

- *Transport Report for Proposed Residential Subdivision, Mundamia* – Colston Budd Hunt & Kafes Pty Ltd;
- *Flora and Fauna Issues and Assessment Report* – SLR Global Environmental Solutions;
- *Preliminary Geotechnical and Constraints Assessment* undertaken by Martens Consulting Engineers;
- *Stage 1 Contamination Assessment, Stage 2 Environmental Site Assessment and Remedial Action Plan* prepared by Martens Consulting Engineers;
- *Bushfire Protection Assessment* – Eco Logical Australia;
- *Water Cycle Management Report* – Storm Consulting Pty Ltd, which incorporates a specific *Hydrogeological Assessment* prepared by Martens Consulting Engineers;
- *Mundamia Investigation Area, West Nowra, Aboriginal Heritage Assessment* – South-East Archaeology Pty Ltd;
- *Landscape Plan* – Peter Phillips Landscape Architecture;
- *Utilities Investigations Report* – Allen Price and Associates; and
- *Construction Management Plan* - Allen Price & Associates.

In addition, the proposal has been designed in cognisance of urban design masterplanning undertaken by the Cox Group in the development of the Mundamia Masterplan which was prepared for the Mundamia New Living Area.

Site and Surrounds

The subject site is legally described as Lot 3 DP 568613 and Lot 384 DP 755952 and has a total area of some 43 ha. The site is bounded generally by an unformed Crown Road reserve to the west, Jonsson Road to the north-west, private property to the north and east, Crown land to the south-east and an undeveloped portion associated with the University of Wollongong to the south-west.

The site is located approximately 2.7 km to the west of the Nowra CBD (straight line distance).

The site is identified in the *Nowra Bomaderry Structure Plan (NBSP)* as being within a New Living Area, to be known as Mundamia. This is being implemented in the provisions of Draft Shoalhaven LEP 2013 which proposes that 31.03 ha of the site is to be zoned residential R1 and 9.49 ha is proposed to be zoned E2 – Environmental Conservation, with the conservation zoning representing 22 % of the site area. This proposed zoning is based on conserving the higher biodiversity value land along the eastern periphery of the site to E2 Environmental Conservation, whilst locating the residential development largely on the highly disturbed low biodiversity value pasture land.

The site is adjacent to residential and rural allotments to the north, and the Shoalhaven Campus of the University of Wollongong and TAFE sited to the south west of the property.

The site is within the coastal zone as it is within one kilometre of the Shoalhaven River, however in practice, the site does not have a strong relationship with the riverine environment as a sandstone escarpment is a significant physical barrier which prevents access. Furthermore, the site is not visible from the Shoalhaven River.

Environmental Assessment

The proposed development has been designed in response to the environmental constraints that have been identified by the most recent Director-General's Environmental Assessment Requirements and in the reports prepared to accompany the application. It is intended that this will create a sustainable new living area.

Strategic Planning

SCC and the Department of Planning (DoP) have adopted the NBSP in order to plan for the further growth of the Nowra Bomaderry urban area for the next 20-30 year period. The NBSP is also acknowledged by the DoP in the *South Coast Regional Strategy* (SCRS). The NBSP, in addition to identifying certain lands for a variety of land uses, also addresses the release of residential expansion areas. The NBSP adopts 7 such areas, 3 of which are south of the Shoalhaven River, and 4 of which are to its north.

The NBSP has identified the site as being within New Living Area No. 5, to be known as Mundamia, and this has been designated as an area to provide for residential development. Having regard to the release of land in the Mundamia area, the NBSP has identified it as being favoured for development in the short term due to its location south of the Shoalhaven River with this development not adding to traffic congestion at the existing river crossing.

SCC is intending to implement segments of the NBSP in conjunction with the city-wide review of its LEP which is currently being undertaken in order to implement the Standard Instrument LEP. To this end, SCC is currently exhibiting Draft Shoalhaven LEP 2013 and this proposes to zone the site both Residential R1 and Environmental Conservation E2.

In preparing the NBSP, and in its further implementation, studies have been undertaken of the Mundamia area which, amongst other things, has identified areas having higher ecological significance. It is these lands which are proposed to be zoned E2 in Draft Shoalhaven LEP 2013, and these lands are proposed to be conserved in this major project subdivision.

Draft Shoalhaven LEP 2013 will require gazettal in order to allow the major project proposal to proceed.

Council has recently resolved to in principle agreement to the preparation of a planning agreement for the Mundamia Urban Release Area in conjunction with all landowners in the area. This will ultimately address matters including the provision of further infrastructure such as:

- external traffic improvements,
- realignment and construction of external roads,
- central open space,
- a community centre,
- drainage works in an ecologically sensitive manner, and
- contributions toward city-wide and planning area wide projects.

In addition to the statutory outcomes, Mundamia is also the subject of a number of Masterplanning Principles which have been adopted by SCC to guide its future development. These aim to achieve a new living area which is sustainable and has a character which sets it apart from other nearby urban areas. The proposal is consistent with the requirements of the Mundamia Masterplan and principles in the main, because the site will have a unique character with good integration with surrounding forested lands.

Subdivision Design, Layout and Desired Future Character

The site and proposed development are subject to a number of State Environmental Planning Policies (SEPP No 71, SEPP Major Projects), the Illawarra Regional Environmental Plan, Shoalhaven Local Environmental Plan, and Development Control Plan No 100 – Subdivision Code.

The site is not the subject of a place based Development Control Plan, however SCC has adopted a Masterplan and Masterplanning Principles and the proposal is consistent with these guidelines.

The proposal is also consistent with the provisions of Development Control Plan No 100 – Subdivision Code as it applies to land zoned for residential purposes.

Visual Impact

The site is not considered to be visually prominent due to the nature of the site, its location, and the topography of the site and surrounding lands.

Contained within this EA is a visual assessment to consider the visual impacts of the development, and in consideration of this matter, long sections have been produced along potential sight lines, and photographic analysis has been undertaken. This analysis demonstrates that the site is not prominent and is not visible from any waterbody, and visual impacts are generally internal.

Infrastructure Provision

The development proposes the establishment of residential allotments in a new living area which is planned for urban expansion. Accompanying the EA is a “*Utilities Investigation Report*” prepared by Allen Price and Associates (APA) which has identified all relevant infrastructure that is required for residential development. This has included an analysis of existing infrastructure, consultation with the relevant supply authorities, monetary contributions that may be applicable, and pre-notification of development where applicable.

Given that Mundamia is a new living area, infrastructure is planned to be provided by the relevant authorities in accordance with a typical development timetable and all agencies are aware of impending development and are planning the provision of new or augmented services, with the exception of reticulated gas, which will not be available to the locality. Council has timed the work for completion in 2016/17, however has resolved to bring forward the funding of the sewer and water infrastructure to allow early release of the development area in accordance with the land release schedule within Shoalhaven Draft LEP 2013.

As outlined above, Council has recently resolved to provide in-principle support to the preparation of planning agreement with relevant landowners in the Mundamia area in order to provide relevant infrastructure.

This assessment has concluded that there are no impediments to development based on the supply of infrastructure.

Traffic and Access

The proposed subdivision includes vehicular access to the public road network via an extension to George Evans Road. Accompanying this EA is a “*Transport Report for Proposed Residential Subdivision, Mundamia*” prepared by Colston Budd Hunt & Kafes Pty Ltd. This report has examined the impacts of the development having regard to the suitability of the proposed road system, and the impacts associated with the wider road network. The assessment included appropriate traffic modelling and included consideration of peak traffic volumes, existing traffic volumes and 10 year projected traffic volumes which concluded that the proposal is suitable, with the established road network able to accommodate additional traffic flows, subject to the provision of separate left and right turns at the intersection of Yalwal Road and Albatross Road at some time in the next 10 years to accommodate growth in traffic numbers over the 10 year horizon.

The recommendations of this report are supported in this EA.

Hazard Management and Mitigation

The subject site, although within the coastal zone, is on lands which are not subject to coastal processes or hazards such as shoreline erosion or tidal inundation, or general flooding.

Martens Consulting Engineers undertook a “*Stage 1 Contamination Assessment*” which indicated that a Stage 2 assessment was required due to past development practices. Martens Consulting Engineers has subsequently undertaken a Stage 2 Environmental Site Assessment which has included the collection of samples from a total of 48 separate locations across the site and included boreholes, test pits, stockpiles and from the lands surface. The Stage 2 Environmental Site Assessment undertaken by Martens Consulting Engineers revealed that site contamination was restricted to Area B located in the south-eastern corner of Lot 3 DP 568613 with contamination arising from empty fuel cans, motor oil containers, lubricants and disused motor vehicles. Following this, Martens Consulting Engineers prepared a Remedial Action Plan in order to identify remediation measures necessary to ensure that the site is suitable for the residential use proposed and these works are to be undertaken in conjunction with the subdivision works. Following this work, which will be undertaken as part of the initial stage of this subdivision, the site will be suitable for the residential use proposed.

Martens Consulting Engineers also prepared a *Preliminary Geotechnical and Constraints Assessment* which included an assessment of the geotechnical constraints and the presence of acid sulfate soils. This assessment confirmed that the site is unlikely to contain acid sulfate soils and that there are no geotechnical constraints to development.

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

The recommendations of the various assessments are supported in this EA.

Water Cycle Management

The site drains generally to the west and north-west and Storm Consulting Pty Ltd were engaged to investigate water cycle management and the impact of the proposed development on surface and groundwater, and on Flat Rock Creek and other ecologically sensitive areas. The report of Storm Consulting also gave consideration to changing hydrological conditions due to climate change. The Storm Consulting report included recommendations to maintain water quality including bio-filtration trenches, along with measures to maintain flows within existing catchments.

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

Heritage and Archaeology

An Aboriginal Heritage Assessment has been undertaken by South-East Archaeology (SEA) to investigate the heritage significance of the site and the presence of indigenous and non-indigenous cultural items.

The assessment undertaken by SEA revealed that the site does not contain any identified heritage items, and nor are there any within the vicinity of the site. Further, field work undertaken in accordance with established protocol failed to detect any items of aboriginal significance. SEA conclude that the impacts on Aboriginal heritage are very low and they have provided recommendations for management of archaeological and heritage items if they are found during development works.

Flora and Fauna

Development of the subject site and the subdivision design in particular, has included consideration of prior ecological assessments that have been undertaken as well as current survey carried out by SLR Global Environmental Solutions (SLR). Prior ecological assessment carried out as part of the NBSP and adopted in the proposed rezoning of the site identified land suitable for residential development whilst conserving land of high conservation value in a conservation zoning (proposed to be zoned E2 under the Draft LEP 2013).

The proposal has been assessed by SLR in the report entitled “*Flora and Fauna Issues and Assessment Report*”. This report has generally confirmed the findings of the ecological assessment previously undertaken, and in particular the eastern portion of land having higher ecological significance proposed for conservation E2 zone. The SLR assessment has also made a number of recommendations to further mitigate impacts, such as preparation of and compliance with a Vegetation Management Plan and appropriate control of sediment.

The conservation of 9.49 ha of the high biodiversity value habitat as part of the development of the site is a balanced outcome which serves to limit development to the disturbed and low habitat value land for residential purposes.

The measures recommended are supported in this EA.

Hydrogeological Assessment

A Hydrogeological Assessment was undertaken by Martens Consulting Engineers to assess Hydrogeological characteristics, examine potential impacts associated with the proposed subdivision and identify mitigation measures on the sites groundwater system and this is incorporated into the Water Cycle Management Report prepared by Storm Consulting as Annexure F to that report. The emphasis of the assessment was the impact the subdivision may have on the Spring Tiny Greenhood Orchid and Nowra Heath Myrtle which are identified

threatened species. The Nowra Heath Myrtle has been found on the site, and whilst the Spring Tiny Greenhood Orchid has not been identified, the site does provide potential habitat for the species.

The Hydrogeological Assessment prepared by Martens Consulting Engineers has recommended protection and mitigation measures to address potential hydrogeological impacts.

The measures recommended are supported in this EA.

Noise

The EA has considered the impacts of the development having regard to road traffic and aircraft noise, and proposed expansion of the Bamarang Power Station.

The site is not subjected to substantial through traffic, and as such noise associated with road traffic will be limited to that generated by the development itself. The development will not generate traffic beyond the environmental capacity of the road system, as outlined in the *Guide to Traffic Generating Developments* prepared by the Roads and Traffic Authority (RTA).

The site is well removed from the Bamarang Power Station such that noise impacts are not a concern. In this regard, according to assessment undertaken in support of that application, noise levels associated with sites in much closer proximity of the Bamarang Power Station will not be subject to unreasonable noise impacts. As such, it is considered that there will not be undue noise impacts at the subject site.

In relation to aircraft noise, the HMAS Albatross airfield is sited at Nowra Hill, 5.5 km to the south of the site and noise controls imposed as a result of Development Control Plan No. 69 do not affect the subject site. The area affected by DCP 69 stops 2 kilometres to the south of the subject property. Consequently, aircraft noise is not considered to adversely affect the proposed development.

Aviation/Defence

The concerns of the Department of Defence relate to development in the vicinity of HMAS Albatross, and possible noise complaints that may be made by future residential occupation of the site. It is noted that the concerns do not relate to issues such as safety. Noise issues are dealt with above.

Consultation

In preparing this EA, the following consultation was undertaken with staff of the Department of Planning (DoP), Shoalhaven City Council (SCC), Shoalhaven Water, the Nowra Local

Aboriginal Land Council, Telstra, Endeavour Energy, Jemena Pty Ltd (gas supplier), University of Wollongong and TAFE NSW.

Furthermore, the EA and other assessment reports were undertaken mindful of guidelines and policies prepared by SCC, DoP, Roads and Traffic Authority, DECC, and the NSW Rural Fire Service.

Conclusion

The proposed subdivision has properly addressed the requirements applying to this Major Project having regard to the relevant environmental, ecological, natural hazards and social constraints that apply to the site and surrounds.

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

The proposal properly considers the retention of lands which have higher ecological values, and the suitable development of the remainder of the property in a manner to provide residential accommodation consistent with the growth strategies of SCC and the DoP, as contained in the NBSP and the SCRS.

The design of the subdivision has been undertaken in accordance with the Mundamia Masterplan and associated principles adopted by SCC, and results in a sustainable layout that will provide good levels of solar access, and views to nearby bushland or Mount Cambewarra which is a feature of the district. Further, the subdivision has a permeable layout, which will enhance the sustainability of the project and encourages active transport options for local trips.

The relevant infrastructure agencies are aware of the proposal, and the plans of SCC to facilitate further residential development in accordance with its growth strategies. To this end, preparatory work is being undertaken by relevant supply authorities to provide all necessary infrastructure for the development and to expedite its delivery.

Given compliance with the Statement of Commitments, which includes the preservation of the ecologically constrained land in the conservation zoning, remediation of contaminated lands, provision of water quality control measures, payment of monetary contributions for public facilities and water and sewerage infrastructure and the implementation of suitable landscaping, the subdivision is considered suitable for approval.

1.0 INTRODUCTION

1.1 OVERVIEW AND BACKGROUND

This Environmental Assessment (EA) has been prepared in support of an application proposing a residential subdivision of the subject site into 312 residential allotments, 1 large lot residential and various public reserves in 12 stages. The site is located within Mundamia which is sited to the west of the Nowra Township, and has been identified by SCC in the *Nowra Bomaderry Structure Plan* (NBSP) as a New Living Area. In addition, work has been undertaken by the current and former developers with SCC in the preparation of a Masterplan to further guide the nature of development that will ultimately result to ensure that the area will have its own unique character. SCC is currently exhibiting Draft Shoalhaven LEP 2013 in order to implement some of the recommendations of the Structure Plan, and this includes the implementation of relevant residential and conservation zonings having regard to the Mundamia living area. Draft Shoalhaven LEP 2013 proposes to zone the site predominantly R1 and partly E2.

The subdivision proposed is a conventional Torrens Title scheme and it is expected that it will take approximately 10 years to complete.

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

In preparing this EA, consideration has been given to the following plans and specialist consultant reports:

- *Subdivision Sketch Plan* - Allen, Price and Associates (**Annexure 1**);
- *Transport Report for Proposed Residential Subdivision, Mundamia* – Colston Budd Hunt & Kafes Pty Ltd (**Annexure 2**);
- *Flora and Fauna Issues and Assessment Report* – SLR Global Environmental Solutions (SLR) (**Annexure 3**);
- *Preliminary Geotechnical and Constraints Assessment* undertaken by Martens Consulting Engineers (**Annexure 4**);
- *Stage 1 Contamination Assessment, Stage 2 Environmental Site Assessment and Remedial Action Plan* prepared by Martens Consulting Engineers (**Annexure 5**);
- *Bushfire Protection Assessment* – Eco Logical Australia (**Annexure 6**);

- *Water Cycle Management Report* – Storm Consulting Pty Ltd which has incorporated a *Hydrogeological Assessment* prepared by Martens Consulting Engineers (**Annexure 7**);
- *Mundamia Investigation Area, West Nowra, Aboriginal Heritage Assessment* – South-East Archaeology Pty Ltd (**Annexure 8**);
- *Utilities Investigations Report* – Allen Price and Associates (**Annexure 9**); and
- *Construction Management Plan* – Allen Price and Associates (**Annexure 10**).
- *Landscape Plan* – Peter Phillips Landscape Architecture (**Annexure 11**)
- *Coastal Policy Assessment* – Cowman Stoddart Pty Ltd (**Annexure 12**)

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

The EA has been prepared in accordance with the Director-General's Environmental Assessment Requirements dated 20th October 2010 and addresses those matters which have been identified as key issues. These include matters relating to strategic planning, subdivision layout and future character, visual impacts, traffic and access, hazard management and mitigation, water cycle management, heritage and archaeology, flora and fauna, noise, aviation and defence considerations.

The application is considered to comply with the relevant State and Regional environmental planning policies that apply to the site. Furthermore, the proposal is consistent with the strategic aims of SCC, the provisions of the Draft Local Environmental Plan supported by SCC, and the provisions of the Mundamia Masterplan adopted by SCC.

The proposal is consistent with the proposed rezoning of the release area, having regard to the conservation of approximately 9.5 ha of higher biodiversity value land as identified in the NBSP whilst retaining that land which is primarily cleared and of lower conservation value due to past uses for agricultural purposes.

The proposal includes an appropriate lot layout and other measures to mitigate the impacts of the subdivision, including the preservation of those areas deemed to have significant ecological values, appropriate road layout to properly edge the subdivision and provide bushfire mitigation, and well sited public reserves to enhance amenity for future residents within the living area.