YELLOW ROCK SOUTH

RURAL TRANSITION LANDS

PLANNING PROPOSAL

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EXECUTIVE SUMMARY

The Yellow Rock Rural Transition Lands encompass a broad land area which adjoins the western edge of the Yellow Rock urban village. The land area has been identified as accommodating future residential and small lot rural housing under a variety of strategies and environmental studies since the early 1990s.

Three separate Planning Proposals have been lodged concurrently, which propose to create a rural transition area. The proposals deliver a vision for the resolution and finalisation of the Yellow Rock Rural Transition Lands, delivering a dedicated transition between the existing urban zoned land and sensitive vegetated environmental bushland to the west.

This Planning Proposal has been prepared in consideration of the adjoining Planning Proposals and incorporates a preliminary Concept Plan for the land area, which demonstrates how the transition in land use and housing can be delivered in a manner which is responsive to site vegetation, views and landscape features.

The subject land, being 233 Yellow Rock Road, is presently zoned as though it forms prime agricultural land under Shellharbour LEP 2011. The existing land use and planning controls were adopted in 2013, as part of a 'like for like' interpretation of the historic rural zoned land under the previous Shellharbour Rural LEP 2004.

Fundamentally, the land is not capable of sustaining commercial agricultural operations either for livestock or crops. As such, the current land use controls and zoning are not appropriate and should be reviewed.

Maintaining the land as an agricultural zone will result in significant land use conflict between potentially offensive land uses permissible under the current zoning and adjacent residential dwellings (including uses such as poultry farms and slaughterhouses).

Furthermore, the rezoning of land and recent development along Yellow Rock Road has created a hazardous traffic conflict between heavy vehicles associated with rural land uses and local pedestrians and vehicles.

The Planning Proposals deliver a long-term solution to managing these land use conflicts and protecting key environmental features. The Proposal and Concept Plan have been prepared to deliver a sensitive land use arrangement, which allows for the retention of all on site vegetation and minimal site earthworks.

The proposal also delivers a variety of housing and lot size typologies which are not currently being delivered within the broader region.

This Planning Proposal and associated Concept Plan have adopted the following key urban design and place making principles to deliver a logical and long-term resolution of the rural transition lands which will celebrate and protect key environmental features as follows:

- The Planning Proposal and Concept plan will deliver a gradual transition in land use, lot size and housing types between the existing residential edge and environmental bushland areas.
- Minimise visual impacts through sensitive location of dwellings.
- Maintain the opportunity for small scale boutique local agricultural production which meets evolving land use requirements.
- Deliver a broader diversity of housing than is currently provided within new urban release areas within Shellharbour Local Government Area.
- Deliver long term revegetation, protection and management of creek lines degraded through historic agricultural land uses.

The Planning Proposal has been prepared in accordance with the Department of Planning and Environment's 'A Guide to Preparing Planning Proposals' (October 2012) and the DP&E's 'A Guide to Preparing Local Environmental Plans'.

Council's support for this Planning Proposal will deliver an appropriate long-term planning and land use outcome for the Yellow Rock Rural Transition Lands and minimise future land use conflicts between high intensity agricultural uses and residential homes.

STRUCTURE OF THIS REPORT

SECTION 1 – YELLOW ROCK RURAL TRANSITION LANDS	
Introduction	An introduction to the subject site and the purpose of the Planning Proposal.
The Subject Land	A summary of the site and its natural features.
Previous Land Releases	Summaries of historic land releases and studies over the subject land.
The Concept Plan	A vision for the future of Yellow Rock Rural Transition Lands.
SECTION 2 – PLANNING PROPOSAL MERIT TEST	
Strategic Merit Test	Addresses the Department of Planning Strategic Merit Test.
Site Merit Test	Addresses the Department of Planning Site Merit Test.
SECTION 2 – THE PLANNING PROPOSAL	
Part 1 - Objectives and Intended Outcomes	A statement of the objectives and intended outcomes of the proposed instrument.
Part 2 - Explanation of Provisions	An explanation of the provisions that are to be included in the proposed instrument.
Part 3 - Justification	Includes the need for the Planning Proposal and the relationship of the planning proposal to the strategic planning framework.
Part 4 - Amending Maps	To identify the intent of the planning proposal and the area to which it applies.
Part 5 - Community Consultation	Details of the community consultation to be undertaken on the planning proposal.
Part 6 - Project Timeline	Details an indicative timeframe of the plan making process for the planning proposal.

SECTION 1

Yellow Rock South Rural Transition Lands

INTRODUCTION

Yellow Rock Rural Transition Lands

The Yellow Rock Rural Transition Lands encompass a land area which adjoins the western edge of the Yellow Rock urban village. The subject land has been identified as accommodating future residential and small lot rural housing under a variety of strategies and environmental studies since the early 1990's.

The Yellow Rock Rural Transition lands encompass a number of land holdings, for which separate coordinated proposals have been prepared and lodged for Council's consideration.

The current planning controls under the Shellharbour LEP 2013 for the rural lands represent 'like for like' zoning based on the historic LEP (Rural LEP 2004) and have created a land use arrangement where residential land is separated from agricultural zoned land only by Cooby Road and Yellow Rock Road.

Land on the northern side of Cooby Road and western side of Yellow Rock Road is zoned R2 Low Density with a 450m^2 lot size provision, while land on the southern side of Cooby Road is zoned R1 Primary Agricultural, with a 40-hectare minimum lot size.

This creates land use conflict between new residential dwellings and existing rural properties due to odour, animal management, hours of operation and heavy vehicles associated with farming.

As an example, some land uses which are permissible within the RU1 Primary Agricultural zone under the SLEP 2013 include extractive industries, industrial retail outlets, intensive livestock agriculture, intensive plant agriculture, open cut mining, rural industries and truck depots. These land uses are not appropriate either adjoining, or within proximity of residential homes.

This Planning Proposal provides a vision for the resolution and finalisation of the Yellow Rock urban edge, delivering a dedicated transition between the existing urban zoned land and sensitive vegetated environmental bushland to the west.

This Planning Proposal has been prepared in conjunction with a preliminary Concept Plan for the land area which demonstrates how the transition in land use and housing can be delivered in a manner which is responsive to site vegetation, views and landscape features.

The Concept Plan provides for a range of environmental living and small lot rural allotment sizes, which transition from the existing urban edge to the steeper vegetated land holdings to the south.

The Planning Proposal and Concept Plan have been prepared in conjunction with Planning Proposals for the adjoining land holdings and deliver a coordinated land use management solution.

Purpose of the Planning Proposal

The purpose of this Planning Proposal is to seek support from Shellharbour Council for amendment of existing zoning lot size controls which currently apply to the site.

The proposal also seeks amendments to the current land use zoning arrangements to allow to deliver a rural transition zone and transition in lot sizes.

This will be achieved through an amendment to the mapping and land use provisions pertaining to the site under the Shellharbour LEP 2013, including land use zoning and lot size mapping.

THE SUBJECT LAND

The Site

The subject site is situated in the suburb of Yellow Rock, and spans both the northern and southern side of Yellow Rock Road. The site encompasses a land area of approximately 18.5 hectares.

The property description of the landholding subject to this Planning Proposal is 233 Yellow Rock Road – Lot 334 DP 1085477.

Yellow Rock Creek traverses the northern portion of the site.

The land is situated only 1km from the existing urban edge of Yellow Rock.

The subject land directly adjoins land along the northern boundary which is subject to a separate Planning Proposal lodged with Council and seeks to rezone the land to accommodate a similar rural transition.

Figures 1 & 2 below provide a view of the site and its context.

Figure 1: Context Plan

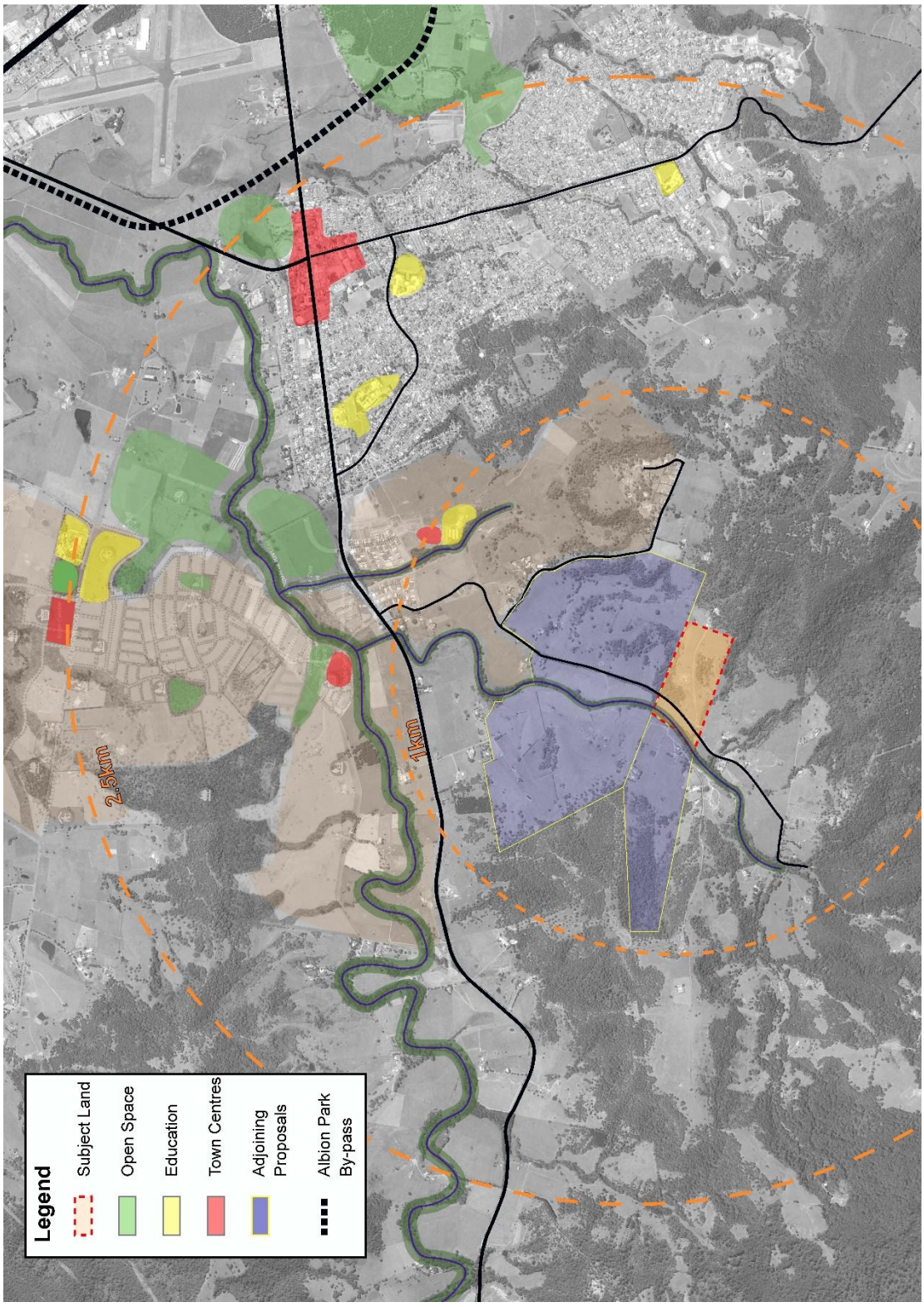


Figure 2: Site Plan

Natural Features

Landform

The existing natural landform within the site is distinctly different between the northern and southern portions of the land holding.

The northern portion of the site is intersected by Yellow Rock Creek is typically flat, with isolated vegetation along the incised creek line.

The southern portion of the site rises from Yellow Rock Road, before flattening to a ridge line plateau topography. The land continues to rise at a gentle gradient to the eastern boundary

The vegetated area along Yellow Rock Road is steeper sloping than the rest of the site.

A local drainage line runs along the southern boundary of the land, forming a low point along this boundary.

Creek Catchments

The whole of the proposed Yellow Rock Rural Transition Lands form part of a single catchment, draining to Yellow Rock Creek.

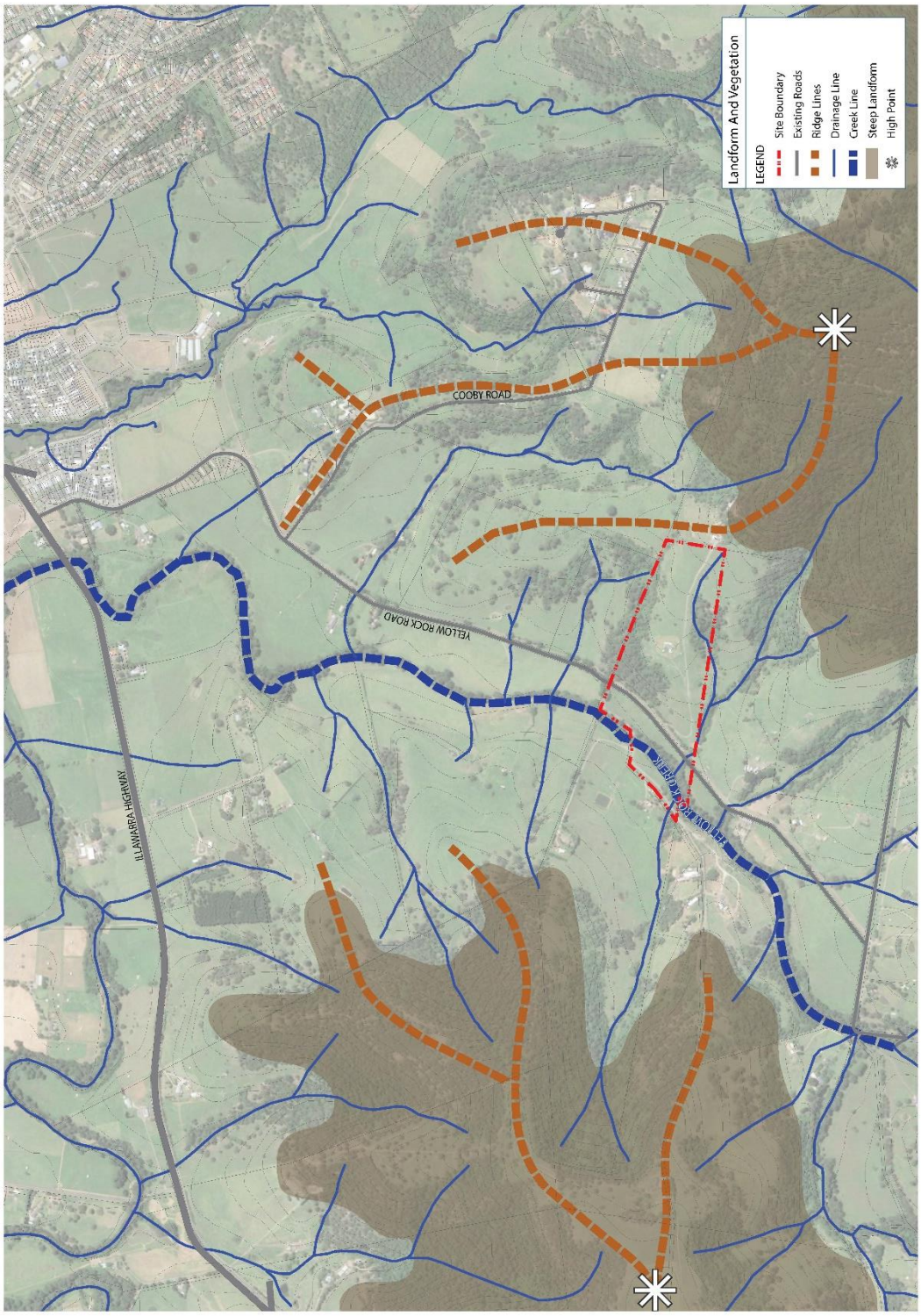
The majority of the subject land drains to a local drainage line which runs along the southern property boundary and forms a tributary to Yellow Rock Creek.

The northern portion of the site drains directly to Yellow Rock Creek.

Yellow Rock Creek is the main hydrological feature within the transition lands and is a tributary to the higher order Macquarie Rivulet to the north.

A detailed flood study has recently been prepared for the Macquarie Rivulet by Shellharbour Council which is discussed below. This proposal adopts the flood planning levels prescribed in the study.

Figure 4: Landform Plan



Vegetation

The majority of the land holding has been cleared in association with agricultural grazing over an extended period of time.

Existing vegetation on the northern edge of the site is restricted to a steeper sloping area directly adjoining Yellow Rock Road.

There is also some existing vegetation within the Yellow Rock Creek line banks.

Vegetation across the balance of the land area generally comprises exotic pasture grasses.

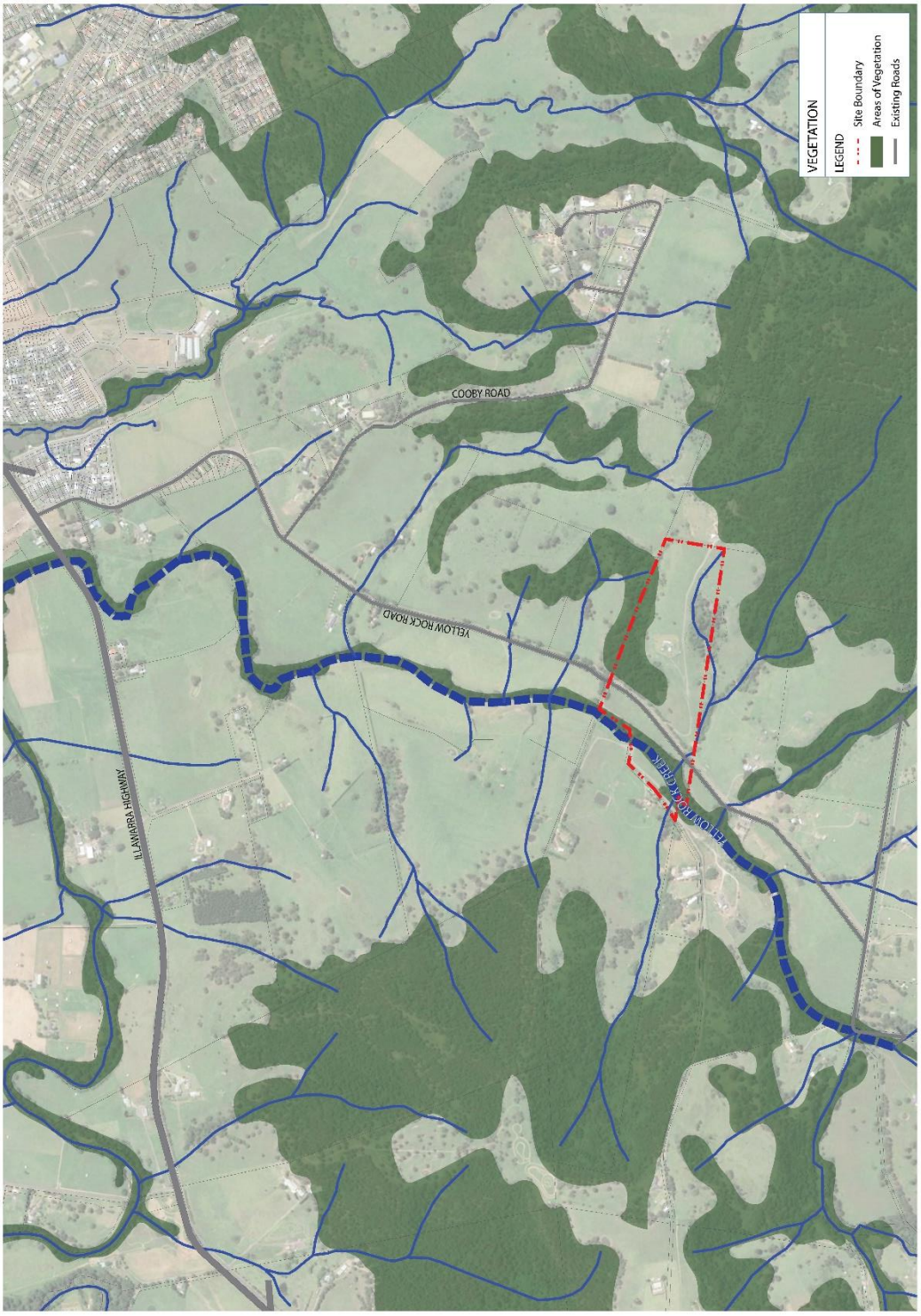
Vegetation is typically degraded, comprising a mixture of native trees, exotic species and weeds.

The 2001 Illawarra Biodiversity Strategy prepared by Kiama / Shellharbour and Wollongong Councils identified key areas of rare vegetation and biodiversity corridors across the Illawarra Region.

The subject land did not incorporate any significant vegetation, fauna or biodiversity corridors under the strategy.

The proposed small lot rural housing will allow for the retention of the vegetation across the site.

Figure 5: Vegetation Plan



Soil Classification

GHD have prepared an agricultural review which has mapped the NSW DPI Agricultural Land Classification soil classes for the subject land.

The land capability classifications / soil types for the subject site are as follows:

- Class 4 comprises 3.2 hectares (17%)
- Class 5 comprises 12.7 hectares (68%)
- Class 7 comprises 2.8 hectares (15%).

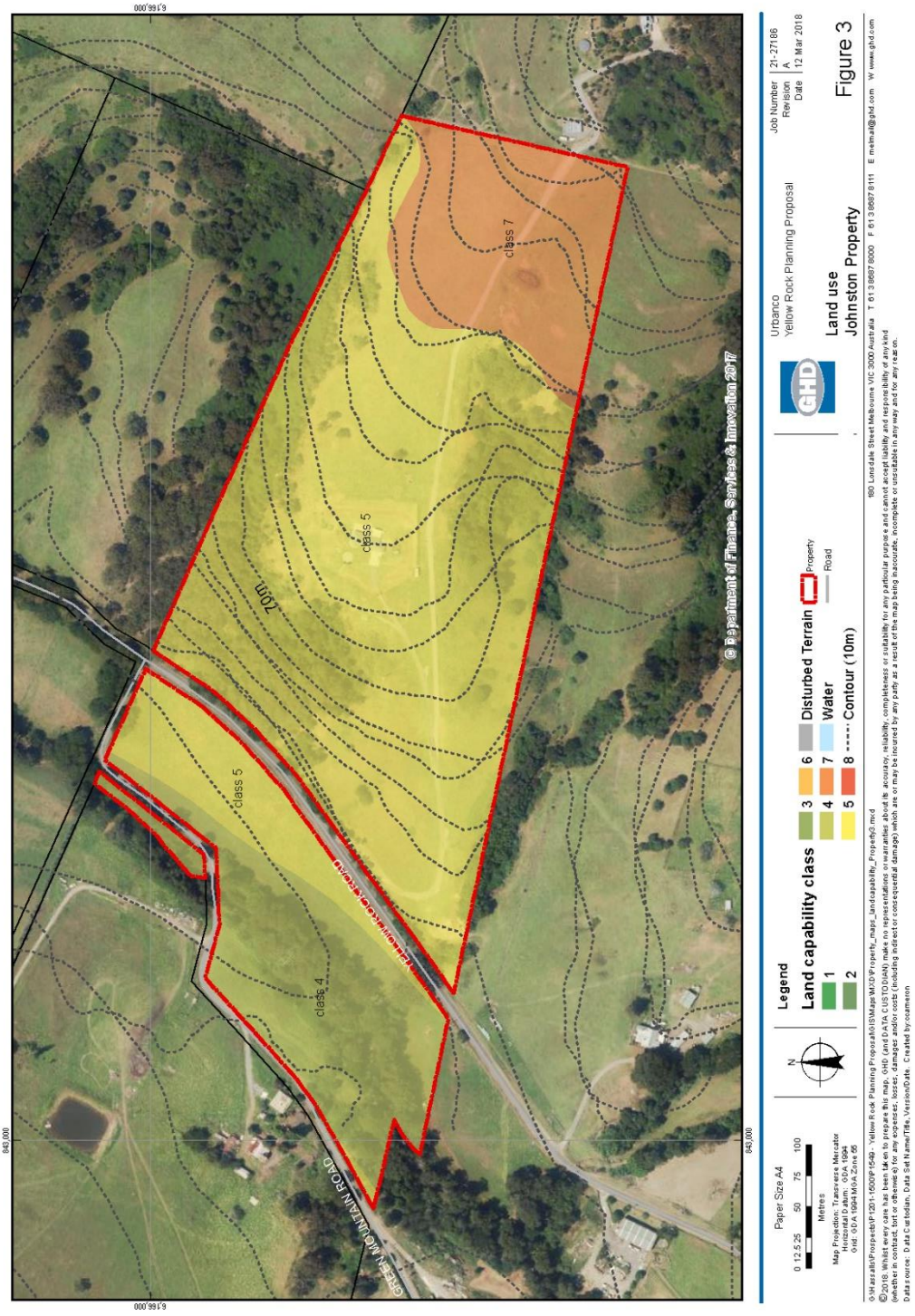
Based on these soil types, the landscape is considered possibly suitable for grazing, with moderate to low production levels due to environmental constraints with Class 5 soils not suitable for Agriculture.

This is consistent with historical agricultural use, which was grazing, as soil types, slope and environmental factors did not support intensive cultivation of the properties.

There are currently no active large scale commercial agricultural operations being undertaken over the subject land holdings.

The Illawarra – Shoalhaven Regional Plan, prepared by the Department of Planning, maps key land which is considered Biophysical Strategic Agricultural Land (BSAL). No land within the subject land holdings has been identified a BSAL land.

Figure 5: Soil Classification Plan



Macquarie Rivulet Flood Study

Shellharbour Council released the final Macquarie Rivulet Flood Study in February 2017. This study included the Yellow Rock Creek catchment and the land subject to this Planning Proposal.

As noted in the report, "*The key objective of the Macquarie Rivulet Flood Study is the development of computational hydrologic and hydraulic models that define design flood behaviour for the 20%, 10%, 5%, 2%, 1%, 0.5% and the Probable Maximum Flood (PMF) design storms in the study area*".

The Macquarie Rivulet Flood Study provided a detailed analysis of a broad range of storm events and associated flooding impacts across the catchment area, inclusive of the subject land.

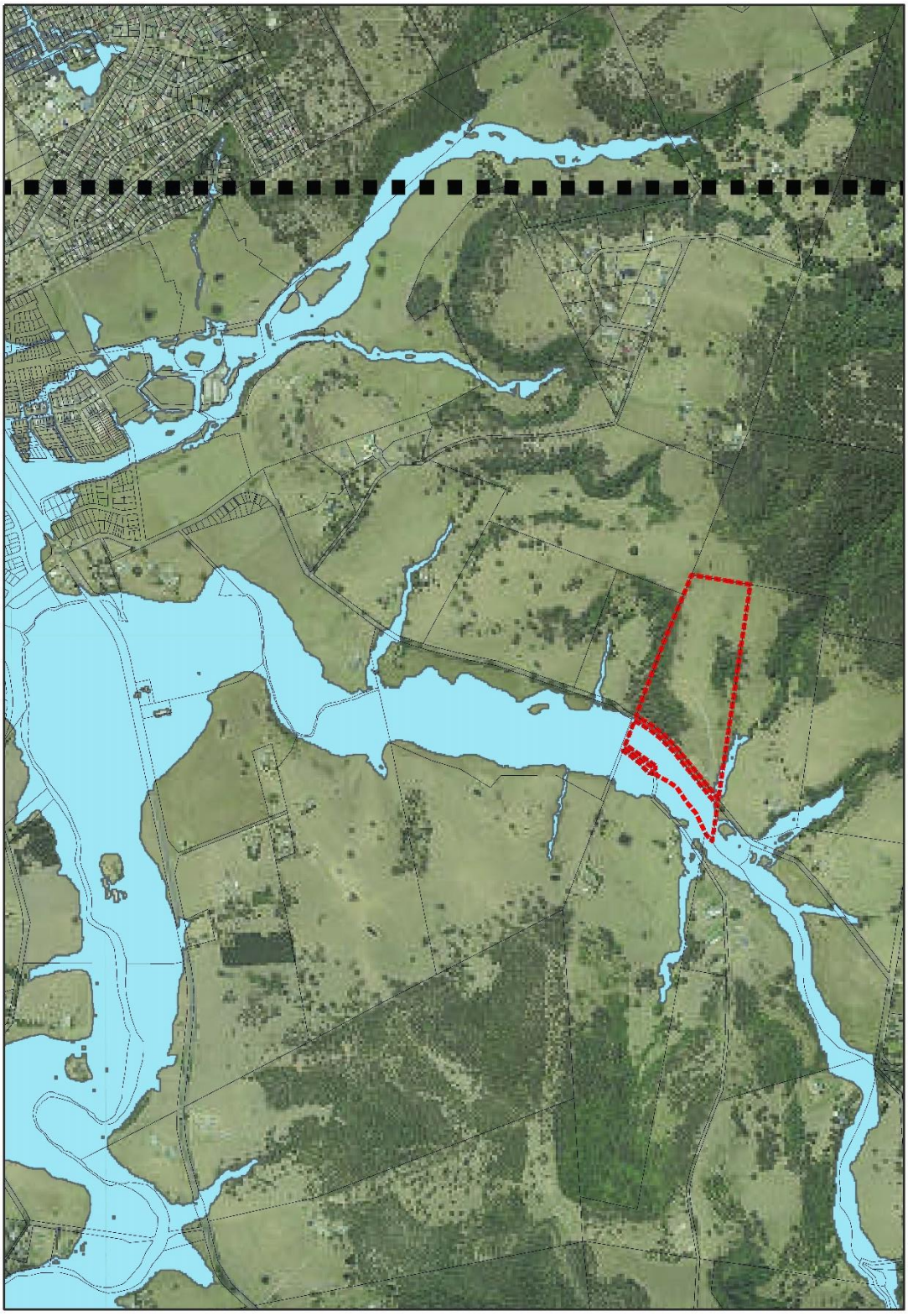
In relation to LEP mapping, the 1:100-year flood level is used to establish a Flood Planning Level and map Flood Prone Land within the LGA.

As shown in Figure 6 below, the 1:100-year flood mapping prepared under the study, the subject site is generally flood free and is not impacted by flood inundation during all storm events.

The study identifies a small area of flood prone land along the edge of Yellow Rock Creek.

This Planning Proposal adopts the Macquarie Rivulet Flood Study mapping as the Flood Planning Levels for the subject land.

Figure 6: Macquarie Rivulet Flood Study – Flood Prone Land



PREVIOUS LAND RELEASE INVESTIGATIONS

Illawarra Urban Development Program

The Illawarra Urban Development Program (IUDP) prepared by the NSW Department of Planning is the State Government's program for managing land and housing supply in the Illawarra.

The IUDP monitors the planning, servicing and development for new urban areas in Wollongong, Shellharbour and Kiama, as well as the provision of housing in existing urban areas.

As the IUDP identifies and tracks the release of new urban areas, it does not provide any guidance or monitoring of land required for small lot rural interface areas as sought under this proposal.

Notwithstanding, it is noted that the subject land was previously identified as an investigation area for urban development under the IUDP.

Figure 8 below shows the extent of the previous investigation areas within the subject land, which were identified as Metropolitan Development Program (MDP) Area 52.8B - Albion Park West 2 (formerly IUDP AREA 8) and IUDP Area 9. These areas are discussed below.

IUDP Area 9

IUDP Area 9 encompassed a broad land area between the eastern and northern side of Yellow Rock Road to the former edge of the Albion Park village, inclusive of the Tullimbar Estate.

A substantial portion of IUDP Area 9 was proposed to be rezoned under a detailed Local Environmental Study prepared on behalf of Shellharbour Council in 1992, which is discussed further below.

The recommendations of the detailed LES and associated rezoning were not implemented.

The 2010 IUDP update does not provide an explanation of the status of IUDP Area 9 as a release area or incorporate any discussion of the 1992 rezoning proposed by Council.

MDP Area 52.8B (IUDP AREA 8)

IUDP Area 52.8B - Albion Park West 2 extended over land situated south of the Illawarra Highway to Yellow Rock Road included the portion of the subject site on the western side of Yellow Rock Road.

Between 2002 and 2006, Area 8 was Area 52.8B and was identified to deliver 120 new dwellings. We note that no dwelling provision was achieved in this period.

IUDP Area 52.8B was subsequently removed from the IUDP as part of a review in 2010. The explanation document associated with the 2010 IUDP outlines that Area 8 was removed because:

- *The area is linear in shape, isolated from remaining settlement (which hinders the achievement of sustainable urban design principles); and*
- *The area extends into multiple water catchments, making environmental outcomes difficult to achieve.*

The portion of IUDP Area 52.8B included in this Planning Proposal is situated within close proximity to the existing urban settlement areas, allowing sustainable urban design principles and access to services.

The land is situated within a single water catchment, allowing environmental water quality outcomes to be achieved. Water quality outcomes will be enhanced by delivery of rural lifestyle housing and associated water quality treatment measures, as opposed to current intensive agricultural activities.

Figure 7: Illawarra Urban Development Program Areas

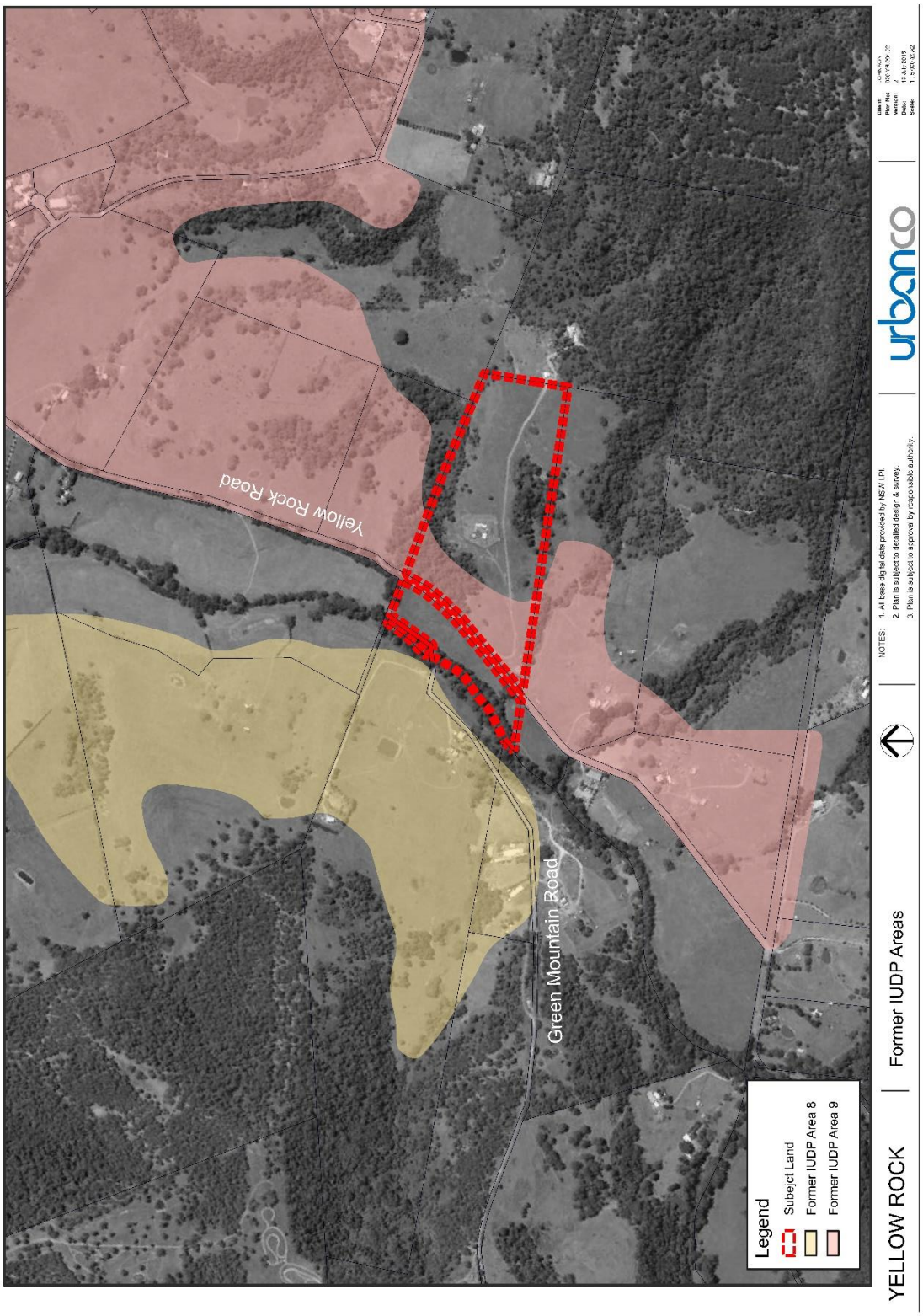
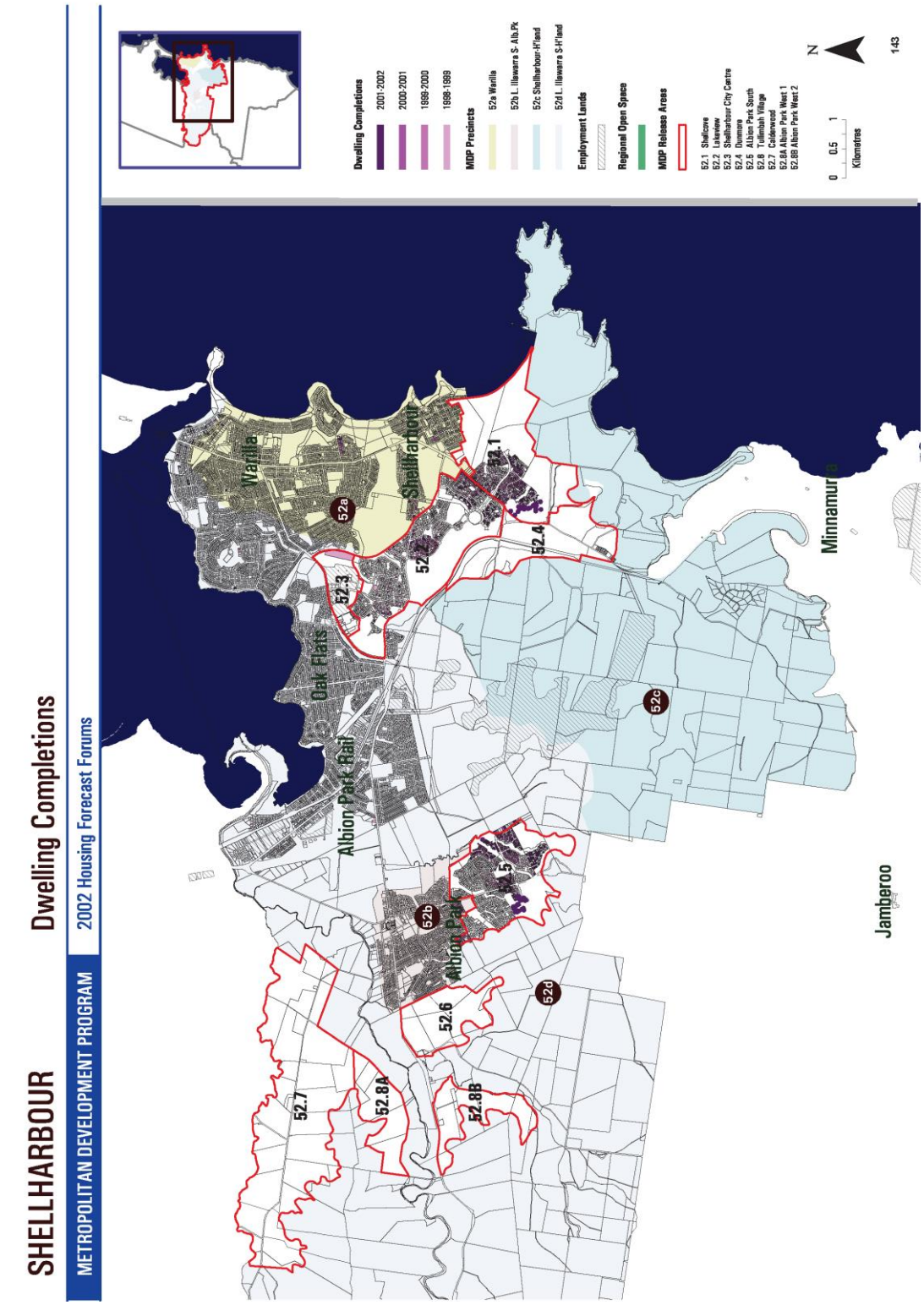


Figure 8: Metropolitan Development Program 2002



1992 Local Environmental Study

Shellharbour Council commissioned Hassell Planning Consultants 1991 to prepare a detailed Local Environmental Study over the Albion Park West Urban Investigation areas identified under the IUDP, being Areas 9 & 10. The LES included the subject land holding.

A number of detailed supporting studies were prepared to guide land use outcomes under the LES which included flooding and water quality assessment, vegetation assessment, fauna assessment and a transport review.

Following the preparation of these studies, the LES was finalised in 1992 and adopted by Shellharbour Council.

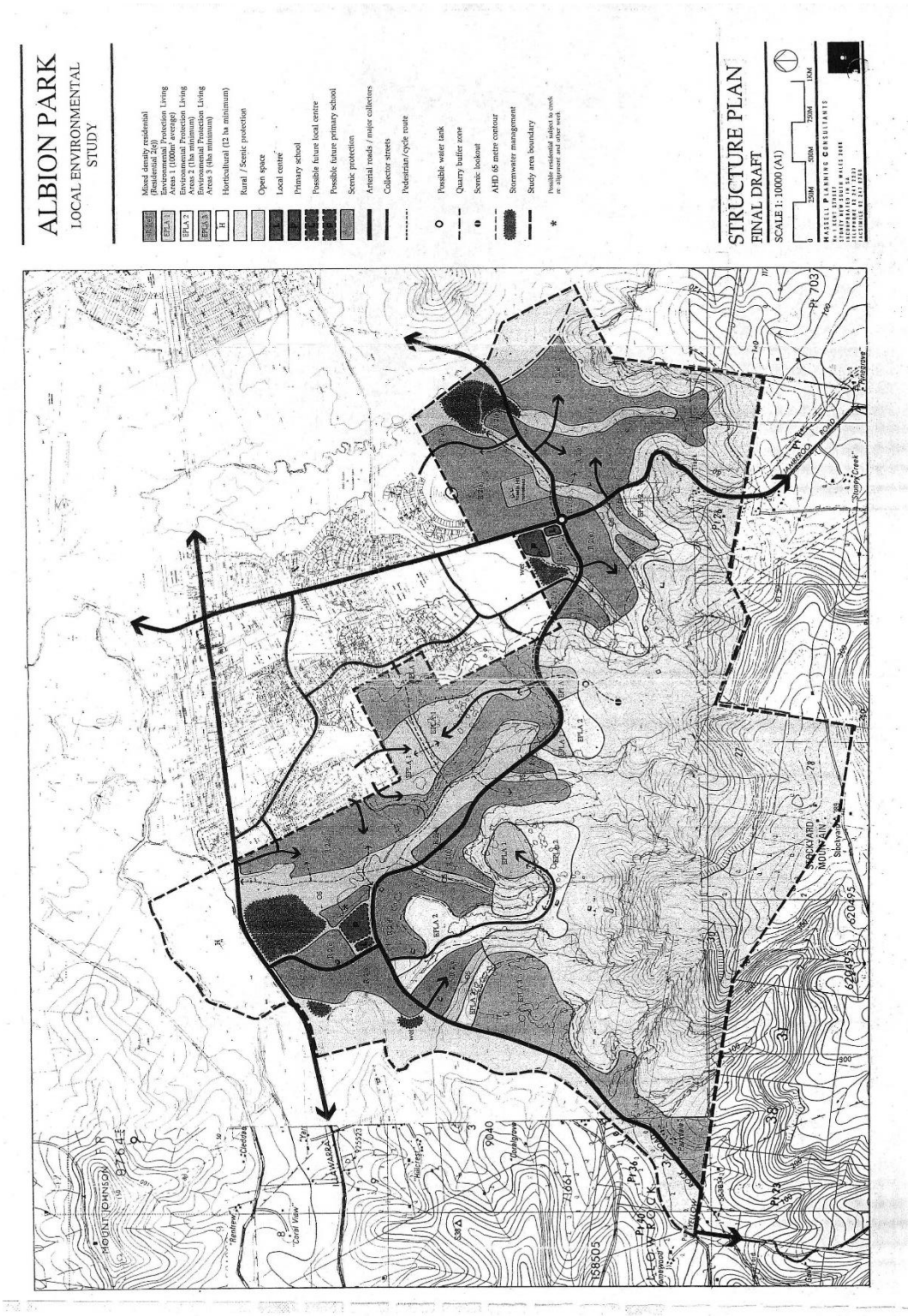
The final LES included the preparation of a detailed Structure Plan for the study area. The Structure Plan incorporated the findings of the supporting studies to determine areas which were appropriate for rezoning and provided an urban design response.

A copy of the structure plan is shown in Figure 10 below.

The Structure Plan proposed removal of the vegetation along Yellow Rock Road, with development of the site for small lot rural housing.

During preparation of the LES, it was noted that there was a demand for rural lifestyle housing within the region and the study incorporated a transition in lot sizes and housing, similar to that proposed under this application, as a buffer between the urban edge and environmental lands to the south and east.

Figure 10: 1992 LES Structure Plan



1996 Rural Land Study

Shellharbour Council undertook a broad Rural Land Study in 1996 which established base line mapping of the Rural Lands over the Shellharbour LGA at the time.

The Rural Land Study reviewed a variety of planning and environmental matters including agricultural land capability, water catchments, servicing, heritage, visual catchments and the like.

In relation to the subject land, it is noted as follows:

- The Rural Land Study and associated base line mapping does not identify the site as being high quality agricultural land
- The Rural Land Study and associated mapping did not identify the site as containing any significant biodiversity assets

This study, which is now over 20 years old, is now extensively outdated, with considerable residential development occurring within the local region since its finalisation.

Furthermore, the commercial aspects of agricultural production and dairying have been changed significantly in this time.

GHD have provided a detailed agricultural land review of the subject site which is provided as an attachment to this Planning Proposal. The GHD review provides a detailed assessment of the Agricultural landscape and capability of the subject land.

The GHD report has concluded that the there is no agricultural enterprise which is suitable as a stand-alone business on the site.

Furthermore, the land is not prime agricultural land.

CONCEPT PLAN

The Concept Plan

The Rural Transition Concept Plan has been prepared to guide land use planning and lot size outcomes and demonstrates how the transition in land use and housing can be delivered in a manner which is responsive to site vegetation, views, and landscape features.

The Concept Plan provides for a range of small lot rural allotment sizes, which will achieve a transition from the eastern boundary to the steeper vegetated land west.

The Concept Plan has adopted the following key urban design and place making principles to deliver a logical and long-term resolution of the rural transition lands which will celebrate and protect key environmental features as follows:

- Deliver a gradual transition in land use, lot size and housing types between the existing residential edge and environmental bushland areas.
- Minimise visual impacts through sensitive location of dwellings.
- Maintain the opportunities for small scale boutique local agricultural production which meets evolving land use requirements.
- Deliver a broader diversity of housing than is currently provided within new urban release areas within Shellharbour Local Government Area.
- Deliver long term revegetation, protection and management of creek lines degraded through historic agricultural land uses.

The Concept Plan has been designed to deliver a seamless integration with the Planning Proposal to the north, delivering a new proposed road link, and achieving a consistent transition in lot sizes.

Figure 11: Site Concept Plan

The Future Community

The future Yellow Rock Community will encompass a broad range of families and land owners looking for opportunity to establish small scale boutique rural operations.

Residents will be able to live in a small rural community, with access to all the facilities and services which the adjoining residential suburbs provide such as schools, shops and recreational spaces.

Families will be able to live in a rural setting, with access to locally based employment, allowing them to spend more time at home.

Lot Size Transition

A key principle of the Planning Proposal is to deliver a long-term transition in terms of housing, land use and lot sizes between the existing urban edge and the vegetated escarpment areas along the western edge of the property.

The Concept plan provides for Rural Interface allotments along the northern edge, which are envisaged to be ½ acre to 1 acre in size (2,000m^2 to 4,000m^2). The Rural Interface lots achieve an environmentally sensitive land use outcome, with housing sites able to be located with minimal impact on land and vegetation.

The vegetation along Yellow Rock Road will be protected through Rural Edge type allotments of over 1 Hectare and will typically average 5-10 Acre lots.

Rural Edge allotments are located along central localised ridgeline in order to minimise any visual impacts.

Transport

The proposal will result in only a slight increase in the number of dwellings and associated vehicular movements along Yellow Rock Road.

From a traffic management perspective, the proposed rezoning would enhance vehicular and pedestrian safety along Yellow Rock Road by reducing the number of heavy vehicle movements associated with agricultural land uses.

A new roadway / intersection with Yellow Rock Road is proposed along the southern boundary of the site. This is the most appropriate location given site gradients, existing vegetation and the alignment of Yellow Rock Road along the frontage of the site.

The proposed road connection to Yellow Rock Road will be designed in accordance with relevant Council engineering specifications.

Should the proposal be supported, any future Development Application would be required to provide a detailed traffic report.

Visual Analysis

A number of visual analysis studies have been undertaken within the local area over the last 20-30 years.

The common theme through-out these studies is that the locality features minimal local visual / landscape features, worthy of protection / retention.

Typically, the existing urban edge of Albion Park is identified as visually obtrusive within the landscape setting.

The rainforest clothed escarpment and the open ridgelines are dominant features forming viewsheds and prescribing distinct development precincts.

The visual analysis undertaken during preparation of the 1992 LES described the local character as follows:

> *The study area comprises four primary morphological units; the plateau, the escarpment, the foothills and the coastal plain, the most sensitive being the escarpment and the gullies of the foothills. Careful integration of buildings into the landscape is required.*
>
> *Rainforest communities are not as well developed as elsewhere along the escarpment due to the north/south orientation of the gullies and consequent greater sunlight penetration and exposed to drying westerly winds. Lower sections of rainforest are - heavily infested with exotic weeds.*

In this regard, preliminary viewscape analysis and on-site meetings with Council officers have identified that:

- The existing vegetation along Yellow Rock Road screens views to the site.
- There is no impact on key regional views to the Illawarra escarpment or Jamberoo Mountains escarpment.
- The proposal maintains local ridgelines and key vegetation areas.

Supporting Studies

Servicing

Northrop Engineering has prepared a preliminary servicing report in association with this Planning Proposal.

The servicing report investigated the following components:

- Identify the location, size and capacity of all existing services within the vicinity of the proposed site;
- Identify utility confirmation for the subject site.
- Identify options to service the site to support the proposed development.

The report has confirmed that the site is able to be serviced through extension and augmentation of both the existing and planned servicing infrastructure and can be delivered within the locality as summarised below.

Sewer

- The DN225 Sydney Water sewer main within Yellow Rock road could be extended to service the proposed subdivision.
- A sewer holding tank with 4 hours of emergency storage could be designed for the entire subdivision. All single dwellings would discharge to sewer via gravity to the central sewer holding tank. This would be pumped into the DN225 Sydney Water sewer main within Yellow Rock Road.
- An on-site sewer management system may also be adopted for the larger environmental allotments

Water

- A new DN200 Sydney Water water main, connected into the DN250 Sydney Water water main within Wongawilli Street, could be extended through Yellow Rock Road to service the subject site.

Gas

- An application would be required to be lodged with Jemena to extend the gas main from the corner of Yellow Rock Road.

Electricity

- The existing Endeavour Energy zone substation 'Albion Park 2' located at the corner of Russell St and Terry St is currently supplying the entire HV network to surrounding suburbs. The existing HV underground network has been extended to the nearby residential development.

  Therefore, the proposed development may extend the existing nearby HV network to the site, and it is unlikely Endeavour Energy will request an initial HV feeder from Zone substation to the proposed development site.

- One 500kVA substation would be required within the development site.

Agricultural Capability Review

GHD have completed a detailed Agricultural Land Capability Review for the subject land holdings. The review investigated:

- Historic land use,
- Capacity of the land to support commercial agricultural enterprises; and
- Consideration of land use conflicts between existing land use and possible urbanisation.

The review identified that Class 5 and Class 7 soils make up 83% of the site, which are not capable of being regularly cultivated, but may be suitable for grazing with occasional cultivation.

The report also noted that based on current best practice separation guidelines for intensive agricultural practices (such as 1km for poultry operations) the land is not suitable for more intensive land use. The GHD report states that the there is no agricultural enterprise which is suitable as a stand-alone business on the site.

The GHD report provides a detailed economic capability assessment of the properties. The report states that the land would have an indicative gross margin of around $300 per hectare, being the equivalent to $5,400 per year.

Based on the land capability, agricultural operations on both the properties are considered to be a 'low' gross margin, too low to support a farming family. Even if the properties were combined and run under a single entity, they would still be unlikely to be run as a viable standalone enterprise and supplementary off-farm income would be required.

As such, the report concludes as follows:

- The income generating capacity from the land holding would fail to generate sufficient funds to support a family.
- The development of more intensive agricultural activities is constrained by its proximity to other future development proposals.
- Additional properties that are in close proximity to the subject site would not add to its agricultural value if they were aggregated to form a larger parcel of land.
- Current land use is sub-economic, and development of economically viable agricultural enterprises could lead to higher risk of land use conflict.

The topography of the land is undulating and uneven and is predominately classified as Land Capability class 5. It is not considered to be prime agricultural land for cropping purposes.

Development of non-soil dependent enterprises (e.g. greenhouses) is constrained by access to a reliable water source.

SECTION 2

Planning Proposal Merit Test

Strategic Merit Test

The NSW Department of Planning and Environment has established a Strategic Merit Test for consideration when preparing and determining Planning Proposals.

The Strategic Merit Test includes three criteria to be considered in determining whether a proposal has merit to proceed. The proposal is not required to meet all of the strategic merit test criteria, rather the proposal is deemed to have strategic merit if it meets one or more of the criteria.

A review of the proposal under each of the criteria is provided below.

1. *Is the Proposal consistent with the relevant regional plan outside of the Greater Sydney Region, the relevant district plan within the Greater Sydney Region, or corridor/precinct plans applying to the site, including any draft regional, district or corridor/precinct plans released for public comment*

   The relevant regional plans which apply to the locality include the Illawarra Shoalhaven Regional Plan (ISRP), released by the Department of Planning in November 2015 and the Illawarra Regional Strategy (IRS) 2006. These plans provided a broad guide to regional land use planning across the Illawarra.

   We have provided a detailed review of this planning proposal under both regional plans in Section 3 - Part 2 below. This review has demonstrated that the proposal is considered to be consistent with the regional plans as follows:

   a) The IRS 2006 specifically requires that planning of major release areas (such as the adjoining Tullimbar Urban Release Area) consider opportunities for rural residential development, particularly around the urban rural interface in order to add to the diversity of housing mix in the Region.

      This proposal specifically seeks to deliver a rural transition development outcome directly adjacent to the urban edge, providing an urban rural interface which adds to housing diversity;

   b) The Proposal meets the sustainability criteria established under the 2006 IRS;

   c) The proposal is consistent with Goal 2 of the 2015 IRSP as it will deliver a wider variety of housing choices, with homes that meet needs and lifestyles of local families; and

   d) The proposal is consistent with Goal 5 of the 2015 ISRP as the proposed small lot rural housing will allow for the retention of the majority of the vegetation across the land holdings and enhancement of creek corridors

2. *Is the Proposal consistent with a relevant local strategy that has been endorsed by the Department;*

   There is no current local strategy endorsed by the Department of Planning which is applicable to the subject land.

   Notwithstanding, Shellharbour Council's Community Strategic Plan 2013 forms the broad strategic planning framework and vision adopted for Shellharbour.

   Shellharbour Council is currently in the process of reviewing the Community Strategic Plan with a view to updating and releasing a new plan in the near future.

   We have provided a review of this proposal under the objectives of the current plan in Section 3 below, which confirms that the proposal is consistent with the Community Strategic Plan.

3. *Is the Proposal responding to a change in circumstances, such as the investment in new infrastructure or changing demographic trends that have not been recognized by existing planning controls.*

   The proposal has specifically been prepared in response to changing circumstances directly abutting the subject lands.

   Land along Yellow Rock Road and Cooby Road has been rezoned to allow residential dwellings, with lots as small as 450m^2, or 200m^2 for integrated housing proposals (subdivision and erection of dwellings under one application).

   There has also been significant investment in local and regional infrastructure within the locality including roads, schools and retail centres.

   These changing land use arrangements will result in significant changes to demographics in the local area, which were not recognised or envisaged under the current planning controls.

   Infrastructure, including, sewer, water, electrical and road upgrades will now be delivered within close proximity of the subject site, enabling easy extension and augmentation.

   Maintaining the status quo will directly lead to land use conflict between rural and residential land uses.

Site Merit Test

The NSW Department of Planning and Environment has established a Site Merit Test for consideration when preparing and determining Planning Proposals.

The Site Merit Test includes three further criteria to be considered in determining whether a proposal has merit to proceed.

A review of the proposal under each of the tests is provided below:

1. *the natural environment (including known significant environmental values, resources or hazards);*

   The majority of the land has been extensively cleared in association with agricultural grazing over an extended period of time.

   Remnant existing vegetation within the north-western portion of the site will be retained and protected under this proposal.

   A detailed review of the agricultural capability of the land has also been prepared by GHD in association with this proposal.

   The GHD report notes that the income generating capacity from the land holding would fail to generate sufficient funds to support a family. The report also states that the there is no agricultural enterprise which is suitable as a stand-alone business on the site.

   Furthermore, the topography of the land is undulating and uneven and 836% of the land classified as Land Capability class 5 or 7. It is not considered to be prime agricultural land for cropping purposes.

   Development of non-soil dependent enterprises (e.g. greenhouses) is constrained by access to a reliable water source

2. *the existing uses, approved uses and likely future uses of land in the vicinity of the land subject to the proposal; and*

   The broader Yellow Rock Rural Transition Lands encompass a land area which adjoins the western edge of the Yellow Rock urban village.

   Land on the northern side of Cooby Road and western side of Yellow Rock Road is zoned R2 Low Density with a 450m^2 lot size provision, (200m^2 for subdivision and erection of a dwelling).

   Yellow Rock Road to the north of the land now forms a residential roadway, with dwellings which have direct frontage and driveway access to this road.

   Yellow Rock Road will also form a key pedestrian link to surrounding education and retail facilities.

This creates land use conflict between new residential dwellings and existing rural properties due to odour, animal management, hours of operation and heavy vehicles associated with farming.

This Planning Proposal provides a vision for the resolution and finalisation of the Yellow Rock urban edge, delivering a dedicated transition between the existing urban zoned land and sensitive vegetated environmental bushland to the west.

This Planning Proposal provides a vision for the resolution and finalisation of the Yellow Rock urban edge, delivering a dedicated transition between the existing urban zoned land and sensitive vegetated environmental bushland to the west.

Land uses within the transition lands will allow small scale boutique agricultural pursuits, which are more sensitive and appropriate to directly adjoin residential neighbourhoods.

3. *the services and infrastructure that are or will be available to meet the demands arising from the proposal and any proposed financial arrangements for infrastructure provision.*

A detailed servicing report has been submitted with this proposal, prepared by Northrop Engineering.

A detailed summary of the servicing report is provided earlier in this report.

The servicing study concludes that the subject land can be serviced through extension of existing and planned infrastructure.

SECTION 3

The Planning Proposal

PART 1 – OBJECTIVES AND INTENDED OUTCOMES

Planning Proposal Objectives

The objective of this Planning Proposal is to amend the Shellharbour Local Environmental Plan 2013 (SLEP 2013) to provide a rural transition area between the interface of the existing residential zoned land within Yellow Rock and environmental lands to the west.

In seeking to realise these objectives, the Planning Proposal aims to deliver the following outcomes:

- *Adoption of amended Planning Controls relating to Land Use Zones which provide a rural transition area and reflect the Concept Plan;*
- *Adoption of amended Planning Controls relating to Minimum Lot Sizes which provide a rural transition area and reflect the Concept Plan;*
- *Provide for a transition in land use and lot sizes between the urban edge and rural / steeper escarpment lands.*

PART 2 – EXPLANATION OF PROVISIONS

To achieve the rural transition outcomes embodied in the Concept Plan, the following LEP Maps will be amended under this proposal:

- Land Zoning Map: Sheet LZN_011
- Lot Size Map: Sheet LSZ_011

Further details regarding the proposed amendments are outlined below.

Zoning Amendments

The subject site is currently zoned entirely RU1 Primary Production.

This Planning Proposal seeks Council support to amend the land use mapping to adopt an RU6 Transition Zone for the cleared land, consistent with the Concept Plan.

The Planning Proposal adopts an E3 Environmental Management zoning for the existing vegetation along Yellow Rock Road, improving environmental outcomes.

As described in the Department of Planning Practice Note PN 11-002:

> *The transition zone is to be used in special circumstances only in order to provide a transition between rural land uses (including intensive agriculture, landfills, mining and extractive industries) and other areas supporting more intensive settlement or environmental sensitivities.*

The proposed Transition Zone is complemented by the Lot Size amendments which provide a transition between the urban edge and environmental lands to the south and east.

Detailed plans showing the current and proposed LEP Land Use Zone mapping are included in Part 4 below.

Lot Size Amendments

The Shellharbour LEP currently lists a minimum lot size of 16 hectares over the subject land.

The 16-hectare lot size imposes a significant maintenance burden on the land owners and does not reflect the difficulty in operating a commercial agricultural business on the site, given limited access and expended urban areas to the east.

This Planning Proposal seeks Council support to provide a range of lot sizes over the subject land, which will achieve a transition between the adjoining urban edge and the escarpment land to the east.

The Planning Proposal incorporates minimum lot sizes ranging from 2,000m^2 along the northern edge, to 4,000m^2 along the southern edge providing a lot size transition.

PART 3 – JUSTIFICATION

Section A— Need for the Planning Proposal

Q1. Is the Planning Proposal a result of any strategic study or report?

As discussed in detail in Section 1 of this report, the Yellow Rock Rural Transition Lands area has been the subject of a number of Strategic Planning Studies and investigations over the last 30 years.

The land area was consistently identified for future investigation under the Illawarra Urban Development Program, forming part of IDUP Area 8.

Shellharbour Council commissioned Hassell Planning Consultants 1991 to prepare a detailed Local Environmental Study over the Albion Park West Urban Investigation areas identified under the IUDP, being Areas 9 and 10. The LES included the subject land holding.

A number of detailed supporting studies were prepared to guide land use outcomes under the LES, which included flooding and water quality assessment, vegetation assessment, fauna assessment and a transport review.

The final LES included the preparation of a detailed Structure Plan for the study area. The Structure Plan incorporated the findings of the supporting studies to determine areas which were appropriate for rezoning and provided an urban design response.

The proposal is consistent with the previous strategic planning studies prepared for the land.

Q2. Is the Planning Proposal the best way of achieving the objectives or intended outcomes, or is there a better way?

The site is currently zoned RU1 Primary Production, with a minimum lot size of 16 hectare sunder the Shellharbour LEP 2013.

The existing zoning and lot size controls will create land use conflicts between existing residential lands and directly adjoining rural zoned land.

An amendment to the Shellharbour LEP 2013 to amend the land use provisions and minimum lot sizes is considered the most appropriate manner in which to achieve the intended outcomes.

Section B — Relationship to Strategic Planning Framework

Q3. Is the Planning Proposal consistent with the objectives and actions contained within the applicable regional or sub-regional strategy (including the Sydney Metropolitan Strategy and exhibited draft Strategies)?

Regional Planning outcomes within Shellharbour are guided by the Illawarra Regional Strategy (IRS) 2006 and the Illawarra Regional Plan (IRP) 2015.

This Planning Proposal has been prepared in consideration of these documents and is consistent with the relevant objectives and outcomes as discussed below.

Illawarra Regional Strategy 2006

The Illawarra Regional Strategy (IRS) was prepared by the Department of Planning in 2006 to guide regional land use planning across the local government areas of Kiama, Shellharbour and Wollongong.

The primary purpose of the Regional Strategy was '*to ensure that adequate land is available and appropriately located to sustainably accommodate the projected housing and employment needs of the Region's population over the next 25 years*'.

Section 10 of the Rural Landscape and Rural Communities of the 2006 Illawarra Regional Strategy specifically addressed the delivery of rural transition / interface housing.

The IRS states that '***Through the planning of major release areas, opportunities for rural residential development, particularly around the urban rural interface will be considered in order to add to the diversity of housing mix in the Region***'.

The subject land area directly adjoins the Tullimbar release Area. Accordingly, this proposal is consistent with the directive of the 2006 IRS.

Action 1 of the Rural Land Actions listed in the 2006 IRS states that '*new residential or rural residential zones will only be supported where they meet the Sustainability Criteria (Appendix 1)'*.

An assessment of the proposal against the Sustainability Criteria is provided in Table 1 below.

This assessment demonstrates that the proposal is consistent with the sustainability criteria.

Table 1: Sustainability Criteria Assessment

Sustainability Criteria	Response
1. Infrastructure Provision Mechanisms in place to ensure utilities, transport, open space and communication are provided in a timely and efficient way	A preliminary infrastructure report has been prepared by Northrop Engineering and submitted with this proposal which demonstrates that utilities and communications can be provided to the site. Required open space and recreation facilities can be delivered within the subject land / in conjunction with local contributions. The Proponent is able to enter in to a Voluntary Planning Agreement for the provision of relevant infrastructure and facilities.
2. Access Accessible transport options for efficient and sustainable travel between homes, jobs, services and recreation to be existing or provided.	The site is well located to access local services and facilities such as schools and shops within the planned Tullimbar Town Centre, only 1.5km from the eastern edge of the subject land. The proposal will not have any negative impacts on regional road, bus or rail networks.
3. Housing Diversity Provide a range of housing choices to ensure a broad population can be housed.	he proposal will significantly expand and enhance housing diversity within the locality. Critically, there is a lack of housing supply for small lot rural. As outlined above, the strategy specifically states that planning of major release areas, such as the surrounding Tullimbar and Calderwood, opportunities for rural residential development, particularly around the urban rural interface are to be considered in order to add to the diversity of housing mix in the Region..
4. Employment Lands Provide regional / local employment opportunities to support the Illawarra's expanding role in the wider regional and NSW economies.	The proposal does not seek to rezone any employment lands. The proposal will maintain the current subregional employment outcomes.

5. Avoidance of Risk Land use conflicts, and risk to human health and life avoided.	The proposal does not incorporate any residential development within flood prone land or areas of steep slope. The proposal will reduce land use conflict between rural land and adjoining zoned residential land. In this regard, the proposal will reduce risk to human health through providing appropriate density and separation to rural land use activities..
6. Natural Resources Natural resource limits not exceeded / environmental footprint minimised.	The proposal will reduce demand on natural water supplies within the Yellow Rock Creek catchment. The subject lands are not identified as significant agricultural lands under the regional plans.
7. Environmental Protection Protect and enhance biodiversity, air quality, heritage, and waterway health.	The subject lands do not include any significant areas of biodiversity as mapped under the regional plans. The proposal will allow revegetation and enhancement of creek corridors and vegetation areas. All land zoned for environmental management will be retained under this proposal.
8. Quality and Equity in Services Quality health, education, legal, recreational, cultural and community and development and other government services area accessible.	A detailed services report has been prepared which demonstrates that the proposal can be adequately serviced.

Illawarra Shoalhaven Reginal Plan 2015

The Illawarra Shoalhaven Regional Plan (ISRP) was released by the Department of Planning in November 2015.

As detailed in the ISRP 2015, the vision for the region is:

> *for a sustainable future and a resilient community, capable of adapting to changing economic, social and environmental circumstances. Residents will be able to access a range of lifestyle choices; connect with the stunning landscapes and biodiversity; access well-established and emerging work opportunities; enjoy a strong network of centres; and experience high quality education and health facilities.*

We have provided below a review of the proposal under the Goals of the ISRP. The review demonstrates that the proposal is consistent with the ISRP.

Goal 1: A Prosperous Illawarra – Shoalhaven

This section of the ISRP predominantly addresses goals and strategies for enhancing employment and industrial activity within Centres and Port Kembla.

Support for this Planning Proposal will help deliver a prosperous Illawarra, contributing to local economic investment and employment through construction of roadways and housing.

Goal 2: A variety of housing choices, with homes that meet needs and lifestyles

Figure 10 of the ISRP maps Regionally Significant Release Areas. These greenfield release areas provide homogenous standard residential development, with allotments typically between 300m^2 and 500m^2.

This proposal does not seek to introduce a new residential release area.

The ISRP does not specifically address provision of small lot rural housing or outline how to address areas of rural / residential interface.

Notwithstanding, the ISRP directly encourages and supports the delivery of housing diversity close to existing centres and employment areas.

Direction 2.2 of the ISRP is to '*Support housing opportunities close to existing services, jobs and infrastructure in the region's centres*'.

Albion Park is identified as an Urban Centre under the ISRP. The proposal will directly enhance housing diversity and opportunities within close proximity of both Albion Park Urban Centre and the planned Tullimbar Town Centre, consistent with the ISRP.

Goal 3: A region with communities that are strong, healthy and well-connected

The proposal and associated Concept Plan have been designed to deliver a healthy and well-connected community.

The proposal will enable new road linkages for existing and future residents, enhancing connectivity.

The proposal will also allow for the delivery of public walking and cycle trails enhancing community health and activity outcomes.

Support for the proposal will also enhance social connectivity within Yellow Rock, providing higher levels of passive and active surveillance within the area and reducing the risk of crime and anti-social activities.

Goal 4: A region that makes appropriate use of agricultural and resource lands

Section 4 of the ISRP addresses the protection and enhancement of key areas of agricultural and resource lands.

Figure 11 of the ISRP identifies areas of Biophysical Strategic Agricultural Lands throughout the Illawarra and Shoalhaven Region.

Biophysical Strategic Agricultural Land (BSAL) is land with high quality soil and water attributes. A total of 2.8 million hectares of BSAL has been identified and mapped at a regional scale across the State.

The subject land area does not include any mapped Biophysical Strategic Agricultural Lands or strategic resource lands. The subject is also not located within proximity of any Biophysical Strategic Agricultural Lands or strategic resource lands.

The land is not required to be retained agricultural use under the ISRP.

Goal 5: A region that protects and enhances the natural environment

Vegetation is highly degraded over the subject lands, comprising a mixture of native trees, exotic species and weeds.

The proposed small lot rural housing will allow for the retention of the majority of the vegetation across the land holdings.

The 2001 Illawarra Biodiversity Strategy prepared by Kiama / Shellharbour and Wollongong Council identified key areas of rare vegetation and biodiversity corridors across the Illawarra Region.

The subject land did not incorporate any significant vegetation, fauna or biodiversity corridors under the strategy.

Q4. Is the Planning Proposal consistent with the local council's Community Strategic Plan, or other local strategic plan?

Shellharbour Council's Community Strategic Plan 2013 forms the broad strategic planning framework and vision adopted for Shellharbour.

The Community Strategic Plan '*reflects the community's vision for the City and sets our direction for the future. It tells us the Objectives we are striving to achieve, the Strategies we will use to achieve them and the outcomes that will indicate we have reached those Objectives*'.

Shellharbour Council are currently reviewing the Community Strategic Plan with a view to updating and releasing a new plan in the near future.

Notwithstanding, we have provided a review of this proposal under the objectives of the current plan below.

Table 2: Sustainability Criteria Assessment

Objective	Response
1.1 Vibrant, safe and inclusive City	This objective relates to the provision of community programs by Council and is not applicable to this proposal.
1.2 Active and healthy community	The proposal incorporates active spaces, walkways and pedestrian paths to create a healthy and active community. Support for the proposal could enable delivery of walking and cycling trails and links promoting an active / healthy community.
2.1 Protects and promotes its natural environment	The proposal will significantly enhance biodiversity outcomes of local creeks and waterways and provide catchment management and positive water quality outcomes.
2.2 Practices sustainable living	This objective relates primarily to Council Waste Management practices and is not applicable to this proposal.
2.3 A liveable City that is connected through places and spaces	The proposal will enhance local pedestrian, cycle and vehicular connectivity and enhance local road safety. The proposal also maintains areas of environmental management and vegetation. The proposal has been designed to deliver connected spaces with the adjoining proposal.

3.1 Infrastructure is planned and managed in a way that meets the community's needs	This objective relates to Council Infrastructure Management practices and is not applicable to this proposal.
3.2 Supported by a strong local economy with business and employment opportunities	Support for this Planning Proposal will help deliver a prosperous Illawarra, contributing to local economic investment and employment through construction of roadways and housing.
3.3 Welcomes, engages and attracts visitors	Not applicable to this proposal.
4.1 Led by a Council that effectively represents the community	Not applicable to this proposal.
4.2 Supported by a Council that is responsive, accountable and financially viable	Not applicable to this proposal.

Q5. Is the Planning Proposal consistent with applicable state environmental planning policies?

The NSW Government has gazetted a range of State Environmental Planning Policies (SEPPs) and Sydney Regional Environmental Plans (SREPs or Deemed SEPPs), which guide land use and planning outcomes across the State and Sydney Metropolitan Region.

We have provided a detailed review of the Planning Proposal and its intended outcomes and objectives against all relevant SEPPs in Appendix 3 of this report.

This review has demonstrated that the proposal is consistent with all relevant and applicable state environmental planning policies.

Q6. Is the planning proposal consistent with applicable Ministerial Directions (s.117 directions)?

The Minister for Planning and Environment has issued Local Planning Directions that must be considered in the preparation of Planning Proposals. The directions cover a range of categories and land use considerations including:

- Employment and resources
- Environment and heritage
- Housing, infrastructure and urban development
- Hazard and risk
- Regional planning
- Local plan making

A detailed review of the proposal against each Local Planning Direction is provided in Appendix 1. This review demonstrates that the Planning Proposal is wholly consistent with all applicable Local Planning Directions.

Section C — Environmental, Social and Economic Impact

Q7. Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?

There are no areas of identified threatened species habitat or threatened flora / fauna identified within the subject site.

The 2001 Illawarra Biodiversity Strategy prepared by Kiama / Shellharbour and Wollongong Councils identified key areas of rare vegetation and biodiversity corridors across the Illawarra Region.

The subject land does not incorporate any significant vegetation, fauna or biodiversity corridors under the strategy.

Notwithstanding, the existing areas of vegetation zoned environmental will be retained, with no impact under this proposal.

Q8. Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?

The Planning Proposal will have long term positive environmental impacts for the subject land.

The existing creek corridors and waterways are highly degraded, with minimal riparian vegetation. The Planning Proposal will allow for the long-term protection and rehabilitation of local drainage lines and Yellow Rock Creek.

Removal of intensive agricultural land uses will enhance environmental outcomes by minimising cultivation and grazing of land and associated farm management measures required such as fertilisation, vegetation removal and pest control.

Detailed assessment of site specific environmental effects will also be undertaken as part of any future Development Applications for the site.

Q9. Has the planning proposal adequately addressed any social and economic effects?

Support for this Planning Proposal will deliver the following positive social and economic benefits:

- The proposal will greatly enhance housing and social diversity within the region.
- The proposal will reduce environmental and social land use conflict between adjoining rural and residential lands.
- The proposal will contribute to local economic investment and employment through construction of roadways and housing.
- The proposal delivers housing within close proximity to a local centre, schools and retail services.
- The proposal maintains and protects areas of environmental management and vegetation across the site.

Section D — State and Commonwealth Interests

Q10. Is there adequate public infrastructure for the Planning Proposal?

A preliminary infrastructure and servicing review has been undertaken for the proposal relating to electrical and sewer and water provision as detailed in this report above.

Based on the advice provided it is evident that the proposal can be serviced based on extension / augmentation of existing infrastructure.

A copy of the servicing review is included in Appendix 5.

Q11. What are the views of State and Commonwealth public authorities consulted in accordance with the gateway determination?

The Gateway Determination will outline the State and Commonwealth public authorities to be consulted.

PART 4 – MAPPING

To achieve the rezoning of the subject land as outlined under this Planning Proposal, the following maps in the Shellharbour LEP 2013 will require amendment:

- Land Zoning Map: Sheet LZN_011
- Lot Size Map: Sheet LSZ_011

Further details describing the proposed amendments are outlined below.

Zoning Amendments

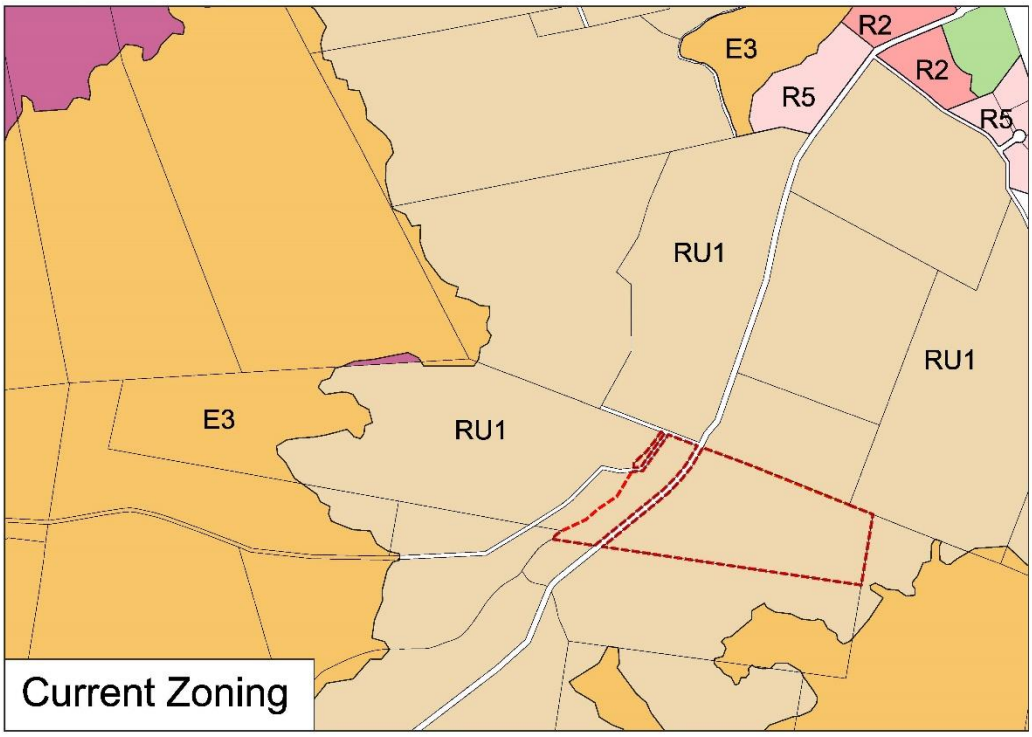
The site is zoned RU1 Primary Production under the Shellharbour LEP 2013.

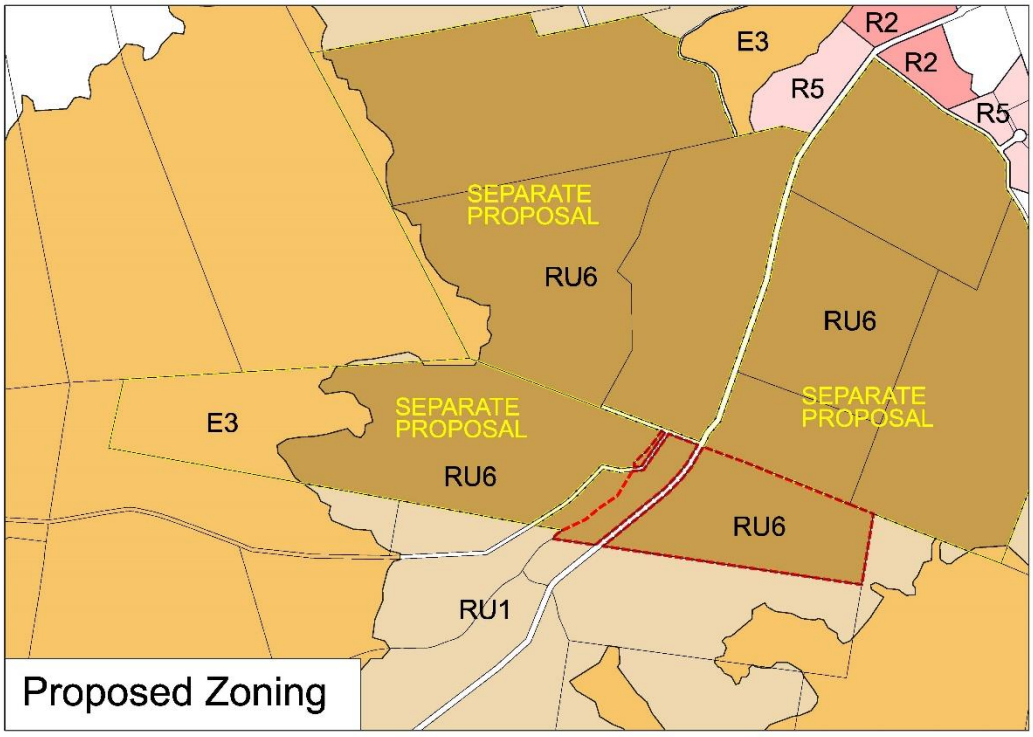
The Planning Proposal seeks support to rezone land from RU1 Primary Production to RU6 Rural Transition.

An E3 Environmental Management Plan? will be adopted for the existing vegetation along Yellow Rock Road.

Figure 10 below shows a comparison between the current and proposed zoning boundaries as requested under this proposal.

Figure 10: Existing and Proposed Zone Boundaries





Minimum Lot Size Mapping

The Shellharbour LEP Minimum Lot Size Maps currently prescribe a 40-hectare minimum lot size over the subject land.

This Planning Proposal seeks Council support to provide a range of lot sizes over the subject land, which will achieve a transition between the adjoining urban edge and the escarpment land to the east.

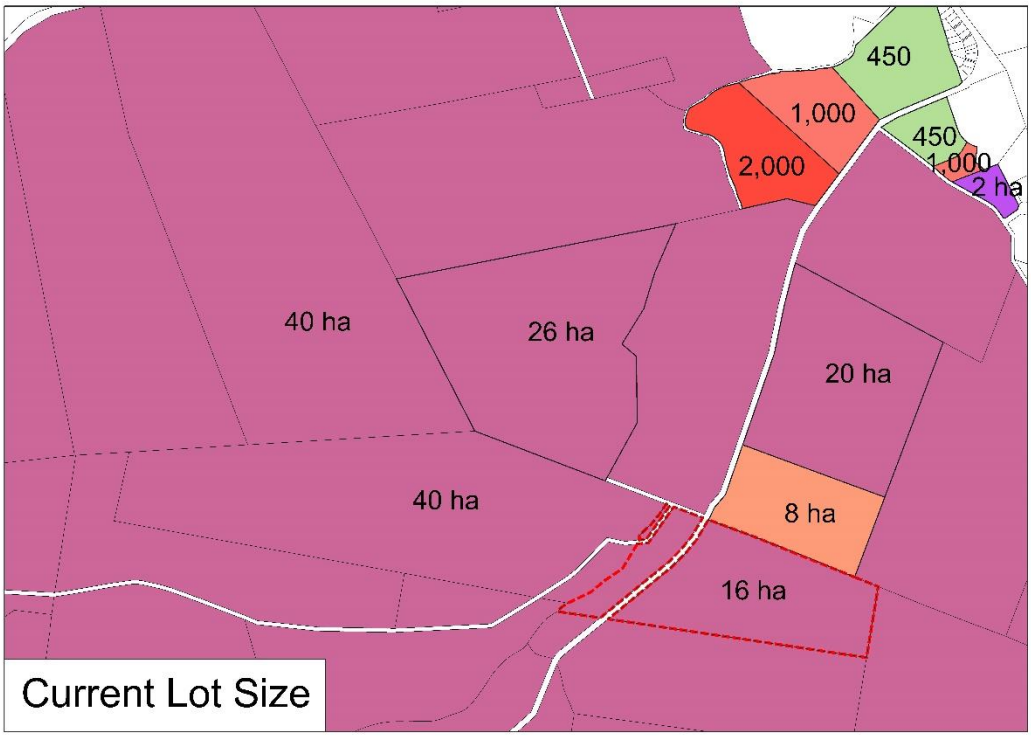
The amended mapping includes the following minimum lot size areas:

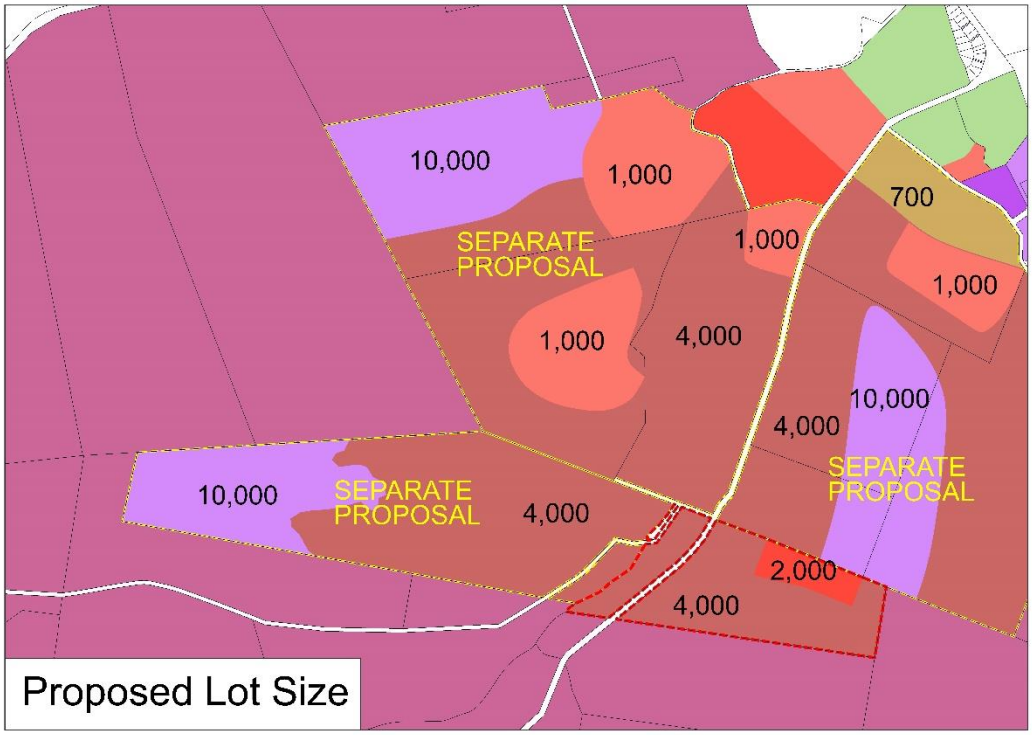
- 2,000m^2 for Small Lot Rural land allowing dwellings to be sensitively located to minimise impacts on vegetation, viewsheds and topography.

- 4,000m^2 for the balance of the land holding.

Detailed plans showing the current and proposed LEP Lot Size mapping are shown in Figure 11 below.

Figure 11: Existing and Proposed Lot Size Mapping





PART 5 – COMMUNITY CONSULTATION

Community consultation will be undertaken consistent with Shellharbour Council requirements and The Department of Planning and Environment's Gateway Determination conditions should the Planning Proposal proceed.

It is anticipated that this Planning Proposal be publicly exhibited for 28 days. Community consultation is likely to incorporate:

- Public Exhibition at Council's Administration Centre
- Public Notice in the local Newspaper
- Notification letters to surrounding residents, businesses and property owners

The final Community Consultation and exhibition requirements will be revised to reflect any change to the community consultation outcomes specified in the Department of Planning and Environment's Gateway Determination.

PART 6 – PROJECT TIMELINE

Below is an indicative project timeline for the Planning Proposal. The timeline will be updated in response to any Gateway Determination issued by the Department of Planning and Environment.

Action	Timeframe
Submission of Planning Proposal	May 2018
Council assessment and endorsement of Planning Proposal	May 2018 – August 2018
Gateway Determination	September 2018
Completion of required supporting studies	September – October 2018
Government agency consultation as required	November – December 2018
Public exhibition period	November 2018
Consideration of submissions and final Council endorsement	January 2019 – March 2019
Submission to Department of Planning and Environment	April 2019
Making of Plan	May 2019

SUMMARY

The Yellow Rock Rural Transition Lands encompass a broad land area which adjoins the western edge of the Yellow Rock urban village. Since the early 1990s, a variety of strategies and environmental studies have identified the land area as suitable for accommodating future residential and small lot rural housing.

Three separate Planning Proposals have been lodged concurrently, which aim to create a rural transition area. The proposals deliver a vision for the resolution and finalisation of the Yellow Rock Rural Transition Lands and provide a dedicated transition between the existing urban zoned land and sensitive vegetated environmental bushland to the west.

This Planning Proposal includes a preliminary Concept Plan for the land area and has been prepared in consideration of the adjoining Planning Proposals. The proposal demonstrates how the transition in land use and housing can be delivered in a way which is responsive to existing heritage and landscape features, site vegetation and views.

This Planning Proposal provides a vision for the resolution and finalisation of the Yellow Rock Urban edge, delivering a dedicated transition between the existing urban zoned land and sensitive vegetated environmental bushland to the west.

The subject land; 233 Yellow Rock Road, is currently zoned to accommodate high intensity agricultural land uses under Shellharbour LEP 2011.

Land areas along Cooby Road and Yellow Rock Road are zoned for residential housing, which creates land use conflict between new residential dwellings and existing rural properties due to odour, animal management, hours of operation and heavy vehicles associated with farming.

A detailed servicing study has been prepared by Northrop Engineering which demonstrates that the site can be serviced through extension of the existing and planned infrastructure within the locality.

A detailed Agricultural Capability Report has also been prepared by GHD. The report stipulates that the income generating capacity from the and holding would fail to generate sufficient funds to support a family. The report also states that the there is no agricultural enterprise which is suitable as a stand-alone business on the site.

Furthermore, the topography of the land is undulating and uneven and is predominately classified as Land Capability Class 5 and 7. It is not considered to be prime agricultural land for cropping purposes.

Council support for this Planning Proposal will deliver a logical and long-term resolution of the rural transition lands which celebrates and protects key environmental features and includes the following community benefits:

- Deliver a gradual transition in land use, lot size and housing types between the existing residential edge and environmental bushland areas.
- Maintain the opportunity for small scale boutique local agricultural production which meets evolving land use requirements.
- Deliver a broader diversity of housing than is currently provided within new urban release areas within Shellharbour Local Government Area.
- Deliver long term revegetation, protection and management of creek lines degraded through historic agricultural land uses.

This Planning Proposal has demonstrated that the delivery of a rural transition is consistent with the regional strategic plans and Council's previous strategies for the Yellow Rock locality.

Support for this planning proposal will deliver broad range of positive community benefits and address land use conflicts between rural and residential land.

APPENDIX 1

Consistency with Local Planning Directions

S.117 Direction	Is the Direction Applicable?	Comment on Consistency of Planning Proposal
1. Employment and Resources		
1.1 Business and Industrial Zones	Not applicable	The subject site does not incorporate any Business or Industrial zoned land.
1.2 Rural Zones	Not applicable	The proposal does not seek to rezone rural land to a residential, business, industrial village or tourist zone.
1.3 Mining, Petroleum Production and Extractive Industries	Not applicable	The proposal will not amend any land use provisions relating to natural resources. Consultation can be undertaken with the Department of Primary Resources if required by the Gateway Determination.
1.4 Oyster Aquaculture	Not applicable	The proposal will not have an impact on any identified aquaculture areas.
1.5 Rural Lands	Yes, applicable	The proposal is consistent with this Direction as the proposed zoning and lot size outcomes are consistent with the Rural Planning Principles and Rural Subdivision Principles listed in State Environmental Planning Policy (Rural Lands) 2008. (Refer Assessment in Appendix 3)
2. Environment and Heritage		
2.1 Environment Protection Zones	Not applicable	The proposal does not seek any amendments to the existing environmental protection zoned land.
2.2 Coastal Protection	Not applicable	The subject land is not located within an identified coastal protection zone area.
2.3 Heritage Conservation	Yes, applicable	The proposal is consistent with this direction as the proposal will retain the existing LEP heritage provisions.
2.4 Recreation Vehicle Areas	Not applicable	The proposal does not seek endorsement for any recreational vehicle areas.
2.5 Application of E2 and E3 Zones and Environmental Overlays in Far North Coast LEPs	Not applicable	The subject land is not situated within a listed Local Government Area.
3. Housing, Infrastructure and Urban Development		
3.1 Residential Zones	Not applicable	The proposal does not incorporate or propose any residential zoned land.
3.2 Caravan Parks and Manufactured Home Estates	Not applicable	The Planning Proposal does not seek support for any caravan or manufactured home estates.

S.117 Direction	Is the Direction Applicable?	Comment on Consistency of Planning Proposal
3.3 Home Occupations	Yes, applicable	The Planning Proposal does not seek to amend the LEP provisions relating to home occupations. Accordingly, the proposal is consistent with this direction.
3.4 Integrating Land Use and Transport	Not applicable	This proposal does not seek to rezone any urban land, including land zoned for residential, business, industrial, village or tourist purposes.
3.5 Development Near Licensed Aerodromes	Not applicable	The subject site is not situated within close proximity of an existing licensed aerodrome.
3.6 Shooting Ranges	Not applicable	No shooting ranges are located or proposed on the subject site.
4. Hazard and Risk		
4.1 Acid Sulfate Soils	Not applicable	The site has not been identified under any LEP mapping as incorporating Acid Sulphate soils.
4.2 Mine Subsidence and Unstable Land	Not applicable	The subject land is not identified as being situated within a Mine Subsidence District.
4.3 Flood Prone Land	Yes, applicable	Part of the subject land along Yellow Rock Creek has been identified as Flood Prone under the Macquarie Rivulet Flood Study. This proposal adopts the flood prone land and flood planning levels of the study and is consistent with the Direction.
4.4 Planning for Bushfire Protection	Yes, applicable	Shellharbour Council Bushfire Prone Land Mapping identifies portions of the site as being bushfire prone, due to existing vegetation. Detailed comprehensive bushfire assessments will be prepared and submitted with any future Development Applications for residential development detailing compliance with the Planning for Bushfire Protection policy. Notwithstanding, referral of the Planning Proposal to the NSW Rural Fire Service will ensure consistency with this direction.
5. Regional Planning		
5.2 Sydney Drinking Water Catchments	Not applicable	The land is not located within a Local Government Area which forms part of the Sydney drinking water catchment.

S.117 Direction	Is the Direction Applicable?	Comment on Consistency of Planning Proposal
5.3 Farmland of State and Regional Significance on the NSW Far North Coast	Not applicable	The land is not within the identified area of State or Regional Significance Farmland.
5.4 Commercial and Retail Development along the Pacific Highway, North Coast	Not applicable	The land is not within the identified commercial and retail development area.
5.8 Second Sydney Airport: Badgerys Creek	Not applicable	This subject land is not located within the boundaries of the proposed airport site or within land affected by the 20 ANEF
5.9 North West Rail Link Corridor Strategy	Not applicable	The site is not located within the listed Local Government Areas.
5.10 Implementation of Regional Plans	Not applicable	This proposal includes a detailed assessment of the planning outcomes under the Illawarra Shoalhaven Regional Plan 2015 and Illawarra Region Plan 2006. The assessment demonstrates that the proposal is consistent with the regional strategies.
6. Local Plan Making		
6.1 Approval and Referral Requirements	Yes, applicable	This Planning Proposal does not include any new or additional referral requirements. Accordingly, the proposal is consistent with this direction.
6.2 Reserving Land for Public Purposes	Yes, applicable	This Planning Proposal does alter any existing public recreation zones or land reservations. Accordingly, the proposal is consistent with this direction.
6.3 Site Specific Provisions	Not applicable	The proposal does not include the introduction of any site-specific provisions.
7. Metropolitan Planning		
7.1 Implementation of A Plan for Growing Sydney	Not applicable	The subject land is not situated within a listed Local Government Area.
7.2 Implementation of Greater Macarthur Land Release Investigation	Not applicable	The site is not located within the Greater Macarthur Release area.
7.3 Parramatta Road Corridor Urban Transformation Strategy	Not applicable	The site is not located within the Parramatta Road corridor.

APPENDIX 2

Consistency with Applicable SEPPs

SEPP	Comment
State Environmental Planning Policy No 1—Development Standards	Shellharbour LEP 2013 incorporates Clause 4.6 Exceptions to Development Standards. This Clause replaces the requirement for consistency with SEPP 1.
State Environmental Planning Policy No 14—Coastal Wetlands	The area is not within an identified coastal wetland area. Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy No 19—Bushland in Urban Areas	The subject site does not incorporate any land zoned or identified as urban bushland. Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy No 21—Caravan Parks	The proposal does not seek amendments to provide for a caravan park. Consistency with this SEPP is therefore not applicable. However, nothing in this Planning Proposal prevents the implementation of this SEPP.
State Environmental Planning Policy No 26—Littoral Rainforests	The subject site does not incorporate any land zoned or identified as Littoral Rainforest. Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy No 30—Intensive Agriculture	The Proposal is not classified as Intensive Agriculture. Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy No 33—Hazardous and Offensive Development	The proposal does not seek approval for land uses classified as hazardous or offensive development. Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy No 36—Manufactured Home Estates	The proposal does not seek amendments to provide for manufactured home estates. Consistency with this SEPP is therefore not applicable. However, nothing in this Planning Proposal prevents the implementation of this SEPP.
State Environmental Planning Policy No 44—Koala Habitat Protection	The SEPP does not apply to land within Shellharbour LGA. Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy No 47—Moore Park Showground	The subject site is not located within the Moore Park Showground boundary. Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy No 50—Canal Estate Development	The Proposal is not classified as a Canal Estate. The proposal is therefore consistent with the prohibition of Canal Estate Development.
State Environmental Planning Policy No 52—Farm Dams and	The subject site does not incorporate land within an irrigation area or district.

SEPP	Comment
Other Works in Land and Water Management Plan Areas	Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy No 55—Remediation of Land	This planning proposal retains the land as a rural type zone. A preliminary site contamination investigation can be completed post Gateway Determination if required.
State Environmental Planning Policy No 62—Sustainable Aquaculture	The Proposal is not classified as Aquaculture. Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy No 64—Advertising and Signage	The proposal will not impede the ongoing assessment of signage applications under SEPP 64. The proposal is therefore consistent with the objectives and provisions of SEPP 64.
State Environmental Planning Policy No 65—Design Quality of Residential Flat Development	The proposal will not facilitate delivery of Residential Flat Buildings. Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy No 70—Affordable Housing (Revised Schemes)	The proposal will not impede the assessment or delivery of development under this SEPP. The proposal is therefore consistent with the objectives and provisions of the SEPP.
State Environmental Planning Policy No 71—Coastal Protection	The subject site does not incorporate any land identified for Coastal Protection. Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy (Affordable Rental Housing) 2009	The proposal will not impede the assessment or delivery of development under this SEPP. The proposal is therefore consistent with the objectives and provisions of the SEPP.
State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004	Future dwellings will be required to comply with BASIX standards. The proposal is therefore consistent with the objectives and provisions of the BASIX SEPP.
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008	The proposal will not alter exempt or complying provisions. The proposal is therefore consistent with the objectives and provisions of the SEPP.
State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004	The proposal will not impede the assessment or delivery of development under this SEPP. The proposal is therefore consistent with the objectives and provisions of the Seniors Housing SEPP.
State Environmental Planning Policy (Infrastructure) 2007	The subject site does not incorporate any identified infrastructure projects.

SEPP	Comment
	Notwithstanding, the proposal will not impede the assessment or delivery of development under this SEPP. The proposal is therefore consistent with the objectives and provisions of the Infrastructure SEPP.
State Environmental Planning Policy (Kosciuszko National Park—Alpine Resorts) 2007	The subject site is not located within the Kosciuszko National Park. Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy (Kurnell Peninsula) 1989	The subject site is not located within the Kurnell Peninsula. Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy (Major Development) 2005	The subject site does not incorporate any identified Major Development projects. Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007	The subject site does not incorporate any mining or petroleum industries. Notwithstanding, the proposal will not impede the assessment or delivery of development under this SEPP. The proposal is therefore consistent with the objectives and provisions of the Infrastructure SEPP.
State Environmental Planning Policy (Penrith Lakes Scheme) 1989	The subject site is not located within the Penrith Lakes Scheme. Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy (Port Botany and Port Kembla) 2013	The subject site is not located within the Port Botany / Port Kembla areas. Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy (Rural Lands) 2008	A detailed review of the proposal under the Rural Planning Principles and Rural Subdivision Principles is provided in Appendix 3. The assessment demonstrates that the proposal is consistent with the provisions of the SEPP.
State Environmental Planning Policy (State and Regional Development) 2011	The subject site does not incorporate State or Regionally significant development. Notwithstanding, the proposal will not impede the assessment or delivery of development under this SEPP. The proposal is therefore consistent with the objectives and provisions of the Infrastructure SEPP.
State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011	The Planning Proposal does not include any amendments to the LEP which impact this SEPP. The proposal is therefore consistent with the objectives and provisions of this SEPP.

SEPP	Comment
State Environmental Planning Policy (Sydney Region Growth Centres) 2006	The subject site is not located within the Growth Centres. Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy (Three Ports) 2013	The subject site does not incorporate land to which this SEPP applies. Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy (Urban Renewal) 2010	The subject site is not identified as an Urban Renewal Precinct. Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy (Western Sydney Employment Area) 2009	The subject site is not located within the Western Sydney Employment Area. Consistency with this SEPP is therefore not applicable.
State Environmental Planning Policy (Western Sydney Parklands) 2009	The subject site is not located within the Western Sydney Parklands. Consistency with this SEPP is therefore not applicable.

Deemed SEPPs	Comment
Greater Metropolitan Regional Environmental Plan No 2—Georges River Catchment	Not applicable as the subject site is not situated within the Georges River Catchment.
Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005	Not applicable as the subject site is not situated within the Sydney Harbour Catchment.
Sydney Regional Environmental Plan No 8 (Central Coast Plateau Areas)	Not applicable as the subject site is not situated within the Central Coast Plateau.
Sydney Regional Environmental Plan No 9—Extractive Industry (No 2—1995)	Not Applicable as the proposal does not incorporate any extractive industries.
Sydney Regional Environmental Plan No 16—Walsh Bay	Not applicable as the subject site is not situated within the Walsh Bay Precinct.
Sydney Regional Environmental Plan No 20—Hawkesbury-Nepean River (No 2—1997)	Not applicable as the subject site is not situated within the Hawkesbury – Nepean catchment.
Sydney Regional Environmental Plan No 24—Homebush Bay Area	Not applicable as the subject site is not situated within the Homebush Bay Precinct.
Sydney Regional Environmental Plan No 26—City West	Not applicable as the subject site is not situated within the City West area.
Sydney Regional Environmental Plan No 30—St Marys	Not applicable as the subject site is not situated within the St Marys Precinct.
Sydney Regional Environmental Plan No 33—Cooks Cove	Not applicable as the subject site is not situated within the Cooks Cove Precinct.

APPENDIX 3

Consistency with State Environmental Planning Policy (Rural Lands) 2008

Rural Planning Principles	Response
(a) the promotion and protection of opportunities for current and potential productive and sustainable economic activities in rural areas,	A detailed Agricultural Capability Report has also been prepared by GHD. The report notes that the income generating capacity from the land holding would fail to generate sufficient funds to support a family. The report also states that the there is no agricultural enterprise which is suitable as a stand-alone business on the site. Furthermore, the topography of the land is undulating and uneven and is classified as Land Capability class 5 and 7. It is not considered to be prime agricultural land for cropping purposes.
(b) recognition of the importance of rural lands and agriculture and the changing nature of agriculture and of trends, demands and issues in agriculture in the area, region or State,	The ISRP identifies areas of Biophysical Strategic Agricultural Lands throughout the Illawarra and Shoalhaven Region. Biophysical Strategic Agricultural Land (BSAL) is land with high quality soil and water. The subject land area does not include any mapped Biophysical Strategic Agricultural Lands or strategic resource lands. The subject is also not located within proximity of any Biophysical Strategic Agricultural Lands or strategic resource lands.
(c) recognition of the significance of rural land uses to the State and rural communities, including the social and economic benefits of rural land use and development,	
(d) in planning for rural lands, to balance the social, economic and environmental interests of the community,	Support for this planning proposal will minimise land use conflicts and provide a more appropriate balance between the social, economic and environmental interests of the community.
(e) the identification and protection of natural resources, having regard to maintaining biodiversity, the protection of native vegetation, the importance of water resources and avoiding constrained land,	The 2001 Illawarra Biodiversity Strategy prepared by Kiama / Shellharbour and Wollongong Councils identified key areas of rare vegetation and biodiversity corridors across the Illawarra Region. The subject land did not incorporate any significant vegetation, fauna or biodiversity corridors under the strategy.
(f) the provision of opportunities for rural lifestyle, settlement and housing that contribute to the social and economic welfare of rural communities,	Support for this Planning Proposal will directly provide for rural lifestyle housing which will contribute to the social and economic welfare of the community.
(g) the consideration of impacts on services and infrastructure and appropriate location when providing for rural housing,	Northrop Engineering have provided a preliminary servicing strategy to accompany this proposal.
(h) ensuring consistency with any applicable regional strategy of the Department of Planning or any applicable local strategy endorsed by the Director-General.	This proposal includes a detailed assessment of the planning outcomes under the Illawarra Shoalhaven Regional Plan 2015 and Illawarra Region Plan 2006. The assessment demonstrates that the proposal is consistent with the regional strategies.

Rural Planning Principles	Response
(a) the minimisation of rural land fragmentation,	The Planning Proposal ensures a range of lot sizes which deliver a rural land transition from the urban edge and provide a more appropriate and responsive small lot rural housing outcome.
(b) the minimisation of rural land use conflicts, particularly between residential land uses and other rural land uses,	The subject land is situated within close proximity of existing residential zoned land. The existing zoning, permissible land uses, and lot size controls create land use conflict. The proposal will minimise land use conflict between residential land uses and other rural land uses.
(c) the consideration of the nature of existing agricultural holdings and the existing and planned future supply of rural residential land when considering lot sizes for rural lands,	There is a long history of lack of supply in the local region of rural residential land. The current 40-hectare lot sizes are unmanageable, and the land is no longer commercially viable to support agricultural operations.
(d) the consideration of the natural and physical constraints and opportunities of land,	The physical attributes of the land constrain agricultural production as detailed in the report prepared by GHD.
(e) ensuring that planning for dwelling opportunities takes account of those constraints.	This Concept Plan which accompanies this Planning Proposal has taken in to consideration existing physical attributes in the urban design and future siting of dwellings.

APPENDIX 4

Concept Plan

YELLOW ROCK

Concept Layout Plan

0 10m 50m 100m

NOTES:
1. All base digital data provided by NSW LPI.
2. Plan is subject to detailed design & survey.
3. Plan is subject to approval by responsible authority.

urbanco

Client:	Johnston
Plan No:	020 YR 002.01
Version:	1
Date:	9 November 2017
Scale:	1:1,000 @ A1

APPENDIX 5

Infrastructure Review – Northrop Engineering

Servicing Due Diligence Report

Yellow Rock Re-zoning

233 Yellow Rock Road, Yellow Rock NSW 2527

REPORT

PREPARED FOR
Mr Richard & Mrs Jane Johnson
C/-Urbanco Group

Tel: (02) 9051 9333

PREPARED BY
Northrop Consulting Engineers
Level 11, 345 George Street
Sydney NSW 2000

Tel: 02 9241 4188

Ref: SY172436-00-SDR02
Rev: 2
Date: 23.03.2018

DUE DILIGENCE REPORT

Activity Schedule

Date	Revision	Issue	Prepared By	Approved By
24.01.18	1	For Issue	A.Muralidharan	M.Brown
23.03.2018	2	Revised Issue	A.Muralidharan	M.Brown

Northrop Consulting Engineers Pty Ltd

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TABLE OF CONTENTS

1. INTRODUCTION

1.1 Executive Summary

Northrop Consulting Engineers have been engaged by Urbanco Group on behalf of the landowners Richard & Jane Johnson to prepare a Services Due Diligence Report to support assessment of potential development of a site located at 233 Yellow Rock Road, Yellow Rock NSW 2527.

The investigations for this Engineering Due Diligence Report primarily focused on the following objectives:

- Identify potential opportunities and site constraints;
- Identify the location, size and capacity of all existing services within the vicinity of the proposed site;
- Identify utility confirmation for the subject site.
- Identify options to service the site to support the proposed development.

Due care and skill has been exercised in the preparation of this report. No responsibility or liability to any third party is accepted for any loss or damage arising out of the use of this report by any third party. Any third party wishing to act upon any material contained in this report should first contact Northrop Consulting Engineers for detailed advice which will take into account that party's particular requirements.

1.2 Limitations and Exclusions

- The following assessment is based upon Dial Before You Dig (DBYD) documentation as well as correspondence with Authorities, and documentation provided by the Client.
- The calculations found in this report are based on the conceptual plans provided by the client.

1.3 Abbreviations

- AAAC – All Aluminium Alloy Conductor
- AAC – Aerial Aluminium Conductor
- DBYD – Dial Before You Dig
- DN – Diameter Nominal
- EE – Endeavour Energy
- HV – High Voltage
- kPa – Kilopascals
- kVA – Kilovolt Ampere
- LV – Low Voltage
- MJ – Mega Joule
- NY – Nylon
- OH – Overhead
- WSC – Water Servicing Coordinator

2. EXISTING SITE DESCRIPTION

2.1 Site Description

The study site is located at 233 Yellow Rock Road, Yellow Rock and is situated within the Shellharbour City LGA (Figure 1). The subject site has an area of approximately 18.5Ha and is anticipated to accommodate 20 rural transition / environmental living lots.

Figure 1: Site Location

3. EXISTING INFRASTRUCTURE

Northrop has performed desktop investigations in regards to the existing site conditions and additional loading from the proposed development onto the existing utility infrastructure available for connection to the site.

Our assessment has been based on information provided by the relevant water, sewer, natural gas, and electricity utility authorities.

3.1 Existing Sewer Infrastructure

Existing Sydney Water sewer assets do not currently extend to the subject site, as follows:

- DN150 Sydney Water sewer main terminates within 84 Yellow Rock Road, Tullimbah at the rear of the site.
- DN225 Sydney Water sewer main within the corner of Yellow Rock Road and Illawara Highway.

Refer Appendix A for details.

3.2 Existing Water Infrastructure

Existing Sydney Water sewer assets do not currently extend to the subject site, as follows:

- DN100 Sydney Water main terminates within Yellow Rock Road adjacent to Prop Road.

Refer Appendix A for details.

3.3 Existing Natural Gas Infrastructure

Existing Jemena natural gas assets do not currently extend to the subject site, as follows:

- A DN32 NY 210kPa Jemena natural gas main terminating at the corner of Yellow Rock Road and Prop Road.

Refer Appendix B for details.

3.4 Existing Power Supply Infrastructure

The site is not encumbered by any high voltage transmission line, which would normally require an assessment.

There is an existing power infrastructure which is owned and maintained by Endeavour Energy as shown in Figure 2.

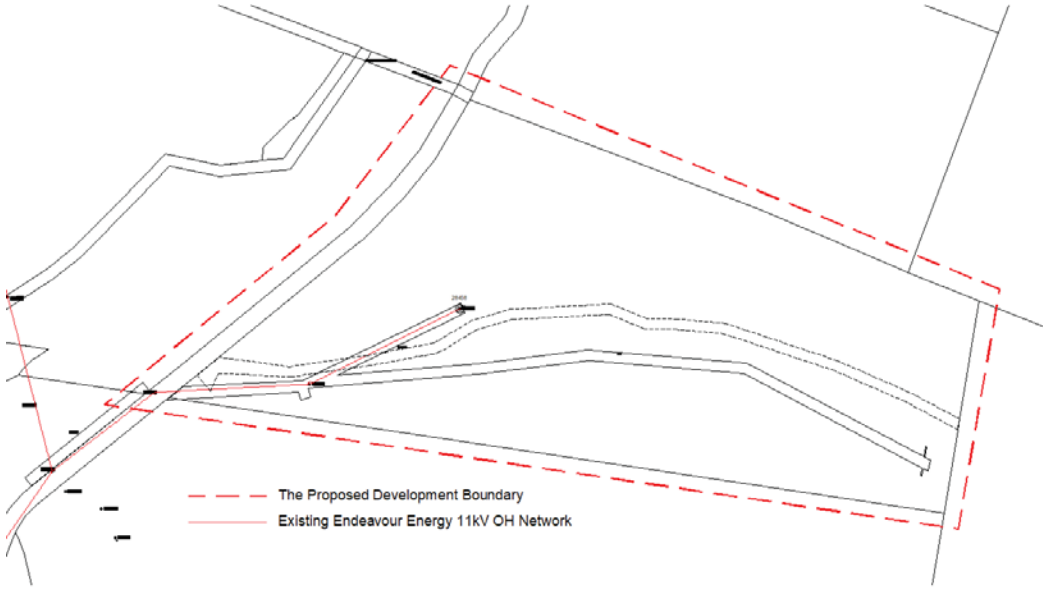


Figure 2: 11kV Network Overview

Figure 2 shows that there are existing 11kV overhead mains running across proposed development site, and the HV mains are part of the HV Feeder “ALBION PARK - Albion Park West (APC2/A) & Jamberoo Rd (APC2/B) - APC2”.

The existing 11kV OH mains are running from Yellow Rock Road and terminate into the proposed development site, the existing OH HV conductor type is “7/2.50 AAAC Chlorine”, there is an existing pole-top substation 28458 located at the end of OH HV reticulation.

There is NO HV isolation switch exist around the development site, the pole-top Substation 28458 transformer size is unknown & to be confirmed by Endeavour Energy as per Figure 3.

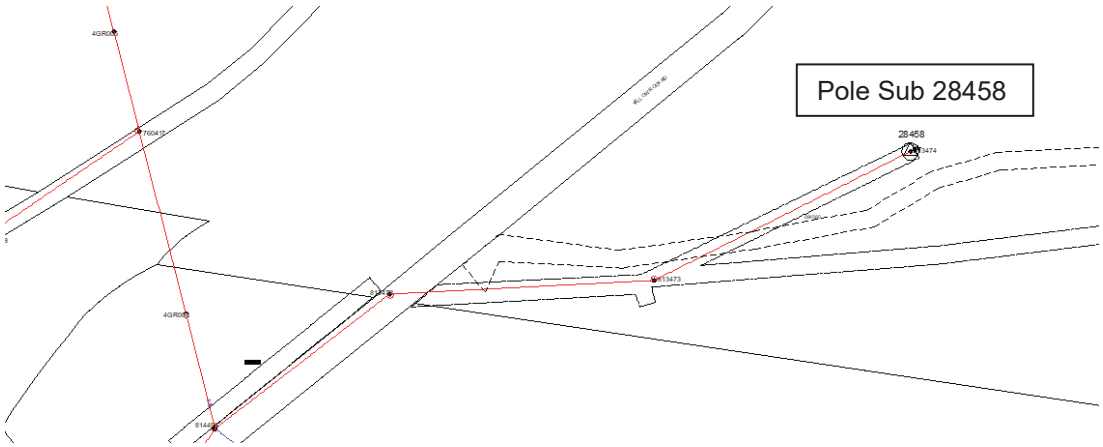


Figure 3: Pole-top Substation 28458 HV Network

The existing house has LV services directly from pole substation 28458. Therefore there is no existing Endeavour Energy LV distribution network exist within the proposed development site.

There is an approximately 9m wide electrical easement within proposed development site as Figure 4:

Figure 4: Endeavour Energy Easement Within the Development

4. DEMAND CALCULATIONS

The anticipated demand is based upon the expected water, gas and sewer drainage loads for the proposed 20 lot development. The calculations factor in probable simultaneous demands of fixture usage during peak periods.

Electrical Power Supply		
No. of Lots	**Total Demand***	**Supply Size Required**
20	150 kVA	1 x 315 kVA Padmount Substation or 1 x 200 kVA pole substation. Subject to proposed lot boundary arrangement, Endeavour Energy may/may not agree to reuse the existing pole sub, or install new pole sub or padmount substation.

Sanitary Plumbing and Drainage		
N No. of Lots	**Total Demand***	**Supply Size Required**
20	EP 70	DN150

*Note: Sydney Water's requirement for 20% diversity factor has been allowed for.

Potable Cold Water		
No. of Lots	**Total Demand***	**Supply Size Required**
20	2.70 L/sec*	DN100

*Note: Sydney Water's requirement for 20% diversity factor has been allowed for.

Natural Gas		
No. of Lots	**Total Demand***	**Supply Size Required**
20	4500 MJ/hr*	DN32 at 210 kPa

*Note: Jemena's requirement for 20% diversity factor has been allowed for.

Refer to Appendix C for further details to demand calculations.

5. PROPOSED SERVICES

Section 3 of this report identifies the existing infrastructure and services within the vicinity of the subject site at this point in time. We note that the adjoining land holdings to the east along Yellow Rock Road have recently been rezoned for residential development. Existing servicing infrastructure would most likely be extended to service the proposed residential development within these properties subject to authority approval.

The proposed servicing strategy outlined below is based on this existing services infrastructure. However the proposed extension of services to the adjoining land holdings, subject to authority approval would enable direct servicing of the lots in the future.

5.1 Sewer Infrastructure

Further to demand calculations in Section 4 and extracts from WSA-02, it is evident that a DN225 Sydney Water sewer main is required to service the proposed subdivision. There are three options to service the proposed subdivision as described in 5.1.1-5.1.3:

5.1.1 Augmentation of Sydney Water Sewer Main

The DN225 Sydney Water sewer main within Yellow Rock Road would be extended to service the proposed subdivision. This is subject to a Sydney Water Section 73 application to be lodged with Sydney Water post DA.

A Sydney Water accredited Water Servicing Coordinator (WSC) will need to be engaged to undertake the design of the sewer main. This design would depend on the invert level of the existing sewer main within Yellow Rock Road and the general site contour to confirm if sewer drainage can be achieved by gravity.

The implication of services crossing the riparian zone needs to be considered. It is likely that the lots towards the west of Yellow Rock Creek will be required to be pumped.

5.1.2 On-site Wastewater Management

An on-site sewer management system may be adopted for the subdivision. This On-site Sewage and Wastewater Strategy should encompass all single dwelling domestic on-site wastewater disposal systems within the subdivision and will be in accordance with Council requirements.

5.1.3 Sewer Rising Main

A sewer holding tank with 4 hours of emergency storage could be designed for the entire subdivision. All single dwellings would discharge to sewer via gravity to the central sewer holding tank. This would be pumped into the DN225 Sydney Water sewer main within Yellow Rock Road. This is subject to a Sydney Water Section 73 application to be lodged with Sydney Water, post DA.

A Sydney Water accredited Water Servicing Coordinator (WSC) would need to be engaged to undertake the design of the sewer rising main form the subdivision to the Sydney Water sewer main within Yellow Rock Road.

A feasibility application with Sydney Water could be lodged at this point to determine Sydney Water's infrastructure plans for the area.

5.2 Potable Water Infrastructure

Further to demand calculations in Section 4 and extracts from WSA-03, it is evident that a DN100 Sydney Water sewer main is required to service the proposed subdivision.

A new DN200 Sydney Water water main, connected into the DN250 Sydney Water water main within Wongawilli Street, could be extended through Yellow Rock Road to service the subject site for approximately 1500m. The

site requires only a DN100 water main but we believe Sydney Water would install a larger water main to cater for any future developments in the vicinity. This is subject to a Sydney Water Section 73 application to be lodged with Sydney Water, post DA.

A Sydney Water accredited Water Servicing Coordinator (WSC) would need to be engaged to undertake the design of the sewer rising main form the subdivision to the Sydney Water sewer main within Yellow Rock Road.

A feasibility application with Sydney Water could be lodged at this point to determine Sydney Water's infrastructure plans for the area.

5.3 Gas Infrastructure

The 110PE 210kPa Jemena natural gas main within the corner of Yellow Rock Road and Prop Road appears to have adequate capacity to service the proposed development / subdivision.

A final application to Jemena will be required to extend natural gas supply to the subdivision.

5.4 Power supply

As per detailed in section 4, one (1) 315kVA padmount substation or 1 x 200kVA pole mount substation will be required to service the entire site subject to Endeavour Energy approval.

For Greenfield subdivision development, Endeavour Energy request to use one standard 315kVA Padmount type substations. Below Figure 8 shows the spatial requirement for typical 315kVA Padmount substation. The substation location can be determined based on project needs and site conditions.

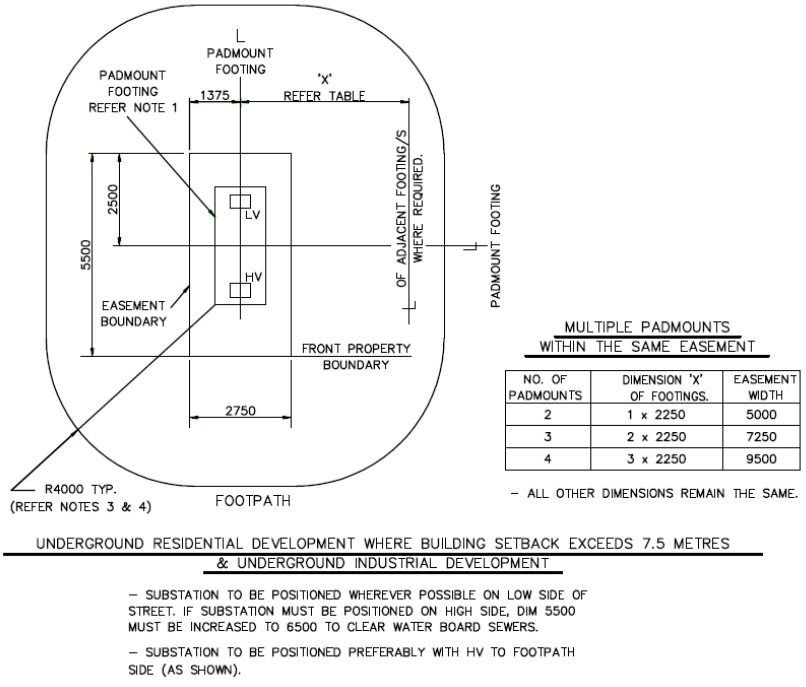


Figure 8: Padmount Substation Easement Layout

Endeavour Energy prefer to locate the substation right adjacent to the development front boundary. However If the new substations are located further into the development, a typical 2m wide cable easement and 4.5m wide substation right of way are both required.

The existing Endeavour Energy zone substation “Albion Park 2” located at corner of Russell St and Terry St is currently supplying the entire HV network to surrounding suburbs, the existing HV underground network has been extended to the residential development, where is not far from the proposed development, therefore the proposed development may extend the existing nearby HV network to the site, and it is very unlikely Endeavour Energy will request an initial HV feeder from Zone substation to the proposed development site.

6. CONCLUSIONS

In summary, this report demonstrates that the subject land is capable of being serviced through augmentation and amplification of the existing infrastructure subject to authority approval as follows:

- Sewer Infrastructure - Northrop has described three possible sewer management options, as follows:
    1. Augmentation of Sydney Water sewer Main – Extension of the existing Sydney Water mains within Wongawilli Street and Yellow Rock road will enable servicing of the site subject to Sydney Water approval;
    2. On-site Wastewater Management – We note that the large environmental allotments would have sufficient land area to allow on-site wastewater management if required;
    3. Sewer Rising Main – Installation of a Sewer holding tank and rising main will enable servicing of the subject site.
- Water Infrastructure – Extension of the existing Sydney Water mains within Wongawilli Street will enable servicing of the subject land subject to Sydney Water approval
- Gas Infrastructure – Extension of the existing Jemena Gas main within Yellow Rock Road will enable servicing of the subject land.
- Power Infrastructure - Undergrounding of the existing overhead HV Network as part of the road network installation of one 315kVA substation will enable servicing of the subject land.

7. APPENDIX A – SYDNEY WATER INFRASTRUCTURE

DBYD Address:
n/a Cordy Road
Yellow Rock NSW 2527

DBYD Job No: 13443296
DBYD Sequence No: 67198446

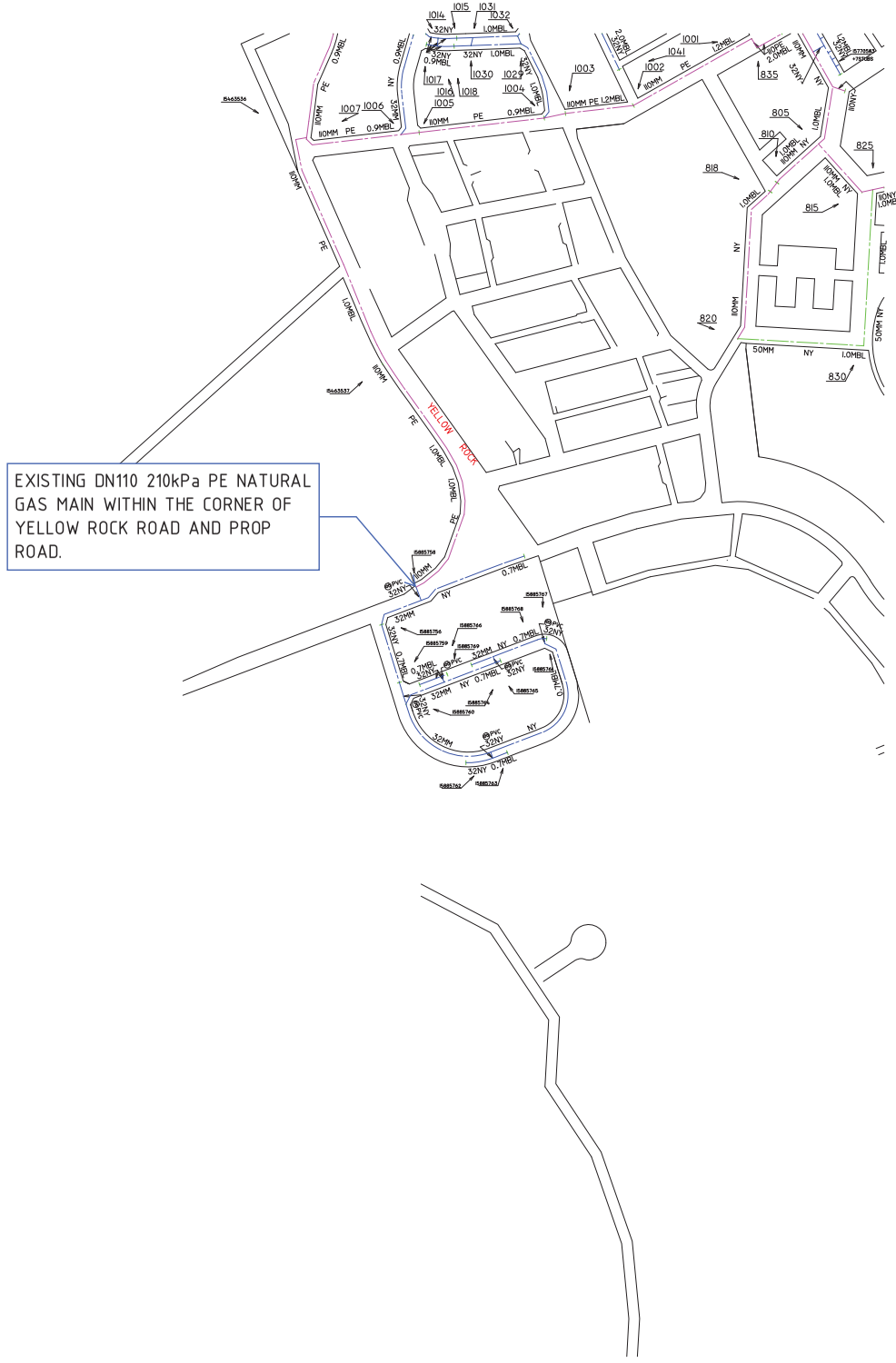
SYDNEY WATER CORPORATION
No warranty is given that the information shown is complete or accurate.

Scale: 1:2000
Date of Production: 19/12/2017 11:27:11

0 m 40m 80 m 120m 160 m

Plan 1 of 2

8. APPENDIX B – JEMENA NATURAL GAS INFRASTRUCTURE



ALBION PARK 8A

SCALE 1:2000

50 0 50 100 150 200

THIS MAP UPDATED ON 20/09/2017
THIS PLAN IS DIAGRAMATIC ONLY. DISTANCES SCALED FROM THIS PLAN MAY NOT BE ACCURATE.

DATE ALTERED:..... BY:.....

AL4D	AL5C	AL5D
AL7B	AL8A	AL8B
AL7D	AL8C	AL8D

ADJOINING MAPS

NETWORK AREA	MUNICIPALITY AREA
926	SHELLHARBOUR

Jemena

KEY

		MAX ALLOWABLE OPERATING PRESSURE
T	TRUNK PIPELINE	7000 kPa
P	PRIMARY MAIN	3500 kPa
S	SECONDARY MAIN	1050 kPa
400	NETWORK MAIN	400 kPa
	NETWORK MAIN	300 kPa
	NETWORK MAIN	210 kPa
100	NETWORK MAIN	100 kPa
30	NETWORK MAIN	30 kPa
	NETWORK MAIN	7 kPa
	NETWORK MAIN	2 kPa
	NETWORK MAIN WITH MAIN STUBS	
	PROPOSED MAINS	
PR 11-2 3	STEEL MAIN PROJECT NUMBER	
P	PRESSURE MONITORING STATION	
	VALVE	
	SYSTEM PRESSURE REGULATOR	
S	SIPHON	
123	NETWORK NODE	
1235	NETWORK VALVE NODE	
298	VALVE NUMBER	
6NB	6 INCH CAST IRON MAIN	
150MM	150MM STEEL MAIN	
110MM PE/NY	110MM POLYETHYLENE/NYLON MAIN	
6NB 50MM NY	50MM NYLON INSERTED INTO 6NB MAIN CAST IRON MAIN	
1.2MBL	DISTANCE IN METRES OF MAIN FROM BOUNDARY LINE	
1957	YEAR LAID	
	MUNICIPALITY BOUNDARY	
	NETWORK BOUNDARY	
23	HOUSE NUMBER	

ALBION PARK 8A

9. APPENDIX C – DEMAND CALCULATIONS

9.1 Sanitary Plumbing and Drainage

Obtained from WSA 02-2002-2.2 Sewerage Code of Australia

A2 ESTIMATION METHOD

Equivalent population (EP) should be calculated as the sum of the residential, commercial and industrial loadings of the proposed development:

$$EP = \sum (EP_{Residential} + EP_{Commercial} + EP_{Industrial})$$

Table A1 provides estimates of contributions to EP from residential and commercial developments and special cases such as schools, parks and clubs.

A2.1 Residential component

A2.1.1 *Single occupancy lots*

The contribution to EP should be taken as 3.5 per single occupancy lot i.e. a single residence or dwelling (Refer also to Clause 5.5).

TABLE 4.4

EP CAPACITY LIMITATIONS FOR RETICULATION SEWERS

Pipe size DN	Maximum allowable EP
150	600
225	1600
300	3200

9.2 Potable Cold Water

Obtained from WSA 03-2011-3.1 Water Supply Code of Australia

TABLE 3.2

EMPIRICAL GUIDE FOR PIPE SIZING

Nominal size of main DN		Capacity of main (single direction feed only)			
Cast iron outside diameter series	ISO series	Residential (lots)	Rural residential (lots)	General/ light industrial (ha)	High usage industrial (ha)
100	125	40	10	N/A	N/A
150	180	160	125	23	N/A
200	250	400	290	52	10
225	280	550	370	66	18
250	315	650	470	84	24

APPENDIX 6

Agricultural Land Review – GHD

D & J Johnston

Yellow Rock Road Planning Proposal - Rural Transition Lands

Johnston Property

April 2018

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1. Introduction

GHD was contracted by Derek and Jane Johnston (the proponent) at the request of Urbanco Group Pty Ltd to conduct a review of the land characteristics and agricultural production prospects that would influence a planning proposal for the transition of rural land at 233 Yellow Rock Rd, Yellow Rock NSW 2527. The property is situated to the west of Albion Park in the Shellharbour City Council Local Government Area.

The proponent is seeking to rezone the site for residential subdivision and development and has submitted a Planning Proposal to Shellharbour City Council for this purpose. The land is the subject of a rezoning application from RU1 Primary Production to RU6 Transition (small lots rural interface). The proposal is to develop 21 small rural lots.

The purpose of the Yellow Rock Rural Transition Lands Planning Proposal (February 2018) is to:

- seek support from Shellharbour City Council for the amendment of existing zoning lot size controls which currently apply to the site;
- seek amendments to the current land use zoning arrangements to allow it to deliver a rural transition zone and transition in lot sizes; and
- amend the mapping and land use provisions pertaining to the site under the Shellharbour Local Environment Plan (LEP) 2013, including land use zoning and lot size mapping.

The request sought focus on addressing.

- the historic land use;
- the capacity of the land to support commercial agricultural enterprises; and
- consideration of land use conflicts between existing land use and possible urbanisation.

1.1 Methodology

This assessment was completed by Peter Brown and Paul Dellow of GHD who are agricultural consultants experienced in agricultural land use assessments (CVs included in Appendix B). The assessment included a site inspection completed on 12 February 2018 and a desktop review of relevant policies and documents.

2. Policies and Guidelines

Each of the relevant policies and guidelines used to assist this assessment are outlined below.

2.1 Rural SEPP 2008

This policy outlines the importance of agriculture to the State's economy and therefore requires the proper planning of rural land so that agricultural land is protected as well as providing opportunities for rural lifestyle, settlement and housing which contribute to the social and economic welfare of rural communities. The policies are underpinned by the following Rural Planning Principles:

a. the promotion and protection of opportunities for current and potential productive and sustainable economic activities in rural areas;

b. recognition of the importance of rural lands and agriculture and the changing nature of agriculture and of trends, demands and issues in agriculture in the area, region or State;

c. recognition of the significance of rural land uses to the State and rural communities, including the social and economic benefits of rural land use and development;

d. in planning for rural lands, to balance the social, economic and environmental interests of the community;

e. the identification and protection of natural resources, having regard to maintaining biodiversity, the protection of native vegetation, the importance of water resources and avoiding constrained land;

f. the provision of opportunities for rural lifestyle, settlement and housing that contribute to the social and economic welfare of rural communities;

g. the consideration of impacts on services and infrastructure and appropriate location when providing for rural housing; and

h. consistency with any applicable regional strategy of the Department of Planning or any applicable local strategy endorsed by the Director-General.

In addition to the above general planning principles, the Rural SEPP also contains a number of principles related specifically to rural subdivision. These subdivision principles are shown below and are discussed in detail in the body of the report.

a. the minimisation of rural land fragmentation;

b. the minimisation of rural land use conflicts, particularly between residential land uses and other rural land uses;

c. the consideration of the nature of existing agricultural holdings and the existing and planned future supply of rural residential land when considering lot sizes for rural lands;

d. the consideration of the natural and physical constraints and opportunities of land; and

e. ensuring that planning for dwelling opportunities takes account of those constraints.

2.2 Illawarra-Shoalhaven Urban Development Program

The Illawarra-Shoalhaven Urban Development Program (UDP) is the State Government's program for managing land and housing supply in the Illawarra and accompanies the Sydney Housing and Monitor program, which manages land and housing supply for the Sydney Metropolitan Region. The UDP monitors the planning, servicing and development for new urban areas in Wollongong, Shellharbour and Kiama, as well as the provision of housing in existing urban areas.

The subject lands have previously been identified as investigation areas under the Metropolitan Development Program. They were subsequently removed in subsequent reviews or were not implemented. The subject lands as part of this study now directly adjoin the urban settlement edge, allowing sustainable urban design principles and access to services.

2.3 Illawarra-Shoalhaven Regional Plan 2015

Released in November 2015, the Illawarra-Shoalhaven Regional Plan is the NSW Government's strategy for guiding land use planning decisions for the Illawarra-Shoalhaven Region for the next 20 years

The vision for the Illawarra-Shoalhaven is for a sustainable future and a resilient community, capable of adapting to change in economic, social and environmental circumstances. To achieve this vision the Illawarra-Shoalhaven Regional Plan is structured around five goals:

- Goal 1: A prosperous Illawarra-Shoalhaven;
- Goal 2: A variety of housing choice, with homes that meet needs and lifestyles;
- Goal 3: A region with communities that are strong, healthy and well connected;
- Goal 4: A region that makes appropriate use of agricultural and resource lands; and
- Goal 5: A region that protects and enhances the natural environment.

This plan maps key resources of the region including Biophysical Strategic Agricultural Land (BSAL). No land within the subject land holdings has been identified as BSAL.

2.4 Shellharbour Council Local Environment Plan 2013

The planning proposal seeks to amend the planning controls which are proposed to apply to the site under the Shellharbour Council Local Environment Plan (LEP) 2013. Under the 2013 LEP, the site is currently zoned RU1 – Primary Production. The objectives of this RU1 – Primary Production zone are summarised in Table 1 below.

Table 1 Shellharbour LEP 2013

RU1 – Primary Production	
Objectives of zone	• To encourage sustainable primary industry production by maintaining and enhancing the natural resource base. • To encourage diversity in primary industry enterprises and systems appropriate for the area. • To minimise the fragmentation and alienation of resource lands. • To minimise conflict between land uses within this zone and land uses within adjoining zones.
Permitted without consent	Extensive agriculture; Home occupations.

Permitted with consent	Airstrips; Animal boarding or training establishments; Aquaculture; Bed and breakfast accommodation; Boat launching ramps; Boat sheds; Building identification signs; Business identification signs; Cellar door premises; Community facilities; Dual occupancies (attached); Dwelling houses; Eco-tourist facilities; Environmental facilities; Environmental protection works; Extractive industries; Farm buildings; Farm stay accommodation; Flood mitigation works; Helipads; Home-based child care; Home businesses; Home industries; Industrial retail outlets; Intensive livestock agriculture; Intensive plant agriculture; Jetties; Open cut mining; Plant nurseries; Recreation areas; Roads; Roadside stalls; Rural industries; Schools; Truck depots; Veterinary hospitals; Water supply systems
Prohibited	Any development not specified in item 2 or 3

3. Location, Land Use and Land Capability

Current land use was assessed during a site inspection on 12 February 2018. The aerial photograph (Figure 1) depicts the different land uses within close proximity to the subject site. Illustrations of the different land uses are provided via a selection of photos (Appendix A).

3.1 Location

Information provided by Urbanco Group Pty Ltd states that the site has a total area of 18.5 hectares comprising of the following legal property titles:

- Lot 334 in DP 1085477

Figure 1 shows the location of the site to the west of Albion Park. Yellow Rock Road divides the property with approximately 4 ha on the western side of Yellow Rock Road and the remaining area on the eastern side. Yellow Rock Creek intersects the smaller parcel of the land and effectively divides the smaller portion of the property into two parcels. Access to this parcel of land is via Green Mountain Road off Yellow Rock Road. This site has an elevation of 30m AHD.

The eastern portion of the property is accessed off Yellow Rock Road and rises steeply from the road at 40m AHD to 130m AHD on the eastern boundary.

3.2 Land use and property infrastructure

Current land use is low-intensive cattle grazing and horse agistment on unimproved and degraded pastures and carrying capacity is commensurate with the locality. Pasture improvement associated with past land use has meant that the land capable of sustaining agricultural production has been mostly cleared of trees (see Photos 1 and 2 in Appendix A). Areas of dense vegetation still remain along the Yellow Rock Creek and on steeper topography.

There is a major dam on site (capacity not measured) to provide water for livestock (photo 3). The property drains to the Yellow Rock Creek Catchment.

The property has a residence and a set of portable yards (photo 4). The internal road through the property also serves as access for the neighbouring residential dwelling. Livestock handling yards are in good condition and are adequate to undertake routine animal husbandry practices.

The property is subdivided into two portions (eastern and western side of Yellow Rock Road) to assist with historic pasture and grazing management. Paddock and boundary fencing is stock proof and generally in good condition.

Pastures are unimproved with the main specifies being kikuyu and other summer grasses. Pastures would require renovation, fertilisation and the introduction of winter species (rye grass) if a more productive livestock enterprise was established in the future.

The region has had a long history of dairy farming, with a number of dairy farms still in operation across the broader Shellharbour LGA however there are no dairy farms remaining in operation within the immediate Yellow Rock vicinity. Although the history of dairy enterprises on the site is unknown, it is unlikely that a dairy enterprise could be re-established at this site because the economies of scale now required to achieve a viable financial return from a dairy enterprise means that in excess of 200 milking cows would be required. Added to this is the rationalisation that has occurred in the industry such that dairy cow numbers in NSW have reduced from 311,000 head in 1979/80 to 182,000 head in 2015/16. Similarly, the number of registered dairy

farms in NSW has decreased from 3,601 in 1979/80 to 685 in 2015/16 (Source: Dairy Australia 2018).

Land use has been assessed based on data from NSW Office of Environment and Heritage. Table 2 and Figure 2 outline the land use for the subject site based on spatial land use mapping. These 10m contour intervals demonstrates the uneven topography of the site (see photos 3 and 4).

Table 2 Land use of the subject site

Land use	Area (ha)
Grazing modified pastures	12.48
Grazing native vegetation	6.13
Total	**18.62**

3.3 Other surrounding land

Other land uses surrounding the subject site include: rural residential, extensive agricultural enterprises and environmental protection areas (zoned E3 Environmental Management under Shellharbour LEP 2013). Land directly adjacent to the north and west of the site is also subject to a planning proposal to change the land use from RU1 Primary Production to RU6 Transition.

3.4 Land and soil capability, including slope

Land capability for agricultural production from the property is a function of a range of natural resource conditions including geomorphology, topography, vegetation and soils. Land in NSW is commonly classified according to the capability of land to remain stable under particular land uses. Developed by the NSW Office of Environment and Heritage (2012), this land and soil capability assessment scheme uses the biophysical features of the land and soil including landform position, slope gradient, drainage, climate, soil type and soil characteristics to derive detailed rating tables for a range of land and soil hazards. Note that this is a broad scale mapping tool that serves as a guide only.

The 8-class classification is shown in Table 3 and shows that Class 1 to Class 3 are considered to be capable of being regularly cultivated, while the remaining classes are not capable of being regularly cultivated and are suitable for grazing. However, the adoption of nil-till or minimum till cropping technology can extend the capability of Class 4 and above land as suitable for cultivation for pasture improvement.

Table 3 Land and soil capability

Broad category	LSC Class	General definition
Land capable of being regularly cultivated and used for a wide variety of landuses ((cropping, grazing, horticulture, forestry, nature conservation) Slope < 10%	1	**Extremely high capability land:** Land has no limitations. No special land management practices required. Land capable of all rural land uses and land management practices.
	2	**Very high capability land:** Land has slight limitations. These can be managed by readily available, easily implemented management practices. Land is capable of most land uses and land management practices, including intensive cropping with cultivation.
	3	**High capability land:** Land has moderate limitations and is capable of sustaining high-impact land uses, such as cropping with cultivation, using more intensive, readily available and widely accepted management practices. However, careful management of limitations is required for

Broad category	LSC Class	General definition
		cropping and intensive grazing to avoid land and environmental degradation.
Land capable of a variety of land uses (cropping with restricted cultivation, pasture cropping, grazing, some horticulture, forestry, nature conservation) Slope 10 - 20%	4	**Moderate capability land:** Land has moderate to high limitations for high-impact land uses. Will restrict land management options for regular high-impact land uses such as cropping, high-intensity grazing and horticulture. These limitations can only be managed by specialised management practices with a high level of knowledge, expertise, inputs, investment and technology.
	5	**Moderate–low capability land:** Land has high limitations for high-impact land uses. Will largely restrict land use to grazing, some horticulture (orchards), forestry and nature conservation. The limitations need to be carefully managed to prevent long-term degradation.
Land capable for a limited set of land uses (grazing, forestry and nature conservation, some horticulture) Slope 20 - 33%	6	**Low capability land:** Land has very high limitations for high-impact land uses. Land use restricted to low-impact land uses such as grazing, forestry and nature conservation. Careful management of limitations is required to prevent severe land and environmental degradation
Land generally incapable of agricultural land use (selective forestry and nature conservation) Slope > 33%	7	**Very low capability land:** Land has severe limitations that restrict most land uses and generally cannot be overcome. On-site and off-site impacts of land management practices can be extremely severe if limitations not managed. There should be minimal disturbance of native vegetation.
	8	**Extremely low capability land:** Limitations are so severe that the land is incapable of sustaining any land use apart from nature conservation. There should be no disturbance of native vegetation.

Source: NSW OEH (2012) *The land and soil capability assessment scheme – second approximation*

It should be noted that the land capability class may not necessarily be associated with land suitability, especially for agricultural land uses that are less soil dependent (eg intensive animal industries such as chicken raising, greenhouses) or for permanent tree crops (eg horticulture and forestry).

Figure 3 shows the land areas and map of the land capability classifications of the subject site. Of this land:

- Class 4 comprises 3.2 hectares (17% of the total)
- Class 5 comprises 12.7 hectares (68%)
- Class 7 comprises 2.8 hectares (15%).

Based on the NSW land and soil capability assessment, the majority of the land is classified as not capable of being regularly cultivated but is suitable for grazing with occasional cultivation as per the definitions in Table 3.

3.5 Fettering and land use conflict

Fettering refers to the restriction that current or future land use could have on future surrounding land use. It is generally expressed as a buffer requirement (e.g. distance, vegetative, topographic, property management) between two different land uses to reduce land use conflict.

Recommended buffer distances between residential areas and selected agricultural industries are shown in Table 4.

Table 4 Buffer distances for primary industries and residential areas

Industry	Distance (metres)
Grazing of stock	50
Greenhouse & controlled environment horticulture	200
Turf farms	300
Dairy sheds and waste storage	500
Poultry sheds and waste storage	1000

Source: Living and Working in Rural Areas – A handbook for managing land use conflict issues on the NSW North Coast, 2007

This proposal will reduce the chance of any land use conflict between rural land and adjoining zoned residential land. There is already the potential for land use to occur between new residential areas at Tullimbar and existing rural properties due to noise, dust and odour as buffer distances are minimal (see photo 5). Less intensive agriculture such as grazing of stock would have minimal impact on surrounding residential areas. However, the prospect for disruption could be reduced by planting trees and shrubs into the buffer area bordering existing and potential higher density residential development.

.

Paper Size A4

0 80 160 320 480 640

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Legend

Property 3

Road

Urbanco
Yellow Rock Planning Proposal

Site location
Johnston Property

Job Number 21-27186
Revision A
Date 12 Mar 2018

Figure 1

G:\Hassalls\Prospects\P1201-1500\P1549 - Yellow Rock Planning Proposal\GIS\Maps\MXD\Property_maps_Site_Location_Property3.mxd

180 Lonsdale Street Melbourne VIC 3000 Australia T 61 3 8687 8000 F 61 3 8687 8111 E melmail@ghd.com W www.ghd.com

Data source: Data Custodian, Data Set Name/Title, Version/Date. Created by:ccameron

Paper Size A4

0 12.5 25 50 75 100

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Legend

Land Use - Secondary Category

- 1.3.0 Other minimal use
- 2.1.0 Grazing native vegetation
- 3.1.0 Plantation forestry
- 3.2.0 Grazing modified pastures
- 5.4.0 Residential and farm infrastructure
- Contour (10m)
- Property Area 3
- RoadNameExtent

Urbanco
Yellow Rock Planning Proposal

Job Number 21-27186
Revision A
Date 12 Mar 2018

Land capability
Johnston Property

Figure 2

G:\Hassalls\Prospects\P1201-1500\P1549 - Yellow Rock Planning Proposal\GIS\Maps\MXD\Property_maps_landuse_Property3.mxd

180 Lonsdale Street Melbourne VIC 3000 Australia T 61 3 8687 8000 F 61 3 8687 8111 E melmail@ghd.com W www.ghd.com

Data source: Data Custodian, Data Set Name/Title, Version/Date. Created by:ccameron

Paper Size A4

0 12.5 25 50 75 100

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Legend

Land capability class

1
2
3
4
5
6
7
8

Disturbed Terrain
Water
Contour (10m)
Property
Road

Urbanco
Yellow Rock Planning Proposal

Land use
Johnston Property

Job Number 21-27186
Revision A
Date 12 Mar 2018

Figure 3

G:\Hassalls\Prospects\P1201-1500\P1549 - Yellow Rock Planning Proposal\GIS\Maps\MXD\Property_maps_landcapability_Property3.mxd

180 Lonsdale Street Melbourne VIC 3000 Australia T 61 3 8687 8000 F 61 3 8687 8111 E melmail@ghd.com W www.ghd.com

Data source: Data Custodian, Data Set Name/Title, Version/Date. Created by:ccameron

4. Alternative Agricultural Enterprises

4.1 Agricultural value

The agricultural production from land is generally assessed in economic terms as gross margin per hectare (GM/Ha) or some other unit of measurement that allows comparison between land use enterprises. Gross margin is calculated as the gross income from production (eg yield X price) minus the direct costs of production (eg seeds, fertiliser, fodder). Gross margins provide a guide to the selection of enterprises but caution is required in their interpretation because they do not consider overhead and business/financing costs.

Table 5 shows indicative gross margins for a selection of agricultural enterprises that might be considered on the subject site. Gross margins are expressed as low, medium and high because presentation of absolute figures would require a more in-depth analysis. To provide some context to the low, medium and high categories, a beef cattle enterprise in the Albion Park area would have an indicative gross margin income of around $300 per hectare of cleared pasture land. This is equivalent to $5,400 per year for the 18 hectare of the subject site that is suitable for grazing. This is considered to be a 'low' gross margin, too low to support a family. This also assumes that the entire site is used for grazing. Due to the fragmentation of the site, the smaller portion (4ha) on the western side of Yellow Rock Road presents issues for livestock management due to the absence of livestock handling yards.

The current land use is relatively low intensity cattle grazing which is unlikely to cause land use conflict. However, the economic viability of low intensity agriculture is not sustainable. Development of higher intensity use (eg dairy, fruit trees, viticulture) would demand specialised skills and expose the enterprise to a higher risk of conflict.

Note that the list of enterprises selected in Table 5 is not exhaustive but is considered to be the most likely for consideration for this climatic region.

Table 5 Gross margins of indicative agricultural enterprises

Agricultural enterprises	Indicative gross margins
Beef cattle grazing	Low
Dairy cattle	Medium
Turf farm	High
Fruit/nut trees	High
Greenhouses	High
Poultry	High

Although a number of enterprises have high gross margins (which potentially could support a farming family), there may be other constraints on their establishment at this site. This is discussed in section 4.2.

4.2 Potential land use analysis

The opportunities and constraints of potential alternative agricultural land uses on the subject site are shown in the following matrix (Table 6). The constraints considered are:

- Fettering – will the activity potentially result in land use conflict?
- Topography – will the steep and/or uneven topography restrict cultivation or building construction (eg flat land is required for a greenhouse)?
- Irrigation – will the enterprise require irrigation and is there a sufficient water source available?

- Existing infrastructure – can the enterprise be conducted with the existing infrastructure or will some enhancements be required?
- Investment capital – is establishment of the enterprise likely to require significant capital investment?
- Economic viability – for those enterprises that are physically feasible, what is the likelihood of their economic viability?

Table 6 Matrix of potential land uses (at an economic level)

Constraint / Enterprise	Fettering	Topography	Irrigation	Existing infrastructure	Investment capital	Economic viability
Beef cattle grazing	✓	✓	☐	✓	☐	×
Dairy cattle	✓	✓	☐	×	×	×
Fruit / nut trees	✓	✓	ns	×	×	×
Greenhouses	✓	×	ns	ns	ns	ns
Poultry	×	ns	ns	ns	ns	ns

Legend:
☐ not relevant
✓ not constrained
× constrained
ns not suitable due to land capability constraints
? uncertain and will depend on individual circumstances

The above analysis shows that the site is physically capable of supporting grazing enterprises. However the economic viability of these enterprises is uncertain because of the level of investment capital required for establishment and the type of business structure that would support any development. For example, a beef cattle enterprise is unlikely to be viable as a stand-alone business because of the low gross margin income (see section 4.1) but could contribute to income as an addition to a larger enterprise within reasonable proximity.

Irrigation is out of the question die to lack of permanent water sources, the topography and soil types. Turf farming is out of the question due to soil types and topography. Fruit and nut production is limited by local infrastructure and market opportunities.

In summary, it appears that there is no agricultural enterprise that immediately comes to mind as being suitable as a stand-alone business on the site without reservations.

5. Agricultural Assessment Framework

From the previous sections related to various policies and guidelines (section 2); land capability (section 3); and value of alternative agricultural enterprises (section 4); a framework for assessing the agricultural value of the subject land is provided in Table 7 below.

The table considers a range of criteria and/or issues from the various policies and guidelines and then discusses the attributes of the subject land against these with respect to agricultural value. The final column provides a summary assessment of agricultural value for each criterion as justification for the loss of agricultural farm land.

Table 7 Assessment framework

Criterion or issues	Attributes of Subject Land	Assessment
Consistency with any applicable regional strategy of the Department of Planning or any applicable local strategy endorsed by the Director-General (Rural SEPP).	The land adjacent to the subject land has been identified as accommodating future residential and small lot rural housing under a variety of strategies and environmental studies since the early 1990s.	The Strategy has sought to balance the social, economic and environmental interests of the community. Protection of agricultural land needs to be considered against competing demands for land use.
Minimisation of rural land fragmentation (Rural SEPP)	The subject land remains as a small pocket of land with planning proposals being considered to convert RU1 Primary Production to RU6 Transition (small lots rural interface) in the north and west. If those planning proposals are successful then this would leave the subject site as an isolated pocket of land. This restricts its ability to be aggregated into a larger parcel of rural land to enable economies of scale.	Due to other planning proposals being considered for adjacent properties, this site will become fragmented from other rural lands which will restrict its agricultural development opportunities.
Minimisation of land use conflict (Rural SEPP)	The current land use is relatively low intensity cattle grazing which is unlikely to cause land use conflict. However, the economic viability of low intensity agriculture is questionable. Development of higher intensity use (eg dairy, fruit trees) would result in a higher risk of conflict.	Current land use is sub-economic and development of economically viable agricultural enterprises could lead to higher risk of land use conflict.
Promotion of the continued use of agricultural land and particularly makes appropriate use of agricultural and resource lands (Illawarra-Shoalhaven Regional Plan 2015).	Land capability on the subject land and the additional properties is not prime crop and pasture land (Classes 1 to 3 or mapped as BSAL). Topography, land and soil capability, and vegetation restrict land use.	Development would not compromise the aim of protecting prime agricultural land.
A capacity to effectively cater for specialised agricultural developments.	A range of specialised agricultural developments were considered in section 4 (poultry,	Specialised agricultural developments are unlikely to deliver viable opportunities.

Criterion or issues	Attributes of Subject Land	Assessment
	greenhouses, orchards) however topography and fettering constraints mean they are not suitable for the site.	
Appropriate provisions to allow farms to expand to gain economies of scale in times of declining terms of trade while taking into consideration the buffers required by residential land uses as a result of increasing environmental regulation regarding noise, dust, odour and chemical use	The subject site is limited in its ability to expand physically because surrounding land use (to the north and west) is being considered for a residential planning proposal. Expansion to the south-west may be physically possible but not likely to be economically viable for beef cattle grazing. The densely vegetated areas to the east and steep topography would also preclude agricultural enterprises.	Expansion of the property is not likely to be economically viable.

6. Summary and conclusion

The proposed rezoning of RU1 Primary Production land at 233 Yellow Rock Rd, Yellow Rock to residential land has been assessed for its impact on the preservation of agricultural land at the site and in the vicinity of the site. The assessment considered the various policies, strategies and guidelines for the development of land in the area and a site inspection established the current land uses at the site and surrounding land.

The issues that were considered central to the assessment were the potential for the development to impact on;

- Fragmentation of agricultural land;
- Land use conflict - impacts of residential land use on surrounding agricultural land and impacts of routine agricultural activities on future residential areas;
- Consideration of the natural and physical constraints and opportunities of the land; and
- Relevant policies and future supply of rural residential land.

Fragmentation of agricultural land

The subject site is a small farm of 18 hectares which is currently used for rural residential and for cattle grazing. The site is already fragmented by Yellow Rock Road which presents issues for managing livestock. Surrounding agricultural land immediately to the north and west are also subject to residential planning proposals.

The development of more intensive agricultural activities is also constrained by its proximity to other future development proposals. Additional properties that are in close proximity to the subject site, and are not under future planning proposals would not add to its agricultural value if they were aggregated to form a larger parcel of land.

In assessing the income generating capacity from the site for the prudent land use which is extensive grazing, it would fail to generate sufficient funds to support a family.

Land use conflict

The current land use is relatively low intensity cattle grazing which is unlikely to cause land use conflict. However, the economic viability of low intensity agriculture is questionable. Development of higher intensity use (eg dairy, fruit trees) would result in a higher risk of conflict and would require specialised skills. Current land use is sub-economic and development of economically viable agricultural enterprises could lead to higher risk of land use conflict. Areas of dense vegetation will also be retained to provide a natural buffer and ensure the stability of the land.

Consideration of the natural and physical constraints and opportunities of the land

The topography of the land is relatively steep and uneven and is predominately classified as Land Capability class 5. As such, it is not considered to be prime agricultural land for cropping purposes and development of non-soil dependent enterprises (e.g. greenhouses) is extremely limited.

Relevant policies

The land adjacent to the subject land has been identified as accommodating future residential and small lot rural housing under a variety of strategies and environmental studies since the early 1990s.

As such, despite the loss of agricultural farm land, the rezoning of the site for residential subdivision and development can be justified.

Appendices

Appendix A – Site Photographs

Selected photos taken on 12 February 2018

Photo 1: Looking south-west from the intersection of Yellow Rock Road and Green Mountain Road at the 4ha paddock that is fragmented from the rest of the property.

Photo 2: Looking north-west from the eastern boundary of the property with the residential dwelling in the centre of the property with cattle grazing.

Photo 3: Looking west towards escarpment with the dam for stock water in the foreground.

Photo 4: Portable cattle yards on the property for animal husbandry practices.

Photo 5 – The urban/rural interface demonstrating where residential properties are directly adjacent to existing rural landholdings with minimal buffers to reduce the potential of land use conflict. The prospect for disruption could be reduced by planting trees and shrubs into the buffer area bordering existing and potential residential development areas.

Appendix B - Curriculum Vitae

Curriculum Vitae

Peter Brown

Principal Consultant – Natural Resources and Agriculture

Qualified.
Completed Australian Commercial Disputes Centre course on Commercial Mediation (1993)
Risk Analysis & Risk Management Short Course, University of NSW (1991)
Bachelor of Science in Agriculture, University of Sydney (1962)

Relevance to project. Peter commenced consulting in agriculture and agricultural planning in 1963, working with 45 farm families at Wellington in the central west of NSW for some 20 years. During the later years, he undertook assignment work in agriculture, both in Australia and internationally. Since 1989, he has focused his attention on the definition of impacts from physical and policy changes and from catastrophic events that affect agricultural lands and landholders and the identification of solutions for actual and potential disputes where agriculture is involved.
Peter was elected a Fellow of The Institute of Agricultural Science and Technology for his contribution to agricultural impact and economic loss assessment and dispute resolution. In 2006, Peter was awarded the Murray Medal in recognition of his work with the rural communities along the Murray River in addressing impacts from managed flows and assisting resolve a path forward that met the requirements of the affected landholders and the Governments involved in the Murray Darling Basin Commission.

Impacts of Instream and Overbank Flows, Murray from Hume Dam to Lake Mulwala, (Current) for MDBC & River Murray Water
The assignment involves providing technical advice to a reference group which is charged with the responsibility of developing a process to facilitate implementation of the River Management Plan for the Murray between Hume Dam and Lake Mulwala. The input includes identifying and quantifying the impacts of instream and overbank flows; discovering the community attitudes to various options for securing the right to release managed flows; and developing a matrix that combines the impact parameters with economic consequences. This assignment follows extensive consultation with the 180 landholders on the floodplain. The consultation process was conducted on an individual basis and by a series of meetings arranged by River Murray Water.

Economic Impact Assessment of release options from Dartmouth Dam where the impacts would be felt by the Mitta Mitta River floodplain landholders (Dartmouth Dam to Mitta Mitta River) (2002), for River Murray Water.
Task involved building a profile of the economic costs from a range of flow regimes that would achieve a total delivery of water from Dartmouth to the Murray River system. Prior knowledge gained over the last six years working with flood plain landholders enabled this assignment to be conducted over a three day period.

Development of protocols for agricultural enterprise and environmental protection during the process of transmission line construction and subsequently during the operation and maintenance phase of the proposed transmission line (NSW, NW Vic, SA) for Transgrid
Transgrid is looking to extend electricity provision from its Buronga Substation in western NSW 366 km through NW Victoria into SA along the Murray River. The extension involved a 50 m wide easement to accommodate 40 m high steel towers at separation of 400-500m. The proposed route for the extension will impact on 105 landowners.

The assignment required discussion with stakeholders (including landholders, relevant government agencies).

Assessment of impacts associated with a proposed mining development, at Robinvale Victoria for a mining company.

Responsible for assessment of the impacts of a proposed mining development on three farms in the district; the farming systems included intensive horticulture and extensive dryland farming and grazing; prepare economic impact assessments and assist negotiate compensation packages. Researched and advised on precedents of the Victorian Land Valuation Board of Review in relation to determinations on compensation for disturbance arising from mining in the state of Victoria.

Braidwood Lands at the site of Welcome Reef Dam (NSW) for Sydney Catchment Authority

The assessment included identification of broad land use options for land currently owned by the SCA in the Braidwood Area, including leased lands; a financial evaluation of the expected costs of these options; identification of other costs and benefits, including social, political, environmental and the impacts to stakeholders of these options; and recommendations regarding the best land use option(s) for management of the SCA's lands.

Reduced Water Availability - Border Rivers (Qld & NSW)

Prepare assessment of the impact of reduced water availability on the economic viability of landholders growing cotton on irrigated areas serviced by the Border Rivers; undertake a major review of a proposal by a public company to purchase irrigated cotton properties in the border Rivers region of NSW and Queensland. Appear at and present evidence at hearing in Bogabilla.

Land Classification and Planning Projects

Hornsby: Investigate the agricultural suitability of land in the Hornsby Shire and assess potential impacts from subdividing this land for low intensity dwellings. Task involved soils assessment, land classification review, land use possibilities and report preparation. Gave evidence at Land and Environment Court hearing in August 1996.

Leppington: Working with the Australian Government Solicitor and the Australian Construction Services. Undertake a detailed assessment of the impact of land resumption for Sydney's Second Airport at Badgerys Creek on a major dairy enterprise. Assess the economic cost of reinstatement of the infrastructure and business;

Rouse Hill: Undertake extensive examination of the prospects of intensive agricultural production from a ten hectare site at Rouse Hill. Investigation involved assessment of soil suitability, topography impacts, proximity to markets, water demand and potential storage including roadside catchment. Prepare assessment of agricultural worth of land and possible value as property retained for agriculture; and

Badgerys Creek: Examine prospects for intensive landuse adjacent to the proposed Sydney Second Airport and resolve economic merits of moving flower production business to area where land values were lower and control of water supply possible.

Nowra: Worked with Valuer examining past financial records of a 400 cow dairy at Nowra where the owners' Bank was concerned about the viability of the business. Assisted in the review of business plans and the monitoring of the business after the Bank made additional carryon funds available.

Camden: An Independent Assessment of Agriculture in the Camden Region - Proposed Agricultural Protection Area. Agricultural assessment of a small area in South West Sydney (Camden) that is tagged for as a Protected Agricultural Land. Peter provided advise on the possibility of establishing dairy enterprises on the Protected Agricultural Land. The report found that the economic future of broadacre enterprises is constrained and that the future viability of agriculture will depend on the conversion to intensive enterprises.

Curriculum Vitae

Paul Dellow

Senior Economist – Natural Resources and Agriculture

Qualified. Bachelor of Agricultural Economics, University of Sydney

Relevance to project. Paul has a Bachelor of Agricultural Economics, undertaking a major in Economics at the University of Sydney and has been a part of GHD's Natural Resource and Agriculture service group since 2007. Paul's work at GHD has focused around economic analysis, agricultural and natural resource management policy, economic loss assessments and agricultural land use planning.

Paul has undertaken rural land use planning studies for State and local government agencies and agricultural impact statements for development proposals with a potential to impact on the continuation of agricultural production. Paul has also been involved in undertaking agricultural economic loss assessments for agricultural enterprises affected by bushfires and flooding. Having grown up at Oberon in the Central West of NSW, Paul has a sound knowledge of agricultural and natural resource systems and has conducted numerous consultations with natural resource management groups, landholders and industry groups.

On-Farm & Regional Economics

Murrumbidgee Irrigation Area Renewal Alliance (2011)

GHD is working with Murrumbidgee Irrigation to implement its Modernisation Plan designed to improve the efficiency of irrigation water delivery and use, while at the same time ensuring the future viability of its customers and broader stakeholders. This project involves the preparation of the Private Irrigation Infrastructure Operators Program submissions for integrated delivery system / on-farm water efficiency infrastructure projects and on-farm projects that will generate water savings for the Australian Government. These submissions involved a benefit-cost analysis of the various irrigation options to be undertaken highlighting the Net Present Value of each option and the associated Benefit-Cost Ratio.

Agricultural Analysis

Narromine Shire Council (2012)

GHD has been commissioned by NSW Department of Planning and Infrastructure and Narromine Shire Council to prepare an Agricultural Lands Strategy – Intensive Plant Agriculture in order to:

- Identify and protect existing land utilised for intensive plant agriculture; and
- Identify any additional land appropriate for intensive plant agriculture.

This study examined the agricultural resource base through aiming to protect the agricultural land with preferred soil fertility and access to water.

Harden Rural and Residential Land Study

Harden Shire Council (2015)

GHD has been engaged by Harden Shire Council to undertake a comprehensive review of its current environmental planning instruments via the preparation of a Rural and Residential Land Study. Paul was involved in analysing the rural and agricultural land use component of this study.

Agricultural Impact Assessments

Paul has recently completed a number of Agricultural Impact Assessments for a variety of infrastructure projects across regional NSW that were a key component of the Environmental Impact Statement (EIS).

Inland Rail – Australian Rail Track Corporation (2016)

Paul prepared the Agricultural Impact Assessment for the Inland Rail for the Parkes to Narromine and Narrabri to North Star section of the rail corridor.

Gilgandra Solar Farm – NEON (2017)

This project involved preparing an Agricultural Impact Assessment to examine the impact of removing agricultural land from production and converting the site to a solar farm. Issues to

consider included site access, land use and land capability, biosecurity and impacts on adjoining landholders.

Koondrook-Perricoota Flood Enhancement Project (2015)

Paul was responsible for undertaking the landholder consultation as part of the environmental assessment to modify the operating conditions of the Koondrook-Perricoota Flood Enhancement Project to enable the Alternative Downstream Flow Options (ADFO) to be implemented. The ADFO is intended to enable a more flexible operating regime to be implemented to manage operational and environmental risks by reducing the depth and duration of inundation in the downstream areas of the Forest to better meet the environmental water requirements of vegetation communities and be more consistent with natural inflows.

Agricultural Analysis

Agricultural Land Use Planning

Paul has undertaken Land Use Conflict Risk Assessments (LUCRA) for development proposals with a potential to impact on the continuation of agricultural production on neighbouring farms in western Sydney. In the past year Paul has been the Job Manager for two of these projects at Picton and Bringelly. The main issues requiring assessment were:

- Loss of agricultural land including risk of incremental loss;
- Examination of agricultural productivity of the land and potential environmental constraints of its long-term agricultural viability.
- Fragmentation of agricultural land;
- Alienation of agricultural land; and
- Land use conflict – impacts of this proposed development on surrounding agricultural land and impacts on routine agricultural activities.

Land Use Planning

Sustainable Agricultural Futures Project, Western Sydney Parklands Trust (2009)

The purpose of this study is to assist the trust in making informed decisions on the future of agricultural production within certain areas in the Western Sydney Parklands and to assist the Trust to develop an appropriate procurement strategy. Paul was involved in developing gross margins for various agricultural options within the Sydney basin and responsible for undertaking consultation with key stakeholders across various agricultural industries.

Sydney Agricultural Lands Mapping Project, NSW Department of Planning and Infrastructure (2012)

GHD was engaged by DP&I to use remote sensing and existing mapping to describe the size, location and distribution of agricultural and resource land uses in the ASGC 2011 Sydney Statistical Division. The main purpose of this project was to provide a snapshot of the amount of land used for agricultural purposes, the characteristics of the land and production capability of the land within the Sydney Basin.

Promotion of Rural Activities and Feasibility of Establishing a Viable and Sustainable Agribusiness Precinct in Penrith LGA, Penrith City Council (2012-)

GHD has currently been engaged by Penrith City Council to undertake a project to:

- Recommend strategies to support and promote sustainable agricultural production; and
- Prepare a feasibility study on the establishment of a viable and sustainable agribusiness precinct in Penrith LGA.

As part of this project, GHD will be analysing agricultural production within the LGA, consulting with stakeholders and making recommendations about future agricultural planning strategies

Broader Western Sydney Employment Area, NSW Department of Planning and Infrastructure (2013)

GHD was commissioned by the NSW Department of Planning and Infrastructure (DP&I) to provide an analysis of agriculture and agribusiness opportunities as part of the Broader Western Sydney Employment Area (BWSEA) Structure Plan. This study involved reviewing government policies and directions on agricultural lands and agribusiness and an evaluation of the agricultural land use and primary production was undertaken. Paul was the Job Manager for this project.

Other related areas of interest

- **Socio-Economic Analysis**
- **Rural land use studies**
- **Stakeholder consultation**
- **Understanding of agricultural systems**
- **Economic analysis – Benefit-Cost Analysis, gross margin analysis**

Scope and Limitations

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Document Status

Revision	Author	Reviewer		Approved for Issue		
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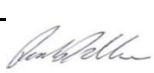
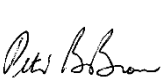
Rev A	P Dellow	P Brown		P Brown		24.3.18
Rev 0	P Dellow	P Dellow		P Brown		19.4.18

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