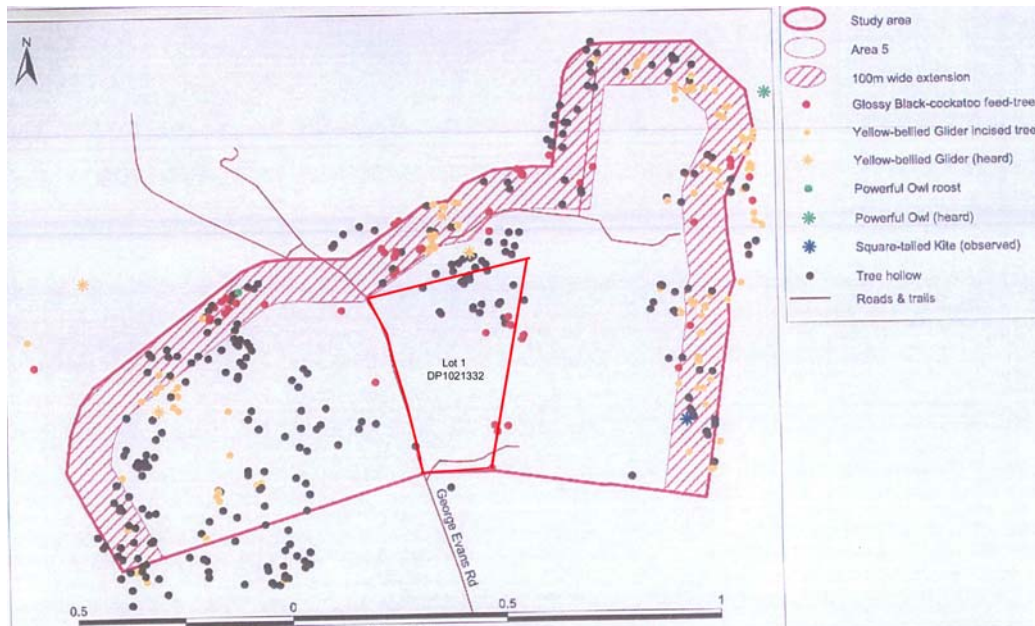


Figure 7: Location of the threatened fauna and hollow-bearing trees as identified in *Bushfire and Environmental Service (BES) (2004) Flora and Fauna Assessment – Nowra Bomaderry Structure Planning Study Area 5 (Mundamia)*.

Water Quality Management

The closest water bodies to the site are the Shoalhaven River and Flat Rock Creek which are located 580m north and 1.6km west of the site respectively. Furthermore as the site is located on a sandstone escarpment, the relief from the development site to receiving waters is steep. The water from the site would therefore need to be discharged over/through the adjoining properties before either being discharge into the Shoalhaven River to the north or Flat Rock Creek to the east.

It is acknowledged that the construction of the proposed subdivision with the removal of vegetation and the addition of impervious areas will alter the natural vegetation and infiltration characteristics of the catchment. This in turn will cause the catchment to have a much higher surface flow component (runoff), which will increase the erosion potential of the surface water and also increase the amount of water entering the natural creeks. The activities associated with the urbanisation of the site such as the use of motor vehicles and the use of fertilizers could also create water quality problems due to pollutants entering the surface runoff. During a storm event, land surfaces, including impervious surfaces, are washed clean by the rainfall and the resulting runoff creates an increased loading of pollutants to receiving streams. The principal types of pollutants found in urban runoff from these various sources include:

- Sediment
- Oxygen-demanding substances (organic matter)
- Nutrients (Phosphorus, Nitrogen)

- Heavy metals (Copper, Lead, Zinc, Others)
- Pesticides
- Hydrocarbons (PAHs, Others)
- Temperature
- Trash/debris

With respect to water quality management the environmental assessment report for the development will identify the impacts of the proposed subdivision on the adjoining lands and receiving water body. The report will also provide a concept stormwater and sewerage management plan and identify methods by which impacts of the development on local hydrology, groundwater and ecology can be minimised.

Zoning and Development Controls

Shoalhaven City Council in accordance with Section 64 of the Environmental Planning and Assessment Act 1979 submitted the Draft Citywide LEP to the to the Director-General of the Department of Planning requesting a Section 65 certificate to enable public exhibition. The Draft Citywide LEP is expected to be public exhibition in the first half of 2009.

The proposed project application will address all relevant commonwealth, state and local government planning controls and policies during both the design and preparation of the environmental assessment report.

Transport and Access

Colston Budd Hunt & Kafes Pty Ltd (2007) undertook a transport review for proposed residential development at Mundamia in 2007 as part of the preparation of the master plan. Colston Budd Hunt & Kafes Pty Ltd concluded that:

- The road network serving Mundamia includes Yalwal Road, George Evans Road, Jonsson Road and Stonegarth Road. Yalwal Road connects Albatross Road at West Nowra in the east with Burrier and Yalwal in the west. It provides for one traffic lane in each direction with sealed "shoulders. It has a 100 kilometre per hour speed limit west of George Evans Road and a 60 kilometre per hour speed limit east of George Evans Road.
- George Evans Road runs north from Yalwal Road at an unsignalised t-intersection controlled by give way signs. There are two marked westbound lanes in Yalwal Road at the intersection to allow westbound through traffic to pass a vehicle turning right into George Evans Road. George Evans Road provides for one traffic lane in each direction with sealed shoulders. It provides access to the University of Wollongong

campus, via a roundabout. Beyond the university access, George Evans Road is unsealed.

- Jonsson Road and Stonegarth Road are unsealed roads connecting to George Evans Road. Both roads provide access to rural properties.
- Local bus services are provided by Nowra Coaches. Buses currently use Yalwal Road and George Evans Road to service the university campus.
- The 724 service connects Bomaderry Railway Station with the town centre, university campus and other services.

Access to the residential development is proposed to be provided via a realigned George Evans Road. It should be noted that on the 24 February 2009 Shoalhaven City Council resolved to “ensure that a road reserve of 25 metres width be established from the University entrance to the intersection directly north of the proposed CBD/shops area at Mundamia”. This resolution will result in the extension of the spine road along the Crown road reserve from the proposed realignment of George Evans Road being created with a road reserve width of 25 metres. The Crown road is 20m in width, so it is proposed that the 5m widening would occur on Council's land up to the proposed neighbourhood centre. Thereafter the road deviates through Malbec land to meet up with the northern orientation of Jonsson Rd and the 25m road width would continue along its length. A roundabout will be provided at the entrance to the development, which will also provide access to the new school east of the realigned George Evans Road.

Within the site, internal circulation roads will be designed in accordance with the principles in Council's Subdivision Code (DCP 100). The concept layout provides for a public bus service loop via the proposed village centre.

A detailed Traffic Impact Study will be prepared once the subdivision layout has been determined, which will contain:

- Analysis of access to, and within the site;
- Arrangements for public transport to access the site;
- Details on the existing and future traffic networks and access points, including linkages to surrounding areas;
- Impact of construction and operation of proposed road network on adjoining areas;
- Pedestrian and cycle access to, and within the site.

Infrastructure Provision

The development may necessitate the provision of a variety of community infrastructure and essential services. The environmental assessment report will consider:

- New infrastructure which is required to complement existing facilities and services;
- Staging of new infrastructure, and augmentation of existing infrastructure is managed in an orderly manner; and
- Scope of any development contributions.

Development Staging and Delivery

The subdivision and development of the proposal will be staged over a number of years depending on market demand and take up, ensuring infrastructure provision and land release occurs in an orderly manner.

Bushfire Management

The subject land is considered bushfire prone therefore a bushfire protection assessment will be prepared for the site in accordance with the Planning for Bushfire Protection 2006 and section 100B of the Rural Fires Act 1997. The proposal will incorporate the mitigation measures identified in the bushfire assessment into the final subdivision layout.

Heritage and Archaeology

South East Archaeology Pty Ltd undertook (2008) a Preliminary Heritage Assessment for the Mundamia investigation area in 2008.

No significant sites were identified on the subject site. Furthermore, South East Archaeology Pty Ltd concluded that the areas in which the A unit soil has been totally removed, has negligible potential for any Aboriginal heritage evidence to survive. As such, it can be classified as "modified" and not subject to further detailed assessment.

Air and Noise

Potential air pollution in an urban area can arise from a wide variety of sources although they are mainly a result of combustion processes. The combustion of fossil fuels for transport, heat and electricity generation can result in the emission of significant amounts of pollutants including suspended particulate, which are made up of a combination of airborne smoke, soot, dust, and liquid droplets. However, the largest source of pollution in most urban areas is motor vehicles.

The proposed development has the potential to impact on the air quality of the local community in the following ways:

- The removal of native vegetation;
- Fugitive air emissions (dust) associated with the earthmoving equipment during the construction phase;
- Increase in the amount of traffic movement (large vehicles) during the construction phase;
- Increase in the amount of air pollution associated with the increase in the number of people living in the local area; and
- Increase in the amount of traffic movement as a result of the increase in the number of people living in the local area.

The proposed development will generally have a minimal impact on the air quality of the local environment. The following points are made with regards to mitigation of air pollution:

- The proposed development will be designed to minimise the amount of tree removal and to incorporate public open space and landscaping.
- The majority of the fugitive air emissions will occur during the construction phase. An erosion control and dust suppression plan will be prepared.
- All future dwelling constructed on the proposed estate, will be required to satisfy BASIX requirements.

The proposed development has the potential to impact on the noise and vibration amenity of the local community in the following ways:

- Noise and vibration associated with the earthmoving equipment during the construction phase;
- Increase in the amount of traffic movement (large vehicles) during the construction phase;
- Noise and vibration associated with the construction of dwellings;
- Increase in the noise level associated with the increase in the number of people living in the local area; and
- Increase in the amount of traffic movement as a result of the increase in the number of people living in the local area.

The proposed development will generally have a minimal impact on the noise level of the local environment. The majority of the noise associated with the development will be generated during the construction phase. This noise will be a temporary inconvenience and is expected to be given time constraints by way of relevant hours of operation in the development consent. It's foreseen that the future noise level generated by the proposed development will be similar to that experienced in other residential estates, and will be regulated by relevant state legislation and policies for residential living.

Conclusion

Council has planned for residential development to occur on the subject land at Mundamia for a considerable period of time. This is supported by the following factors:

- The New Living Area No.5 Mundamia has been included in Council's Nowra Bomaderry Structure Plan recently endorsed by the Department of Planning (February 2008);
- A rigorous analysis of the socio-economic and environmental factors was carried out in the formulation of the Structure Plan and its extensive consultation process with the public and government agencies;
- Council has adopted a s.54 resolution to prepare a Local Environmental Plan and subsequently proceed to exhibit the plan and rezone the subject land as part of the Citywide LEP; and,
- Council has identified New Living Area No. 5 Mundamia as a Phase 1 priority release area in the Structure Plan due to strategic reasons.

We now seek the Minister's confirmation under Section 75E of the Environmental Planning & Assessment Act, 1979 that the proposed development falls under Schedule 2 Clause 1 of State Environmental Planning Policy (Major Projects) 2005 and therefore, is a "major project" to be determined under Part 3A of the EP&A Act. In addition, the information contained in this preliminary assessment is to assist the Director General in determining the level and scope of any requirements under Section 75F of the EP&A Act for an environmental assessment to accompany the lodgement of a Project Application for the proposed subdivision.

We request that should you have any queries or require further clarification on any aspect of this document that you contact Bronwyn Seiden or David Cannon on 02-44 214500.

Yours faithfully

WATKINSON APPERLEY PTY LTD



David Cannon

Attachment 1: Concept Layout Plan

Attachment 2: Council s.54 resolution for Nowra Bomaderry LEP

Attachment 3: Council s.54 resolution to prepare a Citywide LEP

Attachment 4: Photomontage

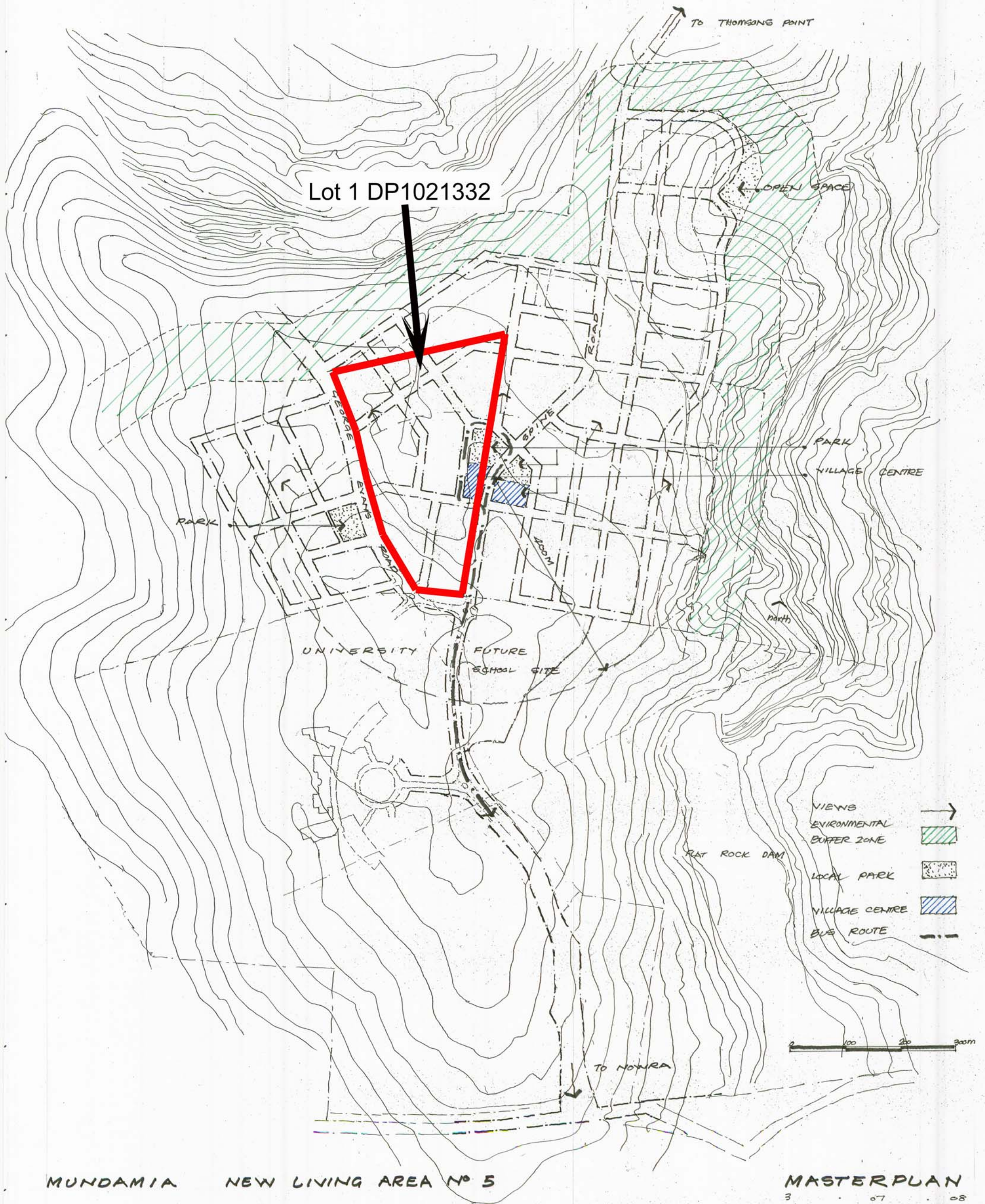


ATTACHMENTS



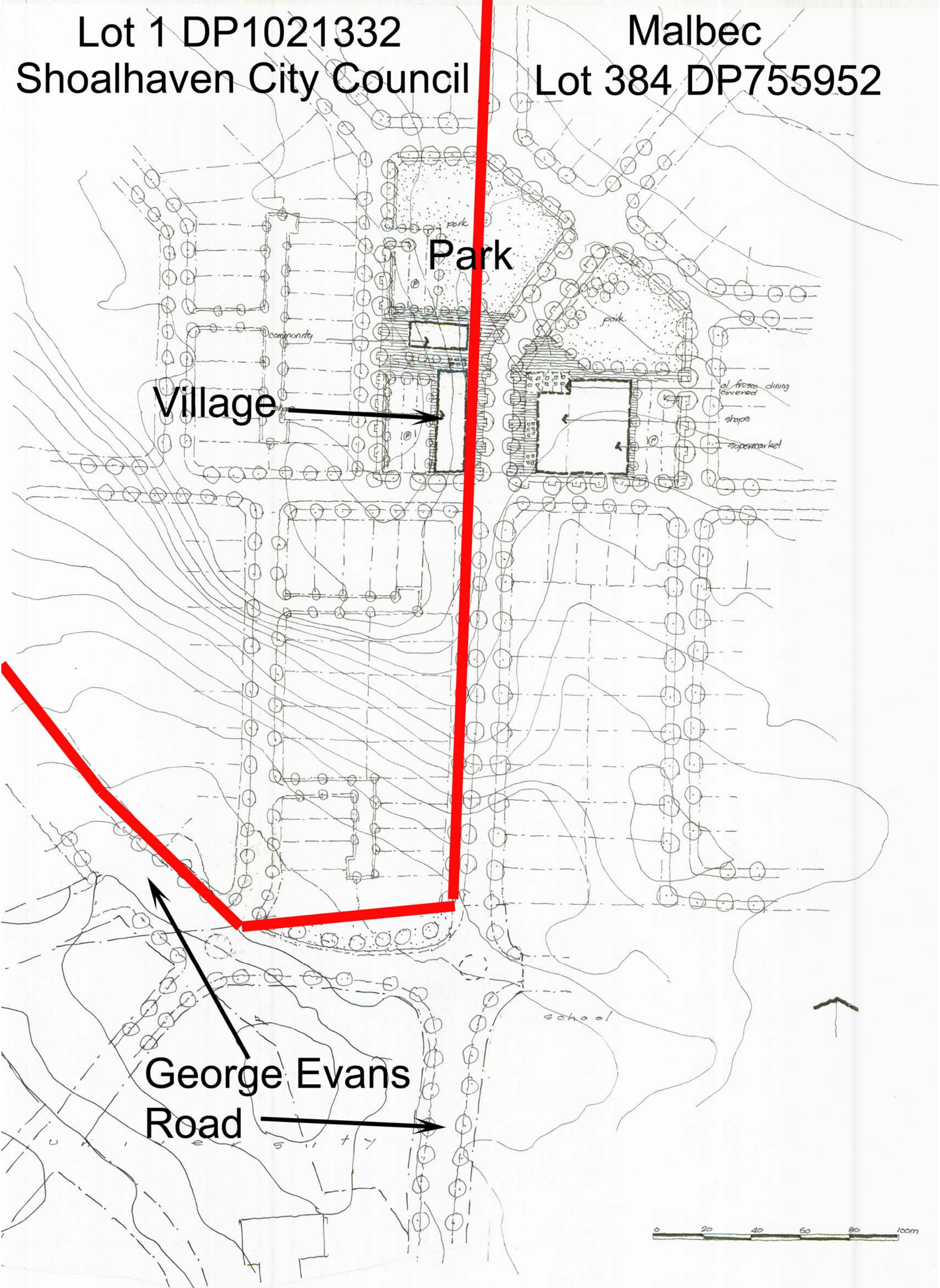
ATTACHMENT 1

CONCEPT LAYOUT PLAN



Lot 1 DP1021332
Shoalhaven City Council

Malbec
Lot 384 DP755952





ATTACHMENT 2

COUNCIL S.54 RESOLUTION FOR NOWRA
BOMADERRY LEP

ADOPTED AT COUNCIL MEETING HELD ON WEDNESDAY 2 NOVEMBER 2005

1408. Nowra-Bomaderry Structure Plan

File 29362-03, 1028-03, 33393

RECOMMENDED that

- a) The draft Nowra-Bomaderry Structure Plan be placed on public exhibition for a period of 8 weeks;
- b) Council hold a public meeting during the public exhibition period to outline the provisions of the Draft Plan; and
- c) Council formally resolve to prepare a Local Environmental Plan on the land to which the Draft Nowra-Bomaderry Structure Plan applies.



ATTACHMENT 3

**COUNCIL S.54 RESOLUTION TO PREPARE A
CITYWIDE LEP**

ADOPTED AT COUNCIL MEETING HELD ON Wednesday, 2 November 2005

1557. NSW Draft Standard Local Environmental Plan (LEP)

File 31157, 33363

RESOLVED on a MOTION of Cllr Willmott seconded Cllr Kearney that Council

- a) Make a submission on the Draft Standard Local Environmental Plan as set out in the report, together with any other matters it may wish to include.
- b) Formally resolve to prepare a Citywide Draft Local Environmental Plan with the objective of making Shoalhaven Local Environmental Plan 1985 consistent with the NSW Government's Standard Local Environmental Plan provisions.

CITY SERVICES & COMMUNITY AND OPERATIONS



ATTACHMENT 4

PHOTOMONTAGE

ATTACHMENT 4 - PHOTOMONTAGE



Photo 1: View north to north westerly direction across the site from the southern boundary



Photo 2: View of the disturbed land



Photo 3: View of the disturbed land primarily as the result of previous quarrying activities



Photo 4: View of the limited native vegetation regeneration within the disturbed area



Photo 5: Scribbly Gum/Bloodwood Woodland present around the outer edges of the disturbed area



Photo 6: View in a northerly direction along George Evans Road and the Scribbly Gum/Bloodwood Woodland present around the outer edges of the subject site