# Caerleon Planning Proposal Submission to Mid-Western Regional Council

Prepared for BLAXLAND PROPERTY MUDGEE PTY LTD ATF BLAXLAND PROPERTY MUDGEE TRUST

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# 1 Introduction

### 1.1 General

Blaxland Property Mudgee Pty Ltd ATF trading as Blaxland Property Mudgee Trust (Blaxland Property), owners of 49 properties comprising approximately 310 hectares (Ha) of land located to the north-west of Mudgee (the subject land), have requested Elton Consulting to prepare a Planning Proposal for lodgement to Mid-Western Regional Council (the Council) in relation to the proposed residential rezoning of the subject land.

The Planning Proposal is to amend the *Mid-Western Regional Interim Local Environmental Plan (LEP) 2008* by zoning the land to allow for residential and large-lot resident development, and appropriate development standards, so to facilitate the future development of a new residential village.

As a result of meetings and correspondence between Council and Blaxland Property, Council has nominated that a Planning Proposal is the preferred option to achieve rezoning and appropriate controls of the subject land. It was agreed that this Planning Proposal be prepared for the subject land.

Council is preparing a new comprehensive LEP in accordance with the Standard Instrument. A draft version of the comprehensive LEP, *Draft Mid-Western Regional Local Environmental Plan 2011* (Draft LEP), was conditionally endorsed by the NSW Department of Planning and Infrastructure (DoP&I) for public exhibition under section 65 of *the Environmental Planning and Assessment Act 1979* on 14 September 2011 and subsequently publicly exhibited from Monday 19th September to Friday 21 October 2011.

This Planning Proposal therefore considers the current and Draft LEP in outlining the proposed future planning controls for the subject land. The proposed rezoning and planning controls for the subject land and adjoining parcels can be incorporated into the comprehensive LEP, once finalised, following the 'gateway' process.

# 1.2 Purpose of this Planning Proposal

This Planning Proposal provides an outline and justification to Council and the DoP&I to rezone the subject land from the Investigation zone under *Mid-Western Regional Interim Local Environmental Plan 2008* to predominantly a residential zone under the current LEP or future comprehensive LEP (whichever is in place when the LEP amendment is made).

This report provides reasoning and justification to strategically consider the broader benefits of rezoning the land for residential use and providing appropriate development standards as part of an amended LEP or the forthcoming LEP. This report outlines the findings of our investigations for a change in use to provide the site with a sustainable outcome that:-

- Achieves the aims of the Mid-Western Regional Comprehensive Land-Use Strategy
- Provides a structure for future growth of the Mudgee township
- Ensures future supply of residential land to meet the housing needs of both current and future residents
- Supports the Mudgee township and provides connections to the existing urban area.

In the preparation of this submission we have:

- Had numerous discussions with Council officers at Mid-Western Regional Council
- Considered the Mid-Western Regional Comprehensive Land Use Strategy, Community Plan Towards 2030, and Economic Development Strategy
- Reviewed population and economic growth factors for the Mudgee area
- Assessed the site against local, regional and state strategic planning policies

- Undertaken initial investigation for potential residential rezoning of the site in relation to salinity, servicing, topography and road connections
- Prepared a draft concept plan illustrating the potential future residential development of the entire urban expansion area, which includes the subject land.

# 2 Site Context and Identification

# 2.1 Regional Context

Mudgee is the main subregional centre in the Central West region of NSW. It is located within the Mid-Western Regional local government area (LGA), which covers an area of over 9,000 km<sup>2</sup>.

The Mid-Western Regional LGA had an estimated population of approximately 21,980 in 2006, which was expected to grow to 22,570 by 2011. By 2031, the population in the LGA is expected to have grown to 26,220 people, which represents a rise of 19.3% in the period from 2006 – 2031. As the main centre in the LGA, Mudgee is expected to experience the majority of this growth and retain over 85% of the new population in the period to 2031 (Ratio Consultants 2007).

The township of Mudgee is located centrally within the LGA and classified as a district centre. Mudgee is the largest town in the Mid-Western Regional LGA and the second oldest municipality west of the Great Dividing Range. It is located approximately:

- 270km from the Sydney CBD
- 130km north of Bathurst
- 130km south-east of Dubbo.

Mudgee, being a key subregional centre in the Central West region, is serviced by an airport located 5km north-east of the CBD. The Mudgee Airport is a vital infrastructure asset for the Mid-Western Region. Commercial passenger services run between Mudgee and Sydney 12 times per week, with a trip time to and from Sydney Airport of approximately 50 minutes.

Key drivers of employment in the region are mining, agriculture (livestock grazing, fine wool production, horticulture, cropping), the wine industry, tourism and retail services. Tourism (and related activities) is a particularly important facet of the local and regional economy.

There are a range of parks and recreational areas located throughout the LGA. This includes 55 parks, gardens and oval / playing field areas, 64 separate sections of road reserves and other reserves, and 11 cemeteries (8 rural, 3 town).

It is understood that Mid-Western Council will be undertaking a Recreation Strategy within the next 12 months to review the current and future provision of Open Space in the local government area. Currently it is estimated that there is approximately 96.5 hectares of passive and active open space in Mudgee. New regional sporting facilities have been located at Glen Willow which is within 2.5 km of the subject site as the crow flies. Glen Willow is a \$10 million sporting complex that includes a 1000 seat grandstand, a first grade sporting field, 8 multi-disciplinary fields and 19 netball courts.

The Gwabegar railway line is a historic railway line that passes through Mudgee to Gulgong, eventually heading to Gwabegar. The railway line extends to the north-west of the township and forms a border between the suburbs of Mudgee and Caerleon to the north-west. The railway has been decommissioned and is no longer in use.

The Castlereagh Highway provides the main access between the subject land and Mudgee CBD. Access from the site to the CBD is via:

- Hill End Road, which provides a direct link from the northern end of the site to Castlereagh Highway
- Fairy Dale Lane, which links the southern portion of the site to Gladstone Street
- Saleyards Lane, which forms the eastern boundary of the broader area under Investigation for future residential land.

Figure 1. Locality Map



Figure 2. Context Map



# 2.2 Subject Land

The subject land is located to the north-west of the existing township of Mudgee, on the west side of the railway line and approximately 3km from the Mudgee CBD.

The subject land is located within the locality of Caerleon, adjacent to the west of the Gwabegar rail corridor. It is bound by Hill End Road to the north, vegetated conservation lands to the south, vegetated lands and the waste treatment facility/sewerage treatment facility to the west, and Gwabegar railway line to the east.

The land east of the railway line, between the railway and Saleyards Lane, has been identified as a future urban area by Council. Together, these two portions of land form the urban release area to the north-west of Mudgee.

This Planning Proposal addresses the subject land, however, it is understood that a separate planning proposal incorporating land to the west and east of the railway line will be lodged by Council.

#### 2.2.1 Topography and Physical Features

Topography varies considerably across the subject land with gentle slopes less than 12% on the north and north-western sections and more steeply mid and upper slopes through the central and southern sections of the site.

The southern portion of the subject land is characterised by steep terrain and elevated areas generally associated with the foothills of Mount Misery, which is located in south-west Mudgee (to the south of the subject site). These elevated areas and ridgelines define the Mudgee to the west and have important scenic value for the Mudgee township. A major hill to the south-west of the subject land creates significant slopes in the southern and particularly the south-western portion of the land. Contours rise up to and above 540 metres in steeper portions of the land.

A hilltop to the west of the site creates a physical barrier between the subject land and the waste treatment facility further west.

The northern portion of the subject land is relatively flat.

A drainage line runs across the central and south-eastern section of the subject land. The drainage line extends towards Saleyards Lane (Saleyards Creek catchment), which is to the west of the Cudgegong River. The area of the east of Saleyards Lane is subject to localised flooding. The subject land and adjoining land to the east of the railway line (between the railway line and Saleyards Lane) is not subject to flooding from this catchment.

It is understood that Fairy Dale Lane is subject to flooding at the low level causeway crossing near the intersection with Gladstone Street.

#### 2.2.2 Vegetation

The subject land is generally cleared of timber with individual eucalypt trees scattered across most of the area with more dense forest located to the west. The drainage line is identifiable by a line of predominantly pepper (*Schinus areira*) and eucalypt (*Eucalyptus spp.*) trees.

Vegetation is dense along the slopes, however the lower lying areas are more sparsely populated with grasses.

Figure 3. Subject land



Source: MineSpex

#### 2.2.3 Surrounding Land Uses

Land use surrounding the subject site is predominantly broad acre grazing with a low level of use. The key features of the surround properties are identified in Figures 1 and 2 and include:

- Mudgee Waste Facility located off Hill End Road, to the west of the site, as well as the new sewer treatment works adjacent to the existing Mudgee Waste Facility
- Dense bushland to the south and west of the site, including sections of the Avisford Nature Reserve to the south
- New residential area to the south west of the site, known as Glen Ayr, which is currently the westernmost urban area of Mudgee.

The land directly adjoining the eastern side of the rail corridor is generally cleared and contains some ruralresidential properties.

### 2.2.4 Legal Description of the Subject Land

The subject land is in single ownership and consists of 49 allotments, totalling an area of approximately 310 hectares, which are legally described in Table 1.

### Table 1. Legal description of allotments

Lot 129A DP 756894	Lot 3 DP 132086	Lot 230 DP 756894	Lot 219 DP 756894
Lot 133 DP 756894	Lot 6 DP 132086	Lot 233 DP 756894	Lot 222 DP 756894
Lot 136 DP 756894	Lot 9 DP 132086	Lot 236 DP 756894	Lot 225 DP 756894
Lot 140 DP 756894	Lot 1322 DP 1113075	Lot 1 DP 132086	Lot 228 DP 756894
Lot 189 DP 756894	Lot 130 DP 756894	Lot 4 DP 132086	Lot 231 DP 756894
Lot 220 DP 756894	Lot 134 DP 756894	Lot 7 DP 132086	Lot 234 DP 756894
Lot 223 DP 756894	Lot 137 DP 756894	Lot 10 DP 132086	Lot 237 DP 756894
Lot 226 DP 756894	Lot 141 DP 756894	Lot 1323 DP 1113075	Lot 2 DP 132086
Lot 229 DP 756894	Lot 218 DP 756894	Lot 131 DP 756894	Lot 5 DP 132086
Lot 232 DP 756894	Lot 221 DP 756894	Lot 135A DP 756894	Lot 8 DP 132086
Lot 235 DP 756894	Lot 224 DP 756894	Lot 139 DP 756894	Lot 1321 DP 1113075
Lot 341 DP 756894	Lot 227 DP 756894	Lot 151 DP 756894	Lot 1 DP 1146227
Lot 19 DP 1113002			

# Figure 4. Aerial Map of Subject Land



# 2.3 Local Environmental Plan

#### 2.3.1 Current LEP Controls

The site is currently zoned Investigation under the Mid-Western Regional Interim LEP 2008.

The objectives of Investigation zone are:

- To protect, and prevent the fragmentation and inappropriate development of, land that may have potential for future urban expansion
- To identify land adjoining the urban areas of Mudgee and Gulgong which may have the potential for future urban expansion
- To ensure that adequate site suitability and capability assessment is undertaken prior to redevelopment of this land for urban expansion
- To ensure that future land use planning in respect of this zone includes an assessment of the availability and viability of necessary infrastructure and servicing.

The purpose of the Investigation zone is to identity and protect land that is identified for future potential growth. In doing so, this zone establishes where future growth should occur.



Figure 5. Extract Mid-Western Regional LEP 2008 Zoning Map

#### 2.3.2 Draft LEP Controls

The site is proposed to be zoned RU1 Primary Production under the *Draft Mid-Western Regional LEP 2011*, as exhibited in 2011.

The proposed objectives of zone RU1 are:

- 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
- To maintain the visual amenity and landscape quality by preserving the area's open rural landscapes, environmental and cultural heritage values
- To promote the unique rural character of Mid-Western Regional Council and facilitate a variety of tourist land uses.

The draft zoning does not provide an appropriate planning framework for the urban release and future residential development of the site, as identified in the Mudgee Town Structure Plan. Council has confirmed that this is due to no direct "conversion" zoning; with no appropriate "conversion" zone the RU1 zone is considered more of a transition zone.



#### Figure 6. Extract Mid-Western Regional LEP 2008 Zoning Map

# 2.4 Development Control Plan

Development Control Plans (DCP) provide guidelines for development across the Mid-Western Regional Council area. The Council has a number of DCP's applying to land within the LGA, include LGA-wide DCPs and site-specific plans for that relate to a particular parcel of land or precinct (e.g. West-Mudgee DCP).

The key DCP of relevance to the Planning Proposal is the Residential Development DCP. The Residential Development DCP contains general guidelines for Urban Living, Rural Living and Subdivision.

Some of the key controls relating to residential development in the Mudgee LGA, beyond the general controls for residential development, are identified below. These issues will be addressed in the current and future planning for the Caerleon site, and will be included into any future site-specific DCP for the subject land to ensure environmental issues specific to Mudgee are addressed.

Key issues for residential development include:

- Building in saline environments measures to minimise the risk of salt damage to building materials.
- Rural and scenic character development above the 520mAHD contour is discouraged unless it can be demonstrated that exceptional circumstances apply. The purpose of this control is to maintain and enhance the rural and scenic character of the locality, and to minimise visual intrusion into the skyline that detracts from the natural scenic qualities of the locality.
- Development on steep slopes ensure stability of land for development, through appropriate technical assessments accompanying proposed development on slopes greater than 15%.

The issues identified above are only some of the issues identified within the Residential Development DCP.

### 2.5 Land Opportunities and Challenges

Based on the location, context and current and future land-use controls for the subject land, the following opportunities and challenges have been identified:

#### Table 2. Opportunities and Challenges

Opportunities	Challenges
Land identified as the next area for future urban release, subject to investigation and Master Planning	Portions of the site in the south and south-west contain significant slopes where development potential is limited / restricted
Land is located in close proximity (within 3km) of Mudgee CBD	Gwabegar rail corridor is a man-made barrier between the subject land and Mudgee township — rail crossings will be required to link the site to Saleyards Road
Land is adjacent to areas subject to recent growth and residential development, such as Glen Ayr	A drainage line traverses the south-west corner of the subject land
There are significant views and opportunities for scenic outlooks from the higher portions of land, located at the hilltops in the southern and south- western portions of the subject land	Land is located close to the Waste treatment Facility and Sewer Treatment Facility (under construction), which are located approximately 500+ metres to the west. A buffer zone will need to be provided between the site and these facilities
Northern part of the land are relatively flat and free of physical constraints	
Good links to the existing road network via Hill End Road and Fairy Dale Lane	
The Land is under one ownership and this can be redeveloped in a co-ordinated and cohesive way	

Land is located close to existing recreational and

active open space areas

The subject land is capable of being serviced

# 3 Planning Proposal

This section contains the Planning Proposal, which has been prepared in accordance with the DoP&I's *Guide to Preparing Planning Proposals* (July 2009).

The Planning Proposal contains four parts:

- Part 1 Objectives of the proposed LEP
- Part 2 Explanation of provisions
- Part 3 Justification
- Part 4 Community Consultation.

# Part 1 – Objectives of the Proposed LEP

This section sets out the objectives / intended outcomes of the planning proposal, which will be developed further as technical studies are undertaken. It describes the preliminary concept for the site (see Figure 7) which is the intended outcome of the Planning Proposal.

The objectives of the proposal are grounded within current planning policy and preliminary identification of the opportunities and constraints of the site.

### Part 1.1 Objectives for the Site

The primary objective of the Planning Proposal is to rezone the subject land, located at Caerleon from its current Investigation zone under *Mid-Western Regional Interim Local Environmental Plan 2008* to zone R1 Residential General under the forthcoming comprehensive LEP.

The overarching objective of the rezoning is to facilitate future development of the site as a new urban area of Mudgee Township in accordance with the Mudgee Town Structure Plan.

Specifically, the Planning Proposal intends:

- To rezone the land to allow for residential development, as illustrated in the Concept Plan, through the establishment of a residential land-use zone
- To allow for a variety of lot sizes, ranging from 450m<sup>2</sup> up to 2+ hectares across the land, in order to facilitate the creation of a sustainable and integrated community
- To establish a planning framework that sets a benchmark for high-quality residential development in the Mudgee area
- To facilitate orderly and co-ordinated supply of land to accommodate population growth in the LGA in accordance with the Mudgee Town Structure Plan.

# Part 1.2 Policy Setting

The proposed development of the Caerleon site is based on the planning direction set out in the *Mid-Western Regional Comprehensive Land Use Strategy (Part C – Strategy),* which is the broad framework for the long term growth in the area, guiding decision-making based on a tested strategy that focuses on sustainable future growth. The rezoning proposal commences the investigations process set out in this Strategy.

The site is identified for future urban development in this Strategy.

Part 3 of this Planning Proposal provides an outline of how the proposed Concept Plan and LEP amendment are consistent with the Council's strategic policy setting.

#### Part 1.3 The Vision

The vision for the site of Blaxland Property is to create a well-designed residential village founded on welldeveloped standards of sustainability and liveability.

The vision for the site is founded on principle of traditional neighbourhood design, which establishes a mixed use, pedestrian friendly community of a diverse population mix.

#### The Vision is to create:

- A new, high-quality residential village of approximately 1,000 1,400 lots
- A connected network of streets and pathways that will enable convenient, safe and efficient movement by cars, bicyclists and pedestrians
- A community of predominantly residential uses, which also contains a small activity centre that contains a mix of land-uses (including some small-scale retail, such as a café and neighbourhood shop, and community facilities) that ensures the **daily needs of residents are met**
- A variety of lot sizes that supports the provision of diverse housing product, providing for the full range of housing needs to create a **balanced and diverse community**
- **Quality open space** distributed and designed for social activity, entertainment and recreation.

# Part 1.4 Design Approach and Principles

Development of the Concept Plan has involved detailed analysis of the site, and has been undertaken with a design approach that focuses on creating a unique and benchmark development in the region.

#### Part 1.4.1 Design Approach

To ensure a quality urban design outcome is achieved, analysis of the site's context and setting has been undertaken. This has included detailed investigation into the site conditions and physical attributes in order to understand the significant elements of the site.

These investigations also informed and verified the design opportunities that will ultimately contribute to establishing a unique character and sense of place for future residents.

A site visit and comprehensive analysis of aerial photography, topographic mapping and planning documentation has informed the preparation of the Concept Plan. The Concept Plan provides a focus for other investigative studies, post-gateway, to support the development of the site for residential and associated uses. The Concept Plan also forms a basis for more detailed design on the residential layout and development of the site, which will be illustrated through a detailed Master Plan in later stages of the rezoning process and ultimately in a site-specific DCP.

The initial appreciation phase of the site considered the following:

- Existing community and interface considerations
- Character and place
- Landform
- Natural assets
- Landscape values
- Views and vistas
- Transport connections
- Existing major infrastructure.

#### Part 1.4.2 Urban Design Principles

A quality urban design outcome is planned for the future community in Caerleon. This will incorporate a mixture of residential opportunities from standard residential lots, typical within the Mudgee township, on flatter parts of the site, to larger lifestyle allotments on the steeper parts of the site. In this regard the development will respond to the topography and quality landscape values of the land.

The underlying design principles for the Concept Plan include:

#### Layout and Structure

- Deliver an outstanding, efficient and sustainable urban development
- Create a community with a defined character
- Create precincts based on site characteristics and physical conditions
- Design a layout that responds and relates to the topography
- Promote flexibility and robustness in the layout to allow development to be delivered progressively.

#### Community

- Produce a highly sustainable, accessible and walkable neighbourhood that is safe and healthy
- Establish a small activity node to facilitate community interaction and strengthen the sense of place
- Provide a mix of uses and activities within the activity centre to serve the local community
- Encourage a variety of residential living and housing options.

#### Environment

- Promote retention of important environmental elements, including scenic areas along the hilltop and ridgelines surrounding Mudgee
- Encourage appropriate interfaces with environmental areas
- Promote multi-use of environmental areas for recreation and conservation purposes
- Introduce water quality basins for high visual amenity and to create a pleasant micro-climate
- Investigation of the introduction of water wise design for stormwater drainage.

#### Transport

- Design a highly legible and permeable road hierarchy
- Define logical connections to existing transport infrastructure
- Promote connectivity and integration for non-vehicular transport options
- Provide interconnected walking and cycling routes along roads and within public open space areas
- Investigate the existing railway corridor for pedestrian and cycling use opportunities.

#### Landscape and Open Space

- Provide high quality landscaped public domain areas
- Respect the district landscape values of the elevated area of the site and provide outlook opportunities
- Enhance natural features of the area, including the hilltops and ridgelines that have important scenic value for Mudgee
- Opportunities for access to new neighbourhood open space areas
- Emphasise entry points with gateway statements.

# Part 1.5 The Concept Plan

The vision translates to the Concept Plan, illustrated in Figure 7. The Concept Plan outlines the broad structure for developing the land for residential purposes.

#### Road network

The Concept Plan establishes a future road network for the subject land that provides convenient, efficient and safe transport movement. Access to the existing road network is provided to the north and south, connecting to Hill End Road and Fairy Dale Lane. Potential connections across adjacent land, in precinct 2, to the east are also illustrated in the Concept Plan, in order to demonstrate potential future road linkages to Saleyards Lane and Castlereagh Highway. However, the proposed rezoning is not reliant upon these additional road connections.

An indicative alignment of internal collector roads demonstrates traffic movement within the proposed development. The collector roads provide a central loop for access to all areas of the site. Combined, the internal road network and access points to the existing road network surrounding the site, provide good connectivity between the site and Mudgee CBD.

#### Activity centre

A small activity centre is identified in the northern portion of the subject land. Located on the main collector road, the activity centre provides a focus for the future new community. It has the potential to provide localised services such as a café, child care centre and/or a neighbourhood shop (convenience store) adjacent to quality public open space. The centre will be a meeting place for local residents.

#### Open space

Open space areas, in the form of local parks, will provide a mix of passive and active recreational opportunities for future residents. The open space areas are dispersed across the site so that the majority of residents are within 400m or walking distance to an area of open space. The parks may include playground equipment for children and/or lookout opportunities on the elevated portions of land, taking advantage of the views to Mudgee township.

There is a possibility to establish a "green link" between the activity centre and the edge of the eastern boundary, for future connections to the adjacent parcel of land. Where possible, the open space areas are linked together with the drainage line, and can be detailed in further Master Planning.

#### Housing range and diversity

The Concept Plan provides three residential areas, known as "Standard Residential", "Large Residential" and "Large Residential – Scenic". Each residential area offers a different style of residential development, based on the topography and natural features of the land.

"Standard residential" is to be provided across the northern portion of the site, which is flatter/ gently undulating and thus better suited to more development. The type of development in this area will include residential lots ranging in size from 450m<sup>2</sup> to 800m<sup>2</sup>, as well as the activity centre and open space areas. This area provides an opportunity for some smaller lot housing, down to 450m<sup>2</sup> in locations where there is a higher level of amenity, such as the activity centre and along the main collector routes. Small lot housing in close proximity to the activity centre will help to create a more vibrant urban atmosphere in and around the activity centre. It will also bring more residents closer to the activity centre, thus enabling residents to walk to the local shop to meet their daily needs, and gather for social activities, without the reliance on car travel.

A range of lot sizes, from 450m<sup>2</sup> to 800m<sup>2</sup>, will not only promote greater housing choice and diversity, it will encourage better quality housing development. A variety of lot sizes will support diverse housing types, such as terraces, cottages, granny flats and detached dwellings. It will deliver new housing options that are more affordable, provide a better urban design outcome and will achieve high levels of amenity for residents and neighbours, in terms of solar access, privacy and visual qualities, when planned and delivered in a co-ordinated way. The overall benefit will be in the creation of a high-quality and well-designed neighbourhood.

"Larger residential" allotments are identified for the more elevated and sloping portions of the site. The layout of lots in these areas will respond to the topography and natural features of the site. Allotments are thus likely to have a range of sizes, with lot ranging from 800m<sup>2</sup> to 2Ha.

Larger allotments that contain areas of scenic landscape value should be significantly larger with lot sizes ranging from 1,500m<sup>2</sup> to over 2Ha.

#### Buffer

The Concept Plan provides an indicative odour buffer in the west of the site. Further investigation of the odour impacts may result in the opportunity for more standard residential allotments in the more gently sloping land. The existing railway line traversing the north-eastern portion of the site currently does not provide any rail services. A buffer to the railway is provided which will require further investigation to determine its ultimate width. It is envisaged that the railway buffer can be used for a range of potential uses such as local roads, open space, drainage and pedestrian and cycling pathways.

#### Future links

In developing the Concept Plan, it is acknowledged the adjacent land east of the railway line is also identified for urban release. A separate, overarching Concept Plan for the combined areas to the east and west of the railway line had been prepared (see Figure 8). It demonstrates that the adjacent land can be developed, and provides access linkages across the adjacent land, to ensure future development of the broader precinct can be integrated and cohesive.



Figure 7. Indicative Concept Plan for the subject land

Source: DPS



Figure 8. Indicative Concept Plan for the combined areas to the east and west of the railway line

Source: DPS

# Part 2 – Explanation of Provisions

This section provides an explicit statement of how the objectives outlined in 'Part 1: Objectives of the Proposed LEP' are to be achieved.

It is intended that the objectives and intended outcomes described in Part 1 will be achieved in the form of controls on development in an amending LEP. Depending on the timing of the forthcoming comprehensive LEP, the amending LEP will either amend the current *Mid-Western Regional Interim LEP 2008* or the comprehensive LEP (if gazetted).

The amending LEP will amend the maps and/or written controls relating to the zoning and minimum lot size of the subject land.

# Part 2.1 Zoning

The objective of the Planning Proposal is to provide for a variety of housing types that will meet the needs of a range of incomes, cater for the needs of new and existing residents and take advantage of this identified future urban development site.

As such, it is proposed that the following zones apply to the land:

- Predominantly Medium Density Residential zone, and some areas of Rural Residential zone on steeper parts of the land (if incorporated into the current LEP)
- Predominantly **R1 General Residential** zone, and some areas of **R5 Large Lot Residential** zone on steeper parts of the land (if incorporated into the forthcoming comprehensive LEP).

#### Part 2.1.1 Mid-Western Regional Interim LEP 2008 (current LEP)

Two zones are proposed to apply to the subject land if the rezoning is incorporated in to the current LEP. They are:

- Medium Density Residential zone this zone would apply to the majority of the land identified for standard and smaller residential development, and would facilitate a variety of residential housing types
- Rural Residential zone this zone would apply to the steeper portions of land, which are identified for larger lot housing in the concept plan.

Each zone has a different corresponding minimum lot size (see Section 2.2).

Through the zone objectives for each zone, this zoning arrangement will ensure that development across the site responds to the characteristics of the land and contributes to the delivery of the vision for the subject land.

The objectives of each zone are outlined in Table 3 below.

#### Table 3. Current LEP zone objectives

Zone	Zone Objective
	To provide a variety of housing types.
	<ul> <li>To enable other land uses that provide facilities or services to meet the day to day needs of residents.</li> </ul>
	<ul> <li>To identify land that can accommodate the future population growth of Mudgee and Gulgong in a manner that both optimises infrastructure planning and delivery and satisfactorily responds to environmental attributes.</li> </ul>
	• To protect and improve the amenity of residential neighbourhoods, particularly in terms of limiting the effects of noise, odour, overshadowing, overlooking and vehicular traffic.
	<ul> <li>To permit development in residential neighbourhoods that is of a domestic scale and that preserves the character and visual amenity of those neighbourhoods.</li> </ul>
Medium Density Residential	<ul> <li>To allow a limited range of non-residential land uses that are low scale and that are compatible with, and would not adversely affect the existing amenity of, urban residential neighbourhoods.</li> </ul>
	• To facilitate the provision of a variety of housing types, forms and styles.
	<ul> <li>To encourage the relocation of industrial and other incompatible uses out of residential areas.</li> </ul>
	<ul> <li>To promote development (including subdivision) that minimises the impacts of salinity on infrastructure, buildings and the landscape.</li> </ul>
	• To promote the development of urban residential subdivisions that incorporate the principles of water-sensitive urban design, that maximise opportunities for energy efficiency, that create permeable access networks, and that provide for (where appropriate) sufficient areas of usable open space.
	• To provide rural residential housing, while preserving environmentally sensitive locations and the scenic quality of the area.
	<ul> <li>To ensure that allotments created in rural residential estates do not hinder the proper and orderly development of urban areas in the future.</li> </ul>
Rural Residential	<ul> <li>To ensure that development in the area does not unreasonably increase the demand for public services or public facilities.</li> </ul>
	<ul> <li>To permit the development of rural residential allotments adjoining the existing Mudgee and Gulgong urban areas which can be efficiently serviced with reticulated water and sewerage, electricity, telephone and tar sealed roads.</li> </ul>
	<ul> <li>To encourage low density rural residential activities which maintain the residential amenity and semi-rural character of land within the zone.</li> </ul>

All other clauses within the Mid-Western Interim LEP 2008 will continue to apply.

#### Part 2.1.2 Draft Mid-Western Regional LEP 2011 (forthcoming comprehensive LEP)

Two zones are proposed to apply to the subject land if the rezoning is incorporated in to the comprehensive LEP (as exhibited). They are:

R1 General Residential zone – this zone would apply to all land identified for residential purposes and
facilitates a variety of residential housing types. The R1 zone is the most appropriate zone for the majority
of the land as it provides general controls that align with the objectives and vision for the subject land; that
is, to provide for a variety of housing types within a range of densities, as well as related land-uses, to
meet the day to day needs of residents. This zoning provides certainty to council and the community on
the types of uses proposed in the Concept Plan.

 R5 Large Lot Residential – this zone would apply to land on steeper parts of the site, including areas above the 520m AHD level, in order to protect the rural and scenic character of the locality, minimise visual intrusion into the skyline, and allow larger lots to be located in appropriate areas. The R5 zone is the most appropriate zone as it allows the development of larger lots whilst ensuring areas with special aesthetic values, which are most sensitive, to be protected. Locating the R5 zone in the steeper portions of land will allow dwellings and other associated out buildings to be developed below the 520m contour, whilst enabling the creation of a lot that extents above the 520m contour. Lot size provisions, as well as sitespecific DCP controls, will restrict the siting of structure above the contour line, thus protecting the important scenic qualities of the landscape.

The objectives of each zone are outlined in Table 4 below.

#### Table 4. Draft LEP zone objectives

Zone	Zone Objective
R1	To provide for the housing needs of the community.
	<ul> <li>To provide for a variety of housing types and densities.</li> </ul>
	<ul> <li>To enable other land uses that provide facilities or services to meet the day to day needs of residents.</li> </ul>
R5	• To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally sensitive locations and scenic quality.
	• To ensure that large residential lots do not hinder the proper and orderly development of urban areas in the future.
	<ul> <li>To ensure that development in the area does not unreasonably increase the demand for public services or public facilities.</li> </ul>
	• To minimise conflict between land uses within this zone and land uses within adjoining zones.

# Part 2.2 Minimum lot size

An objective of the Planning Proposal is to provide for a variety of housing types that will meet the needs of people in a range of incomes and cater for the range of housing needs of new and existing residents.

To create a diverse and vibrant community, the vision proposes a range of lots sizes, which will facilitate the development of a range of housing types. It is proposed that the following lot sizes apply to the land:

- Lot size of **450m<sup>2</sup>** to **800m<sup>2</sup>** in the 'Standard Residential' area as shown in the Concept Plan
- Lot size of **800m<sup>2</sup>** to **2 hectares** in the 'Larger Residential Allotment' area as shown in the Concept Plan
- Lot size of 1,500m<sup>2</sup> to 2+ hectares in the 'Larger Residential Allotment Scenic' area as shown in the Concept Plan.

Greater variety in the type of housing will assist in achieving many of the objectives of the rezoning, including more affordable housing options close to Mudgee town centre.

Generally in other areas of the LGA, a minimum lot size of 600m<sup>2</sup> is applied to land zoned R1. The proposed LEP amendment would require a minimum lot size less than 600m<sup>2</sup> for some parts of the site, which can be specifically identified following more detailed master planning post-gateway.

The outcome of a general minimum lot size of 600m<sup>2</sup> has been that land supply is generally standard, with no variety. Many subdivisions and residential development has included "battle-axe" style development to overcome the minimum lot size of 600m<sup>2</sup>. This has led to an increase in poorly designed smaller lots, with no diversity in the streetscape and poor outcomes for residents in terms of solar access, overshadowing and privacy. This has also led to poorly planned neighbourhoods and undesirable streetscapes.

Lot sizes of less than 600m<sup>2</sup> are justified in order to support housing types that include terraces, cottages and smaller-style detached houses. These types of dwellings would be located in high-amenity areas, such as in and around the activity centre, in order to create a more 'urban' environment for the community. This enables housing development in a sustainable approach based on principles of traditional neighbourhood design, and will assist Council in realising its guiding principle to enhance the liveability and vibrancy of residential areas on the Mudgee region. Further justification for the proposed lot sizes is provided in Part 3 of this report.

Overall, the proposal to allow smaller lots will achieve the following:

- Greater housing choice to encourage a mixed community, including people on lower incomes, different family types (including single-parent families) and seniors
- Support diverse housing types such as terraces, cottages and smaller-style detached dwellings, which in turn creates diversity and visual interest in the streetscape and neighbourhood
- Encourage delivery of affordable housing product
- Maintain high standards of residential amenity and character, such as good levels of solar access and views/outlook, and liveable backyard areas when compared to battle-axe development. The amenity can be "controlled" via specific design requirements in a DCP.

By providing a full range of housing types, age and incomes are integrated to create a balanced and diverse community.

The proposed minimum lot size controls in the LEP will be supported by detailed lot size objectives and controls within a site-specific DCP to be prepared for the subject land. The site-specific DCP would provide additional detail, such as lot size ranges, ensuring an appropriate type of housing is created in each residential area, thus ensuring the vision as shown in the Concept Plan / Master Plan is achieved. For example, a lot size range of 450 – 800m<sup>2</sup> would apply to key areas within the 'Standard Residential' area in order to create a more active urban area in and around the activity centre and along collector roads.

The DCP would also guide the provision of smaller allotments based on key design principles, to ensure good amenity and urban design outcomes:

- Smaller lots would be located in areas that offer a higher level of amenity
- Lots would be situated on land that has a slope up to 5%
- Lots would generally overlook or be in close proximity to open spaces, activity centres or areas containing quality landscapes
- Lots would be orientated to enable good solar access for residential buildings
- Residential streetscapes should not be dominated by garages
- Smaller lots would be able to incorporate a mix of lot sizes and frontages
- A minimum lot frontage (e.g. 15 metres).

As a general rule, it would be desirable to replace the current lot-size provisions that have led to "battle axe" style development, with controls in the general residential DCP that restrict dual occupancy development to special cases (e.g. corner lots only). Blaxland Property are committed to good design outcomes and as such, the site-specific DCP for the site will include controls to discourage "battle axe" development.

Depending on the timing of the LEP amendment, whether the amendments are incorporated in the current or forthcoming LEP, an alternative approach will be needed to achieve the proposed minimum lot sizes. The approach is outlined below:

#### Part 2.2.1 Current LEP

Clause 19 'Minimum subdivision lot size' of the LEP sets the minimum lot size for land according to each zone. The current minimum lot sizes are:

Zone	Minimum allotment size
Medium Density Residential Zone	600m <sup>2</sup>
Rural Residential Zone	2ha
Conservation	NA

In order to facilitate smaller lot sizes, it is proposed to amend Schedule 1 of the current LEP by identifying an additional permitted lot size (minimum 450m<sup>2</sup>) in the Medium Density Residential Zone for the subject land.

Flexibility for this particular site will ensure the smaller lot size is not applicable across the whole LGA, which provides Council the ability to control where smaller lot housing is developed. It provides certainty to Council that smaller lot sizes will only be created where detailed site investigations and urban design analysis has been undertaken, such as the subject land.

The site-specific DCP developed for the site will control the design of smaller lot housing; ensuring development is well-designed and provides high levels of amenity for residents and neighbours.

#### Part 2.2.2 Forthcoming Comprehensive LEP

It is proposed to amend the Minimum Lot Size Map by:

- Creating a minimum lot size of 450m<sup>2</sup>
- Applying the 450m<sup>2</sup> minimum lot size to that land identified for smaller lots
- Applying alternative minimum lot sizes for other parts of the land, as identified in the Concept Plan.

It is envisaged that the range of minimum lot sizes identified above will be applied to the Minimum Lot Size Map in the three different residential area locations within the site, once the areas are further refined and determined post-gateway.

# Part 2.3 Concept Plan and Development Control Plan

A Master Plan will be prepared during the rezoning process which will investigate the environmental constraints of the site in greater detail and define the street network, building envelopes and open space provision. It will form the basis of a site-specific DCP which can be a stand-alone DCP or can form a chapter in a comprehensive DCP.

It is proposed to include a provision in the LEP requiring a site-specific DCP and Master Plan prior to redevelopment of key sites in the LGA. This provision will be a general provision for all land in the LGA, but allows the Council to identify "key sites" that warrant a Master Plan. This accords with the Mid-Western Regional Draft Comprehensive Land Use Strategy, which states that a Master Plan shall be prepared for this future urban release area.

# Part 3 – Justification

This section sets out the justification for the Planning Proposal to change the zoning and provide direction to development controls on the subject land.

In accordance with Part 3 of the Department of Planning and Infrastructure guidelines:

- A response is provided to each of the specific questions listed
- The level of justification provided is proportionate to the impact the planning proposal will have
- Where a question is not considered relevant to the planning proposal, this is stated and the reason why the question is not relevant is briefly explained
- In those cases where it is considered necessary to undertake technical studies or investigations to justify
  different aspects of the planning proposal, the issues giving rise to the need for these studies or
  investigations are identified in the planning proposal
- In general, these studies or investigations have not been carried out, but instead await the initial gateway
  determination to confirm the studies or investigations required and the process for continuing the
  assessment of the proposal, including whether it will need to be resubmitted following completion of the
  studies or investigations
- Where technical studies or investigations have been carried out, their findings and consequences are described in the planning proposal under the relevant heading in the justification and the complete study or investigation is submitted separately as appendices.

# Section A – Need for the Planning Proposal

#### Q1: Is the planning proposal a result of any strategic study or report?

The planning proposal is strongly aligned with Council's strategic priorities, as described in the following sections:

#### Mid-Western Regional Draft Comprehensive Land Use Strategy

The Mid-Western Regional Council has prepared the *Mid-Western Regional Draft Comprehensive Land Use Strategy*. The Strategy provides clear direction for future growth and land-use change in the area for the next 15 to 20 years.

The Strategy provides a context for future landuse and has informed the new comprehensive LEP for Mid-Western Regional Council that will consolidate the existing statutory planning framework and provide direction for targeted growth in specific areas.

One of the guiding principles for the Strategy in relation to urban land is to locate future residential / urban development in the most suitable areas within and adjacent to the main urban settlements. Mudgee is identified as one of the main urban settlements in the region – a District Centre – that provides a range of business, employment, retail, entertainment and recreational services. This "settlement hierarchy" aims to ensure a sustainable pattern of growth in the region and in doing so, sets a limit to Mudgee's future growth. The limit for future growth around Mudgee includes land for future residential development to the north-west of the existing township of Mudgee, adjacent to the railway line. Future urban land release areas are identified in the north-west and south of Mudgee.

The subject site is located within the north-west future urban release / residential growth area (refer to Mudgee Town Structure Plan in Figure 9 below).

The key guiding principles relating to future residential growth in the Strategy, and how these principles are achieved through the proposed rezoning, are summarised below.





#### Urban Land

Orderly and co-ordinated residential growth in line with the Mudgee Town Structure Plan will ensure
accurate supply of land to meet demand for residential housing, as well as the ability to provide urban
services to the land.

The proposed rezoning of the Caerleon site creates new land supply for future residential development to occur.

The new supply of residential land is located on land identified for 'future residential (subject to master plan)' in the Mudgee Town Structure Plan, thus fulfilling the Strategy (refer to Figure 10).

The concept plan enclosed within this Planning Proposal sets out the broad framework for a more detailed Master Plan to be developed for the site in later stages of the rezoning process. The Master Plan would be incorporated into a site-specific DCP that outlines future development of the land in such a way that will meet demand for residential housing, including controls for servicing of the land and staging of future development.

The concept plan considers the capacity of the land, taking into account the constraints on the land and surrounding properties. It considers the waste treatment and sewerage treatment facility, ensuring the residential area is separated by an appropriate buffer from these facilities. In this regard, planning for the future residential land it integrated and co-ordinated.

Part of the land the subject of this Planning Proposal is located outside of the 'future residential (subject to master plan)' area. This land is located immediately to the west of the future residential area. Whilst the land is located outside of the designated growth area, an adequate buffer area is maintained between the proposed residential land and the waste treatment facility. The extension of the residential zone outside of the 'future residential' area is necessary in order to supply the amount of growth anticipated in the medium to long term.

• Potential future residential lot supply in Mudgee identifies the need for 462 future lots in the area east of the railway line (known as precinct 1) and 1,198 future lots in the area west of the railway line (known as precinct 2).

The proposed rezoning of the Caerleon site, which includes the majority of land known as Precinct 2, will deliver a yield of between 1,000 - 1,400 lots, thus achieving the target of 1,198 future lots as set out in the Strategy. The extension of the 'future residential' area beyond the area identified in the Strategy is necessary in order to achieve this target.



Figure 10. Extract from Mudgee Town Structure Plan

• In addition to traditional residential land, there is also a large lot residential component to future residential land supply. A range of densities should be achieved on land identified for future residential land supply.

The proposed LEP amendment and future site-specific DCP intend to provide a range of lot sizes within the future development. This range includes not only smaller lots (to a minimum of 450m<sup>2</sup>), but larger lots greater than 2 hectares.

A range of densities across the subject land will be achieved through the application of a range of minimum lot sizes. Smaller lots of 450  $m^2$  and above will deliver a broader range of densities and ultimately assist in reaching the target yield for the land. Lot sizes below  $600m^2$  (to a minimum of  $450m^2$ ) are appropriate because:

- Smaller lots in and around the activity centre will create an active and vibrant 'heart' to the new community
- A range of lot sizes, including smaller and larger lots, will create diversity in housing product, enabling the development of different types of housing to cater to different income levels, age groups and family types
- The combination of smaller and larger lots will ultimately assist to achieve the density target of between 1,000 to 1,400 lots, which will thereby achieve Council's target of 1,200 lots
- The Concept Plan and site-specific DCP will establish detailed residential design controls for smaller lots, which will ensure a high-quality standard of residential development, and will guide the location of the smaller lots within the site, which are only envisaged to be a small proportion of the overall residential development
- Smaller lot housing will providing certainty that a variety of lot sizes will be delivered up front, without the need to rely on only one type of alternative housing option (i.e. dual-occupancy)
- Smaller lots will enable the delivery of housing types, other than battle-axe / dual occupancy style development, with designs that higher-quality and provide improved amenity for the residents and neighbours; examples could include terrace housing, cottages and more compact, urban style detached housing
- New, well-planned and well-designed smaller housing will set a benchmark for future development in Mudgee
- Smaller lot housing will enable delivery of more affordable housing and more diversity in the housing product for people on low to moderate income levels.

Councils Mid-Western Regional Draft Comprehensive Land Use Strategy identifies the need for lot sizes of 600 – 400m<sup>2</sup> in more urban areas, to allow for development of townhouses, etc. The planning proposal is therefore consistent with this Strategic Policy direction.

Larger lots are appropriate for the southern areas of the subject land where the topography of the land is steeper. The provision of larger lots in the southern part of the site, as shown in the Concept Plan, will ensure the development responds to the characteristics of the land and takes advantage of views and outlooks from higher portions of the site. Furthermore, locating large lots on higher portions of land will assist to protect the important ridgelines around Mudgee by limiting development close to the 520 metre contour line.

#### **Staging of Urban Land Supply**

• The area to the west of the railway line (precinct 2) within the north-west urban release area is considered a long term supply option, while the land to the east (precinct 1) is a short to medium term supply option.

The proposed LEP amendment intends to rezone the north-west urban release area through concurrent Planning Proposal by Council. This will provide a co-ordinated approach to planning for future residential land, whilst enabling land supply to be moved forward. It is considered appropriate to rezone the subject land on the west of the railway line in the short to medium term because:

- The subject land is in one ownership, compared to land to the east of the railway line which is in fragmented ownership; the subject land can therefore be developed with more certainty and more efficiently in comparison to adjacent land parcels
- There is capacity to undertake necessary studies now to ascertain the development potential of the subject land, and thus create more certainty about the future supply of residential land
- There is capacity to service the subject land
- Subject to the rezoning application, lot production on land west of the railway line can commence in 2013 and continue to roll-out in line with market demand
- There is an urgent need to identify land and commence residential development to meet current and short-term demand; as the subject land can be developed more quickly, it is appropriate to commence the rezoning process now
- Land supply is not keeping up with current demand and future demand caused by population and economic growth, thus increasing land supply now is important. A survey of available standard residential lots was conducted with local real estate agents through both the web site and telephone survey on the 20<sup>th</sup> April 2012 indicating that currently there were 50 residential lots available in Mudgee. This number is a generous estimation as not all lots are exclusively listed by one agent.

The Strategy requires the north-west urban release area to be subject to a Master Plan. As such, it is necessary to commence the rezoning process in order to enable the detailed components of the Master Planning process to begin. The Master Planning process will identify future access and servicing arrangements for the land east and west of the railway line, which should be planned for in a co-ordinated way for the entire urban release area. For this reason, an indicative Concept Plan for the broader area has been developed to guide the Master Planning process for land east and west of the railway line.

Planning for future housing development up-front is a proactive approach by Council and the DoP&I for residential land supply. This proactive approach will ensure the appropriate delivery of new housing, assisting to stabilise housing prices and enables the market to deliver housing when required. It also prevents a potential backlog in future housing delivery. Furthermore, the staging of the development will be detailed in the site-specific DCP, so as to ensure future residential development is delivered and timed appropriately.

#### **Natural Hazards**

• Avoidance of lands affected by natural hazards such as salinity, flooding and potential bushfire risk. Salinity is identified as a major issue in the LGA. Areas of hazardous salinity should be considered as constrained lands and avoided as areas of future potential development. Salinity should be addressed at the Master Planning stage in order to appropriately manage this risk.

The proposed future development of the Caerleon site takes into account potential natural hazards, in particular salinity and bushfire risk. Details of a Preliminary Salinity Assessment, prepared by Minespex, are provided in Part 3: Section B; Q7 below.

#### **Environmentally Sensitive Areas**

• Avoidance of environmentally sensitive areas so to minimise risk and enable development to occur.

The proposed future development of the Caerleon site takes into account environmentally sensitive lands, such as land affected by drainage. As shown in the concept plan, a drainage line is identified across the subject land. It is proposed that, subject to more detailed investigation post-gateway, the extent of the drainage line is identified so that the ultimate location of the residential zone is outside of the potential drainage area. This will ensure future residential development is protected from potential overflow issue and minimises risk for council and future land developers.

#### **Ridgelines and Rural Views**

• Ridgelines are visually important elements of the rural landscape and valued by the community. Development should be restricted around the 520 metre contour to the south west of Mudgee to reduce visual protrusion of development into the hills. A no-build buffer of 40m either side of a ridgeline should be implemented.

The proposed future residential areas within the Caerleon site, as shown in the concept plan, are below the 520m contour line. Furthermore, residential lands adjacent to the hilltop areas are proposed to be larger scenic lots that "fit in" to the natural landscape. These larger lots will be located so to provide an appropriate buffer from the 520m contour / ridgeline so as to further reduce visual protrusion of development into the hilltops. The concept plan has been design with a focus on protecting these important natural landscape elements. The site specific DCP will include controls that restrict construction of dwelling and outbuilding to below the 520 contour.

#### Transport

 A functional hierarchy of road types throughout the region to ensure safe and efficient vehicular movement, including opportunities for shared pedestrian and cycle links between new and existing development areas in Mudgee.

The Concept Plan illustrates a broad framework for a functional and efficient road hierarchy for the Caerleon site. The proposed road network creates five access points to the site that connect to the existing road network in and around Mudgee township, two convenient railway crossings, and establishes the structure for an internal road system (to be refined subject to more detailed investigation post-gateway). Five access points into the subject land are proposed, including:

- Direct access from Hill End Road
- Direct access from Fairy Dale Lane
- Access from Saleyards Lane
- 2 potential access points off Castlereagh Highway.

The proposed access points provide opportunities for pedestrian and cycle links into the Mudgee CBD via Fairy Dale Lane and along the footpath network that runs parallel to the rail corridor.

#### Servicing

• Utilise existing water and sewerage facilities, where possible, and monitor the need for new supply mains and service reservoirs to provide servicing to new developments.

The new Sewage Treatment Plant, which is currently under construction adjacent to the site, will be utilised for the Caerleon site. All other essential infrastructure services will be available to the development, which supports its suitability for urban development. Further investigations into public infrastructure requirements may occur post-gateway.

#### Waste Management

• Provide a buffer area between the waste management facility and urban development.

A minimum buffer of 500 metres is proposed between the waste management facility and the proposed residential lands. This buffer will ensure potential impacts such as odour are managed. It is noted that the waste management facility is located on the western side of a hilltop, which provides an additional physical barrier between the subject land and the facility.

#### Draft Mid-Western Region Community Plan – Towards 2030

The 'Towards 2030 Community Plan' sets out where the Mid-Western community want to be in the year 2030. It is a future vision developed collaboratively between the community and Council and represents the aspirations of the people who live and work within the Mid-Western Region and strategies for achieving these goals.

The most relevant strategies of the Mid-Western Region Community Plan, and how the Planning Proposal achieves the strategies, are identified in Table 5 below.

Table 5. Assessment of the planning proposal against the Community Plan

Theme/Goal	Strategy	Response
Vibrant towns and villages	Make available diverse, sustainable, adaptable and affordable housing options through effective land use planning	The Concept Plan provides for a diversity of lot sizes in order to explicitly achieve the aim of providing more diverse, sustainable and affordable housing options. Three types of residential areas are proposed within the Concept Plan, which accord with different allotment sizes. This variety of lot sizes will enable the delivery of housing such as terraces and single dwellings through to larger scenic lots. The provision of smaller lots in and around the activity centre will bring more residents closer to the activity centre. In turn, this contributes to the creation of a sustainable neighbourhood in terms of encouraging residents to walk and cycle to meet their daily needs. It also creates a safer and more socially sustainable neighbourhood by creating more activity and vibrancy, and a sense of place and community for future residents.
Meet the diverse needs of the community and create a sense of belonging	Provide equitable access to a range of places and spaces for all in the community	A range of community uses can be provided in the activity centres. Depending on the level of demand, these could include child care and/or a community hall. In turn, the creation of places for gathering and social interaction will help to develop a sense of belonging and place in the new community.
Protect and enhance our natural environment	Minimise the impact of mining and other development on the environment both natural and built environment	The Concept Plan / proposed rezoning will protect the scenic quality to the hilltops around the township by zoning the land above 520m as conservation.

#### Mid-Western Regional Economic Development Strategy

The Mid-Western Regional Economic Development Strategy outlines a shared vision and future economic direction for the region in the next 10 years. The strategy provides a broad framework for the various lead agencies and stakeholders involved in economic development, to identify their roles and meaningfully engage in economic development initiatives for the region.

It is Council's vision that the region "is a progressive and prosperous community we proudly call home".

The key principles that influence economic development in the region in the future are:

- 1. Employment the number of jobs and the level of participation in employment
- 2. Education the quality and availability of education and supporting infrastructure and services
- 3. Workforce Skills access to a skilled and flexible workforce with the competencies and capabilities to satisfy industry and business needs
- Business Development the attraction and retention of a diverse range of businesses who actively
  participate in business development initiatives and embrace creativity, innovation and
  entrepreneurship
- 5. **Investment** a business and economic environment which attracts investment and targets new investment opportunities
- 6. **Infrastructure** infrastructure that accommodates economic growth and meets the commercial, industrial and retail needs of the region
- 7. Tourism diverse tourism offerings to attract visitors
- 8. Marketing promoting the region as a great place to live, work and conduct business.

Whilst the proposed rezoning is focused on creating a new residential community, it is recognised that places of local employment are important in planning for future growth in the region. The Concept Plan and proposed rezoning creates the opportunity for a new local neighbourhood activity centre in Caerleon. The activity centre will be a meeting place for residents of the new community to gather and interact, and would contribute to creating a true "sense of place" for the new residents. The centre would contain employment-generating uses

such as child-care, a café/restaurant and a neighbourhood shop, which would contribute to some local employment.

There is also opportunity for the new residential areas to provide 'work from home' and 'home-based businesses'.

Broadly, the new community is being planned as a benchmark for high-quality neighbourhood design. Provision of a high-quality residential neighbourhood that offers a range of housing types will help the region retain and attract new residents, including retain younger people in more affordable types of housing as well as people seeking a "tree change". In this regard, the proposed Concept Plan establishes a high design quality that could be marketed to the broader region, thus boosting the wider Mudgee area as an attractive place to live and work.

#### **State and Regional Policies**

Whilst there is no specific State or Regional Environmental Plan that addresses future development in Mudgee or that has relevance to the LGA, there are a number of significant challenges common to strategic planning in inland and regional areas of NSW. These are to:

- Support sustainable agriculture
- Conserve valuable environmental assets
- Foster new settlement and development in strategically suitable locations
- Encourage jobs and services
- Minimise land use conflict.

At a general policy level, the proposed rezoning is strongly focused on supporting and strengthening the existing urban township of Mudgee. The subject land is located on the fringe of the existing Township and benefits from direct and efficient access to the Mudgee town centre by car, bicycle or pedestrian movement.
# Q2: Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

The Planning Proposal is the best means of achieving the objectives for the site. The site is zoned Investigation under the *Mid-Western Interim Regional LEP 2008*, which does not permit the site to be developed for residential purposes. One of the aims of the current zone is to identify and protect land that has potential for future urban expansion. By rezoning the site to allow for residential development, in conjunction with a Master Plan / site-specific DCP, the Planning Proposal fulfils the intent of the site's current zone as well as Council's strategic planning framework.

DoP&I Circular No PS06/005 "*Local Environmental Plan Review Panel*" (6 February 2006) sets out a pro-forma evaluation criteria sheet to be used to determine whether to commence a rezoning process. Table 6 addresses the evaluation criteria.

### Table 6. LEP Pro-forma Evaluation Criteria

DoP&I Criteria	Response
Will the LEP be compatible with agreed State and regional strategic direction for development in the area (e.g. land release, strategic corridors, development within 800m of a transit node)?	Yes The Planning Proposal is consistent with the local strategic policy direction, as the site is identified for future urban release and residential development. Refer to Part 3: Section A.
Will the LEP implement studies and strategic work consistent with State and regional policies and Ministerial (s.117) directions?	Yes Refer to Table 2 below.
Is the LEP located in a global/regional city, strategic centre or corridor nominated within the Metropolitan Strategy or other regional/subregional strategy?	Yes As outlined in Part 3 – Q1 above, the site is located with an area identified as "future residential (subject to master plan)". The site has potential to support the existing Mudgee township by providing an additional supply of residential land in close proximity to, and with convenient access to, the existing urban area.
Will the LEP facilitate a permanent employment generating activity or result in a loss of employment lands?	The proposal will primarily provide for residential uses at the site with a small amount of local neighbourhood scale activities in the activity centre. The proposal will generate a small number of full- time jobs in this centre. The proposal has the potential to include 'work at home' units within the residential areas of the site. This activity centre will not compete with the Mudgee CBD, as it will provide for small-scale local convenience and local resident needs.
	The proposal will not result in a loss of employment lands as the current zoning of the site is for Investigation uses and does not currently generate any employment. Yes
Will the LEP be compatible/complementary with surrounding land uses?	The concept plan has been developed to account for the surrounding sensitive land-uses. The most sensitive surrounding land-use includes the land to the west, which contains a waste treatment facility and future sewerage treatment works. The LEP has accounted for this use by creating an appropriate buffer zone to ensure any detrimental impacts, such as odour, are mitigated. The immediately surrounding area to the south west is a newly established residential area on the edge of the suburb of Mudgee. The LEP will be compatible with that land, as it provides for an extension of the residential zone. Appropriate road connects are provided to ensure good access and connectivity between the existing and future residential areas.
Is the LEP likely to create a	No

precedent; or create or change the expectations of the landowner or other landholders?	This Planning Proposal relates specifically to land in single ownership of Blaxland Property. The concept plan has been developed to acknowledge the adjacent lands to the east of the railway line, which are also identified for future urban release. However, the concept plan is a stand-alone concept that can enable development on the western side of the railway line independent of adjacent landowners.
	It is noted that potential access roads and links across adjoining land to the east are shown in the concept plan. These access roads are indicative only. The development of the Blaxland Property sites could occur without these access points, given that two access points are provided directly to the subject land. The two direct access points, off Hill End Road and Fairy Dale Lane, provide sufficient access to the site. As such, the proposed LEP and concept plan does not necessitate a change in the expectation of other landholders.
Will the LEP deal with a deferred	
matter in an existing LEP?	No
Have the cumulative effects of other	
spot rezoning proposals in the locality been considered? What was the	Yes
outcome of these considerations?	There are no other spot rezonings of relevance to this proposal.

## Q3: Is there a net community benefit?

The Net Community Benefit Test (Table 7) has been used to assess the merits of the planning proposal using the questions set out in the draft Centres Policy, as recommended in Part 3 Section A of the *Guidelines for Preparing Planning Proposals.* 

It is intended that the proposal will deliver a net community benefit, the extent to which will be determined through relevant technical studies.

In summary the community benefits are:

Table 7. Net Community Benefit Test Evaluation criteria and response

Net Community Benefit Test Evaluation criteria	Response
Will the LEP be compatible with agreed State and regional strategic direction for development in the area (e.g. land release, strategic corridors, development within 800m of a transit node)?	Yes – this question is addressed in Table 6.
Is the LEP located in a global/regional city, strategic centre or corridor nominated within the Metropolitan Strategy or other regional/subregional strategy?	Yes – this question is addressed in Table 6.
Is the LEP likely to create a precedent; or create or change the expectations of the landowner or other landholders?	No – this question is addressed in Table 6.

Will the LEP facilitate a permanent employment generating activity or result in a loss of employment lands?       Yes         The proposal has the potential to create permanent employment, and will not result in loss of employment lands – refer to Refer to Part 3: Q2: Table 1.         Yes         The planning proposal seeks to provide for residential uses at the site so that a variety of densities and dwelling forms can be accommodated which meet the needs of a broad range of income bands.         Will the LEP impact upon the supply of residential land and therefore housing supply and affordability?         Smaller lot housing will assist to bring forward additional housing supply in a well-planned manner. This will have the benefit of addressing the supply shortage in the region and assist in providing a diversity of housing options, thus providing for the demands of a wider cross-section of the local demographic, including lower-income families, single parent families and those needing more affordable housing.         Use of the site for a range of residential densities and a variety of dwelling types, will make much more effective use of this land, and will be critical in establishing a new, high-quality benchmark for residential development in the region.	Have the cumulative effects of other spot rezoning proposals in the locality been considered? What was the outcome of these considerations?	Yes – this question is addressed in Table 6.
Will the LEP impact upon the supply of residential land and therefore housing supply and affordability?The planning proposal seeks to provide for residential uses at the site so that a variety of densities and dwelling forms can be accommodated which meet the needs of a broad range of income bands.Will the LEP impact upon the supply of residential land and therefore housing supply and affordability?The current land use zoning for the site is for "Investigation" of residential development at the site, recognising the overarching planning strategy that identifies the site for future urban release / residential development. Given the strategic location of the site in an identified urban release area in close proximity to Mudgee CBD, and given the design-philosophy for the land, it is 	permanent employment generating activity or result in	The proposal has the potential to create permanent employment, and will not result in loss of employment lands – refer to Refer to Part 3: Q2: Table
	supply of residential land and therefore housing supply and	The planning proposal seeks to provide for residential uses at the site so that a variety of densities and dwelling forms can be accommodated which meet the needs of a broad range of income bands. The current land use zoning for the site is for "Investigation" of residential development at the site, recognising the overarching planning strategy that identifies the site for future urban release / residential development. Given the strategic location of the site in an identified urban release area in close proximity to Mudgee CBD, and given the design-philosophy for the land, it is considered that smaller lot sizes (down to 450m <sup>2</sup> ) are appropriate for parts of the site. These higher densities create the opportunity for smaller housing types, more diverse housing types, and thus housing forms that will cater to lower income groups. Smaller lot housing will assist to bring forward additional housing supply in a well-planned manner. This will have the benefit of addressing the supply shortage in the region and assist in providing a diversity of housing options, thus providing for the demands of a wider cross-section of the local demographic, including lower-income families, single parent families and those needing more affordable housing.

## Transport

The subject land is strategically located to enable connections to the existing road network surrounding the site, which is capable of servicing traffic movements to and from the subject land and Mudgee CBD, and beyond.

The transport network surrounding the subject land includes:

- Hill End Road directly adjoins the site to the north, providing a direct link to the Castlereagh Highway
- Fairy Dale Lane directly adjoin the site in the south-east corner, providing a direct link to Gladstone Street into the Mudgee CBD.

Access is provided from the subject land directly to these two roads.

In addition to this direct access, the concept plan provides for potential future road connections to the east of the site. As shown in the indicative overarching concept plan, two railway crossings could provide to access from the subject land to Saleyards Lane. A third connection from the subject land across adjacent land to the northeast, has the potential to provide a direct link from the subject land to Castlereagh Highway.

Is the existing public infrastructure (roads, rail, utilities) capable of servicing the proposed site?

Is there good pedestrian and cycling access?

Is public transport currently available or is there infrastructure capacity to support future public transport? The existing railway adjacent to the eastern boundary of the subject site currently does not provide any rail services. However, it is possible that there may be a future need to utilise the railway. A buffer to the railway is provided, which can be used for a range of potential uses such as local roads, open space, drainage and pedestrian and cycling pathways.

City rail coach services provide connections between Mudgee, other regional centres across NSW and the Sydney CBD. There are currently 16 daily weekday bus services that run on the Mudgee West Bus Loop, between the Mudgee CBD along Gladstone Street to the north-west of the existing urban area. These bus services travel close to the subject site.

Good opportunities for pedestrian and cyclist movement are provided with the proposed road links. In particular, the access point between the site to Fairydale Lane will provide a good opportunity for public pathways for walk and cycle connections.

#### Sewerage

A new Sewerage Augmentation system to service Mudgee township is currently under construction and due for completion in early 2013. The new infrastructure includes a Sewage Treatment Plant, Pump Station and associated rising main. The plant is being sized to accommodate the planned growth in Mudgee therefore will have capacity to service the proposed development.

The new Sewage Treatment Plant is located west of subject land, meaning that a connection is relatively straight forward.

## Water supply

Mudgee's Water Supply System currently provides potable water to Mudgee township. Recent studies undertaken by GHD for Mid-Western Regional Council identified improvements necessary to achieve target service levels which Council has started to implement. The study also identifies upgrade works necessary for future development in the Mudgee area.

With the planned future upgrades, the existing potable water supply will be able to sufficiently cater for the proposed residential community.

## Power supply

Essential Energy has advised that the existing electrical zone substation in Mudgee has Current Capacity of 30MVA and the current demand is presently around 24.5MVA (2011). Therefore there is capacity currently available for the proposal.

Yes. The proposal will encourage reduced car use and travel distances through Will the proposal result in the followina: changes to the car distances travelled by customers, Potential for 'home businesses' and consequent reduction in private employees and suppliers? vehicle use Providing a local activity centre within walking distance of a large If so, what are the likely proportion of residential dwellings, enabling residents to walk to the local impacts in terms of neighbourhood shop to meet their daily needs greenhouse gas emissions, Improving the permeability of the new residential area by creating operating costs and road pedestrian and cycle connection across the site and to Mudgee CBD (via safety? Fairy Dale Lane)

- Provide direct walk and cycle access to the activity centre to encourage an active and healthy community
- Road network access managed by proving a number of access points to

	<ul> <li>connect to surrounding streets</li> <li>Internal road layout that balances connectivity and access with amenity to create equal priority for all users.</li> <li>The close proximity of the site to the Mudgee CBD will also facilitate greater use of the cycle ways.</li> <li>This will help to reduce greenhouse gas emissions and improve road safety</li> </ul>
	within the residential development and for the surrounding road network.
Are there significant Government investments in infrastructure or services in the area whose patronage will be affected by the proposal?	As discussed above, a new Sewerage Augmentation system to service Mudgee township is currently under construction. It has been planned to support the future growth and service current and new development, in accordance with the projected population growth in the region. The proposed development will be connected to the new system.
If so, what is the expected impact?	There are no other significant Government investments in infrastructure or services planned in the area at this time.
	No.
Will the proposal impact on land that the Government has identified a need to protect	The proposed concept plan has been developed to avoid areas of high scenic value (i.e. areas above the 520m contour). These higher areas in the hilltops around Mudgee have been identified in local strategies are critical lands to protect, given the scenic quality they contribute to the township. The concept plan avoids all areas above the 520m contour, and provides larger scenic allotments around the hilltops to further protect the scenic landscape.
(e.g. land with high biodiversity values) or have other environmental impacts? Is the land constrained by environmental factors such as flooding?	Consideration has been given to a drainage line that traverses the south- western corner of the site. Ongoing investigations post-gateway will determine the appropriate buffer distances to ensure residential development avoids the drainage line, to ensure potential flooding/stormwater management measures are applied.
-	As Fairy Dale Lane is subject to flooding at the low level causeway crossing near the intersection with Gladstone Street, and this is one of the main points of access to the site, further detailed technical investigations will be undertaken post-gateway (or as required).
	Details of a Preliminary Salinity Assessment are provided in Part 3: Q7 below.
Will the LEP be compatible / complementary with surrounding land uses? What is the impact on amenity in the location and wider community? Will the public domain improve?	Yes – this question is addressed in Table 6.
Will the proposal increase choice and competition by increasing the number of retail and commercial premises operating in the area?	Small commercial / retail units will be accommodated within the activity centre on-site. These will be neighbourhood scale-only and will not impact on the commercial viability of the Mudgee CBD. The proposed retail/commercial will be of local scale and will not deter from the settlement hierarchy of centres within the region. It will provide added convenience to local residents. This is consistent with the Mid-Western Comprehensive Land Use Strategy which recognises and protects the primary role of the Mudgee CBD.
If a stand-alone proposal and not a centre, does the proposal have the potential to develop into a centre in the future?	The proposal provides for the opportunity for a community-focused centre within the subject site.
What are the public interest reasons for preparing the draft plan?	A summary of net positive community benefits identified from the preliminary investigations include:

What are the implications of not proceeding at that time?	agreed local strategic direction for future supply of residential land in the region The land presents a unique opportunity to increase the supply of housing within close proximity to an established urban area, including housing of different densities Diversity of lot sizes and housing types will bring forward variety to the Mudgee housing market, encourage more affordable housing, and assist in the costs of servicing the land The concept plan envisages a range of housing types that present an offering to people of different demographics, family structures and income levels The provision of walking and cycle access from the site to the existing Mudgee CBD will encourage a more active and healthy community in the area Important environmental lands are retained and protected for the community
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## Section B – Relationship to Strategic Planning Framework

Q4: 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)?

Yes -refer to Refer to Part 3: Section A

### Q5. Is the planning proposal consistent with the local council's Community Strategic Plan, or other local strategic plan?

Yes -refer to Refer to Part 3: Section A

## Q6: Is the planning proposal consistent with applicable state environmental planning policies?

Various State environmental planning policies are relevant to the subject site. The requirements of each of these are summarised in Table 8 and 9 below.

#### Table 8. Consistency with State Environmental Planning Policies (SEPPs)

SEPP	Consistency / Response
1 – DEVELOPMENT STANDARDS	Not relevant
4 – DEVELOPMENT WITHOUT CONSENT	Not relevant
6 – NUMBER OF STOREYS	Not relevant
10 – RETENTION OF LOW COST RENTAL ACCOMMODATION	Not relevant
14 – COASTAL WETLANDS	Not relevant
19 - BUSHLAND IN URBAN AREAS	Not relevant
21 – CARAVAN PARKS	Not relevant
22 - Shops and commercial purposes	The proposal includes a local activity centre, which presents the opportunity for shops and commercial premises of a local scale to be developed, to meet the daily needs of the local residential community. The local activity centre will not compete with the Mudgee CDB, but rather provides opportunities for local neighbourhood shops and the like to meet the daily needs of the local community.
26 – LITTORAL RAINFORESTS	Not relevant
29 – WESTERN SYDNEY RECREATION AREA	Not relevant
30 – INTENSIVE AGRICULTURE	Not relevant
32 – URBAN CONSOLIDATION (Redevelopment of Urban Land)	Not relevant
33 – HAZARDOUS AND OFFENSIVE DEVELOPMENT	Not relevant
36 – MANUFACTURED HOME ESTATES	Not relevant
39 – SPIT ISLAND BIRD HABITAT	Not relevant
41 – CASINO ENTERTAINMENT COMPLEX	Not relevant
44 - Koala Habitat Protection	This SEPP encourages the conservation and management of natural vegetation areas that provide habitat for koalas to ensure permanent free-living populations will be maintained over their present range. Further investigation of the on-site vegetation will occur post-gateway, however it is unlikely that Koala Habitat is present on site.
47 – MOORE PARK SHOWGROUND	Not relevant
50 – CANAL ESTATE DEVELOPMENT	Not relevant
52 - Farm dams and other works in Land and water management plan Areas	Not relevant
53 - METROPOLITAN RESIDENTIAL DEVELOPMENT	Not relevant

SEPP	Consistency / Response
55 – REMEDIATION OF LAND	Not relevant
59 – CENTRAL WESTERN SYDNEY	Nat valaviant
ECONOMIC AND EMPLOYMENT AREA	Not relevant
60 – EXEMPT AND COMPLYING	Not relevant
DEVELOPMENT	
62 – SUSTAINABLE AQUACULTURE	Not relevant
64 – ADVERTISING AND SIGNAGE	Not relevant
65 – DESIGN QUALITY OF RESIDENTIAL	It is unlikely that residential flat buildings will be developed on
FLAT DEVELOPMENT	the land.
70 – AFFORDABLE HOUSING	Not relevant
71 - COASTAL PROTECTION	Not relevant
BASIX 2004	Future residential development within the site will be required to adhere to BASIX.
EXEMPT AND COMPLYING DEVELOPMENT CODES 2008	Not relevant
HOUSING FOR SENIORS OR PEOPLE WITH A DISABILITY 2009	The development of range of housing types across the site, including adaptable and accessible housing, will assist in the delivery of housing for seniors and people with disabilities.
INFRASTRUCTURE 2007	This SEPP provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. It includes provisions relating to traffic generating development (which includes the subdivision of land) and development adjacent to road corridors or reservations. The planning proposal will not contain provisions that will conflict or obstruct the application of the SEPP in this regard.
KOSCIUSZKO NATIONAL PARK - ALPINE RESORTS 2007	Not relevant
MAJOR DEVELOPMENT 2005	Not relevant
SYDNEY REGION GROWTH CENTRES 2006	Not relevant
MINING, PETROLEUM PRODUCTION AND EXTRACTIVE INDUSTRIES 2007	Not relevant
TEMPORARY STRUCTURES AND PLACES OF PUBLIC ENTERTAINMENT 2007	Not relevant
RURAL LANDS 2008	The aim of this SEPP is to facilitate the orderly and economic use and development of rural lands for rural and related purposes. The subject land is earmarked by Council for urban release for residential purposes, given its strategic location close to the existing Mudgee CBD.
EXEMPT AND COMPLYING DEVELOPMENT CODES 2008	Not relevant
WESTERN SYDNEY EMPLOYMENT AREA 2009	Not relevant
WESTERN SYDNEY PARKLANDS 2009	Not relevant
AFFORDABLE RENTAL HOUSING	Through the provision of smaller lot housing and a range of lot sizes across the land, the future delivery of housing will cater to a range of income levels. Broadly, the supply of land for residential development is critical in addressing and preventing housing affordability issues from escalating.

There are no relevant Deemed SEPPs.

## Q7: Is the planning proposal consistent with applicable Ministerial Directions (s.117 directions)?

The relevant section 117 Directions are considered in Table 9.

Table 9 Consistency with Section 117 Directions

Section 117 Direction	Consistency / Response
EMPLOYMENT AND RESOURCES	
1.1 Business and Industrial Zone	Not relevant – current zone is not a business/industrial zone
1.2 Rural Zone	Not relevant – current zone is not a rural zone
1.3 Mining, Petroleum Production and Extractive Industries	Not relevant
1.4 Oyster Aquaculture	Not relevant
1.5 Rural Lands	Not relevant – current zone is not a rural or environment protection zone
ENVIRONMENT AND HERITAGE	
2.1 Environmental Protection Zones	Not relevant – current zone is not an environment protection zone
2.2 Coastal Protection	Not relevant
2.3 Heritage Conservation	There are no known Aboriginal items at the site identified within any planning instruments. However, an Aboriginal Heritage Study and/or European Heritage Study can be undertaken post-gateway as required to determine that there is no potential impact on items of heritage significance.
2.4 Recreation Vehicle Areas	Not relevant
HOUSING INFRASTRUCTURE AND URBAN DEVELOPMENT	
	Yes
3.1 Residential Zones	This direction seeks ' <i>To encourage a variety and choice of housing types to provide for existing and future housing needs; to make efficient use of existing infrastructure and services and ensure that new housing has appropriate access to infrastructure and services; and to minimise the impact of residential development on the environment and resource lands</i> '.
	The planning proposal is consistent with this objective and will provide for a range of dwelling types that will support the supply of residential development in the Mudgee region. Refer to Parts $1 - 3$ of this proposal for a more detailed discussion.
3.2 Caravan Parks and Manufactured	
Home Estates	Not relevant
3.3 Home Occupations	Yes This direction seeks ' <i>To encourage the carrying out of low-impact</i> <i>small businesses in dwelling houses'</i> . The planning proposal is consistent with this objective and will provide the opportunity for dwellings that can accommodate small businesses to encourage innovation and incubation of new enterprises on site.
3.4 Integrating Land Use and Transport	Yes The planning proposal will be consistent with the Ministerial Direction. It will consider the aims, objectives and principles of <i>Improving</i> <i>Transport Choice – Guidelines for planning and development</i> (2001) and <i>The Right Place for Business and Services – Planning Policy</i> (2001) Yes
3.5 Development Near Licensed Aerodromes	The land has previously been identified by council as land for future residential urban release, taking into account the location of Mudgee airport.

Section 117 Direction	Consistency / Response
3.6 Shooting ranges	Not relevant
HAZARD AND RISKS	The Mid-Western Strategy requires investigations of saline soils to be undertaken at the detailed Master planning stage.
	A preliminary assessment of the soil condition of the land was undertaken by Minespex (Refer to Attachment A), based on a field investigation conducted on 22 March 2012.
	Sites can become saline if salts in subsurface layers of the soil are mobilised and brought to the surface through rising groundwater or development of perched watertables due to an impediment to water drainage.
	No bare patches, saline scalds or saline seepage areas were visible during the site inspection and there were no salinity indicator vegetation species observed anywhere across the subject land other than a small patch of couch grass ( <i>Cynodon dactylon</i> ) absent of any other associated salinity indicators.
	During the field investigation 6 soil samples were taken from the site and laboratory tested. The results indicate that:
	<ul> <li>soils generally have very low salinity</li> </ul>
	<ul> <li>soils are generally non-Saline at all tested sites, except for one location where the subsoil was found to be Slightly-Saline.</li> </ul>
4.1 Acid Sulfate Soils	<ul> <li>both non-saline and slightly saline classes are regarded as non- aggressive in terms of concrete durability and would have negligible impact on most plant species</li> </ul>
	Based on the site observations and soil laboratory analysis results for soil salinity and soil texture, current soil salinity levels appears to be <b>low</b> .
	As the site is located within a regional area that has known salinity expressions, a precautionary approach to salinity management is recommended for urban development within the subject land. Adoption of the 'Building in a Saline Environment' (DIPNR, 2003) principles to mitigate against potential salinity impacts is recommended. These mitigation measures should focus on water management at the site so as to prevent groundwater affecting the site and down slope areas. Mitigation measures will include appropriate:
	stormwater management
	<ul> <li>surface and subsurface drainage design</li> </ul>
	effluent management design
	landscape/garden designs.
	Detailed investigation of water management systems shall be explored post-gateway to ensure all necessary mitigation measures can be accommodated on site.
4.2 Mine Subsidence and Unstable Land	Not relevant
	No part of the land is identified as flood prone under Council's draft LEP Mapping.
4.3 Flood Prone Land	Council has not carried out recent flood modelling for the catchment draining to the site, however studies have been undertaken for the

Section 117 Direction	Consistency / Response
	current urban area of Mudgee. These studies indicate that there is potential flooding impact on land to the east of the subject site, affecting Saleyards Lane.
	During the on-site investigations undertaken it was noted that a drainage line traverses the south-east corner of the land. The site itself is mapped as having low groundwater vulnerability in Draft LEP mapping.
	Further hydrology, stormwater and drainage investigations can be carried out as the planning proposal progresses through the Gateway Process should it be considered necessary, to define the extent of the drainage line.
4.4 Planning for Bushfire Protection	The land is generally cleared across the subject site. Bushfire investigations can be carried out as the planning proposal progresses through the Gateway Process, particularly to ensure any required bushfire protection measures are incorporated into the final Master Plan.
REGIONAL PLANNING	
5.1 Implementation of Regional Strategies	Not relevant
5.2 Sydney Drinking Water Catchments	Not relevant
5.3 Farmland of State and Regional Significance on the NSW Far North Coast	Not relevant
5.4 Commercial and Retail Development along the Pacific Highway	Not relevant
5.5 Development in the vicinity of Ellalong, Paxton and Millfield (Cessnock LGA)	Revoked
5.6 Sydney to Canberra Corridor	Revoked
5.7 Central Coast	Revoked
5.8 Second Sydney Airport: Badgery's Creek	Not relevant
LOCAL PLAN MAKING	
6.1 Approval and Referral	Yes
6.1 Approval and Referral Requirements	Yes The planning proposal will be consistent with the Ministerial Direction.
6.1 Approval and Referral	
<ul><li>6.1 Approval and Referral Requirements</li><li>6.2 Reserving Land for Public</li></ul>	The planning proposal will be consistent with the Ministerial Direction.
<ul><li>6.1 Approval and Referral Requirements</li><li>6.2 Reserving Land for Public</li></ul>	The planning proposal will be consistent with the Ministerial Direction. Not relevant
<ul><li>6.1 Approval and Referral Requirements</li><li>6.2 Reserving Land for Public</li></ul>	The planning proposal will be consistent with the Ministerial Direction.         Not relevant         Yes         The planning proposal is generally consistent with the Ministerial Direction. The proposed provisions of the LEP outlined in Part 2 are consistent with the existing/draft zoning controls and do not require

Section 117 Direction	Consistency / Response
	apply LGA-wide, however Council would have the ability to identity and map "key sites". For urban release areas such as the subject land, Council has identified in its Strategy the need to prepare a Master Plan. The proposed clause would ensure that the Master Plan would be implemented to guide future development.
METROPOLITAN PLANNING	
7.1 Implementation of the Metropolitan Strategy	Not relevant

## Section C – Environmental, Social and Economic Impact

# Q8: 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?

Small pockets of land within the subject site are identified as having biodiversity values under Council's Draft LEP mapping (see Figure 11). Further ecological and biodiversity studies can be carried out as the planning proposal progresses through the Gateway Process should it be considered necessary, to understand the extent of the biodiversity value of the land, and ensure the planning proposal will not cause any detrimental impact on critical habitat or threatened species, populations or ecological communities.

**Figure 11.** Extract Draft Mid-Western Regional Local Environmental Plan 2011 - Natural Resource: Sensitivity Biodiversity Map - Sheet NRB\_006



# Q9: Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?

As set out in *A Guide to Preparing Planning Proposals*, the purpose of this question is to ascertain the likely environmental effects that may be relevant. It states that technical investigations to address an identified environmental issue should be undertaken following the initial Gateway determination.

Technical studies, together with community and public authority consultation, will investigate the potential for other likely environmental effects arising from the planning proposal and explore options for the mitigation and management of any environmental effects. Studies that are relevant to this planning proposal should address:

- Infrastructure / Utilities
- Drainage and hydrology
- Groundwater
- Biodiversity flora and fauna
- Traffic and transport
- Urban design, landscape and visual character

Further detail will be provided in later iterations of the planning proposal as the studies progress.

### Q10: How has the planning proposal adequately addressed any social and economic effects?

Technical studies, together with community and public authority consultation, will investigate the potential for other likely environmental effects arising from the planning proposal and explore options for the mitigation and management of any environmental effects.

It is understood that Council has adequate social infrastructure facilities in the LGA generally, and within and around the Mudgee township, to service new residential development. It is understood that Mid-Western Council will be undertaking a Recreation Strategy within the next 12 months to review the current and future provision of Open Space in the local government area. Currently it is estimated that there is approximately 96.5 hectares of passive and active open space in Mudgee. New regional sporting facilities have been located at Glen Willow which is within 2.5 km of the subject site as the crow flies. Glen Willow is a \$10 million sporting complex that includes a 1000 seat grandstand, a first grade sporting field, 8 multi-disciplinary fields and 19 netball courts.

Further investigations may be relevant to this planning proposal, and can be undertaken post-gateway, including an investigation of required community facilities and open space. On-going discussions with Council recreational planners will determine the extent of new community facilities and/or open space areas.

## Section D – State and Commonwealth Interests

### Q11: Is there adequate public infrastructure for the planning proposal?

The assessment of public infrastructure is a relevant matter. At this stage the following infrastructure has been considered:

### Utilities

As stated in Part 3: Q3 above, Essential Energy has advised that there is capacity currently available for the proposal. Taking into account the planned future upgrade of the existing Water Supply System, there is likely to be capacity in the to provide potable water supply to cater to the proposal.

Further consultation will occur with telecommunication authorities to confirm the availability of utilities.

#### Sewer

As stated in Part 3: Q3 above, a new Sewerage Augmentation system to service Mudgee township is currently under construction, consisting of a Sewage Treatment Plant, Pump Station and associated rising main. The plant is being sized to accommodate the planned growth in Mudgee therefore will have capacity to service the proposal.

#### Roads

There is currently good road access available in the surrounding road and traffic network to service the proposal. As stated in Part 3: Q3 above, the key arterial roads surrounding the site, including Castlereagh Highway, Hill End Road, Saleyards Lane and Fairy Dale Lane, provide access to the Mudgee CBD. Road connections to these existing roads are proposed within the concept plan at several locations, in order to provide options for the more detailed planning in the next phase of the rezoning process.

More detailed traffic investigations will be undertaken as the planning proposal progresses through the Gateway process.

#### Waste Management

The existing Waste Management Facility located west of the subject land will have capacity to service the proposal.

It is anticipated that enabling development on the subject land will increase demand on public infrastructure in the area. Consultation will be required on this matter with the appropriate public authorities who will be identified through the initial gateway determination.

# Q12: What are the views of State and Commonwealth public authorities consulted in accordance with the gateway determination?

At this first iteration of the planning proposal, discussions have been held with the Mid-Western Regional Council and DoP&I to discuss the key issues to address at this time.

Consultation is proposed with Government authorities, agencies and other stakeholders in regard to this planning proposal (refer to Part 4 of the planning proposal).

# Part 4 – Consultation

Consultation with the Mid-Western Regional Council has been conducted throughout the initial phase of the rezoning process.

A meeting was held on 8<sup>th</sup> March 2012 between Council and Blaxland Property to discuss the proposed rezoning, governance arrangements, land-use planning issues and timeframes. A number of teleconferences have also been held throughout the preparation of this Planning Proposal.

In recognition that the planning proposal may raise some concerns amongst the local community, the proponent will consult with the nearby communities as instructed in the Gateway determination. It is noted that Council's minimum public exhibition period for amendment to an LEP is 30 days.

## Part 4.1 Future Consultation Activities

Consultation is proposed with the following Government authorities, agencies and other stakeholders in regard to this planning proposal:

- Council Engineering representatives (including traffic, waste disposal and water supply engineers)
- NSW Department of Planning and Infrastructure
- NSW Roads and Maritime Service (RMS former RTA)
- Energy providers (Country Energy, Essential Energy)
- NSW Office of Water
- NSW Office of Environment and Heritage
- NSW Rural Fire Service
- Australian Rail Track Corporation.

Confirmation of the above list is sought through the Gateway determination, however it is envisaged that some of these stakeholders will be consulted as government referrals during the formal public exhibition stage.

Many of the Government authorities and agencies listed above have been consulted recently in relation to Councils draft LEP and Land Use Strategy.

Appendix 1 – Preliminary Salinity Assessment



MINESPEX

Units 2 & 3 73 Market St Mudgee NSW 2850

PO Box 604 Mudgee NSW 2850

www.minespex.com.au

12 April 2012

Blaxland Property Pty Ltd Level 5 17 Bridge Street Sydney NSW 2000

Dear Mr Ghersinich,

# RE: Preliminary Salinity Assessment for Proposed Residential Subdivision of land within DP 756894 and Lot 1 in DP 1146227, Mudgee NSW

Minespex was engaged by Blaxland Property Pty Ltd to carry out a preliminary salinity assessment on the above mentioned land and provide an opinion on the current salinity situation based on a site inspection, soil testing and desktop salinity review. This interim letter has been prepared to provide the client with a summary of findings from the site inspection and results currently available from laboratory analysis of soil samples. A full report will be provided to the client as soon as possible on receival of the entire laboratory analysis results.

## BACKGROUND

The land contained within DP756894 and Lot 1 DP 1146227 as shown in **Attachment 1: Proposed Development Area** and detailed in **Attachment 2: Land Description Schedule**, is currently under contract to be purchased for a proposed residential subdivision development by Blaxland Property Pty Ltd. The total area of land being purchased is 304.9 hectares and is located west of Mudgee in close proximity to new residential land developments at Bellevue Estate and Fairydale Lane. Access to the subject land is currently from Hill End Road and Fairydale Lane.

The proposed residential subdivision requires the land to be rezoned. The land is currently zoned Investigation pursuant to the MWRC Interim Local Environmental Plan (LEP) 2008. According to the Draft Mid-Western Regional LEP 2011 the land is zoned RU1 Primary Production. The land will need to be rezoned for residential subdivision.

## **BRIEF DESKTOP REVIEW**

Saline soils have been identified at various depths in the soil profile in the Gulgong and Mudgee areas as discussed in the '*Mid Western Regional Council Comprehensive Land Use Strategy – Salinity Constraints Investigation for Mudgee and Gulgong, New South Wales*' (Environmental and Earth Sciences, 2007). According to the Environmental and Earth Sciences (2007) report, there are a limited number of expressions of salinity identified in the region. The report states that 'the development and/or severity of salinity in the study areas will be dependent on how groundwater levels respond to changes in land use, and in particular, impacts to natural drainage from infrastructure such as roads, stormwater and sewerage pipes, and buildings slabs.'

An area of land identified in the Environmental and Earth Sciences (2007) report as Mudgee Area 2 is located approximately 2000m - 4000m to the south east of the land that is the subject of this letter report. An actively discharging saline site was found during the 2007 investigation within Mudgee Area 2. Indicators of salinity including couch grass, erosion and soil structure decline were observed at the site. It was reported that "the proximity of the investigation area to the Mudgee Fault, the break of slope and presence of springs indicates a likelihood of this area being an active discharge point for groundwater driven by both local and regional processes". Existing and artificial barriers such as roads and drains were also expected to be impacting on drainage and subsurface flows at the saline site.

The Soil Landscapes of the Dubbo 1:250 000 Sheet Map (1998) identifies soils within the subject area as Craigmore (cm) and Mullamuddy Creek (mm). According to the associated report, Craigmore soils are generally non-calcic brown soils and red earths with isolated low levels of salinity occurring along some drainage lines and depressions. The report describes Mullamuddy Creek soils as predominantly non-calcic brown soils and yellow podzolic soils with "an absence of soil salinity problems although there exists a potential for soil salinity to develop in the medium to long-term".

Sites can become saline if salts in subsurface layers of the soil are mobilised and brought to the surface through rising groundwater or development of perched watertables due to an impediment to water drainage. If these salts are carried to soils surrounding infrastructure, they can have an impact on the durability of some building material such as degradation of bricks, pipes and roads affecting the lifespan of construction materials including bitumen, concrete, masonry and metal. Salinity also affects many flora species in the environment. It is a significant consideration for planning urban land use and investigation of salinity risks are an important prelude to further development assessments.

Due to the proposed use of the subject land for residential development and awareness of salinity issues in the region, Minespex have been engaged to undertake a preliminary soil salinity assessment to assist with planning and design of the subdivision and to assist council in consideration of the suitability of the land for residential subdivision. This interim letter report provides results of laboratory analysis of the electrical conductivity of soil samples from 5 sites across the investigation area and provides details of field observations recorded during the site inspection. Further details and laboratory analysis of pH, exchangeable sodium percentage (ESP), cation exchange capacity (CEC) and chloride levels will be provided in the full report on receival of laboratory results.

## SITE INVESTIGATION

On 22<sup>nd</sup> March 2012 Minespex carried out a brief site inspection for the purpose of planning for soil testing. The following week on 29<sup>th</sup> March 2012 a field investigation was carried out with site observations recorded including topography, existing vegetation type and density, and soil condition. At this time Minespex also carried out top and subsoil sampling to assist with an overall preliminary salinity assessment. The soil samples were forward to ALS Laboratory in Sydney for analysis to determine electrical conductivity (EC<sub>w 1:5</sub>), cation exchange capacity (CEC), sodium (ESP % and sodium mg/kg),  $pH_w$ , chlorides (meq/100g) and soil texture.

Site inspections were carried out across most of the subject land however access to some areas was constrained by wet soils due to recent rainfall and prolonged wet weather. Rainfall in the period prior to the site inspection was above average with the Bureau of Meteorology recording 145.0mm in February and 137.2mm in March. The average rainfall for these months is 64.1mm and 51.1mm respectively. In the 24 hours prior to the site inspection, 8.4mm of rainfall was recorded at Mudgee.

No bare patches, saline scalds or saline seepage areas were visible during the site inspection and salinity indicator vegetation species were not observed anywhere across the subject land other than a small patch of couch grass (*Cynodon dactylon*) absent of any other associated salinity indicators. On this basis, and for the purpose of the field investigations, five (5) sites were selected within the subject land that were believed to be representative of the development area and that were determined to be areas where soil salinity may occur due to topography, and existing water movement within the landscape. Soil samples were taken at each of these sites and are identified throughout this letter as Sites 1 - 5. The locations of the soil pit sites were recorded using a handheld GPS device and are shown on the maps in **Attachment 3: Aerial Image of Subject Land and Soil Pit Sites.** Soil samples were taken adjacent to the area of couch grass at the site identified as Site 3.

## SITE OBSERVATIONS

## **Topography**

The land generally slopes down from the west and southwest in the foothills of Mount Misery to the south west of Mudgee. Topography varies considerably across the subject area with gentle slopes less than 12% on the north and north-western sections and more steeply mid and upper slopes through the central and southern sections of the site. Land to the west and south is generally hilltops and steeply sloped land with a creek running through the central and southern sections. Generally, the southwest areas and some of the southern area are subject to landscape protection.

## Vegetation Type and Density

The subject land is generally cleared of timber with individual eucalypt trees scattered across most of the area with more dense forest located to the west. The creek easement is identifiable by a line of predominantly pepper (*Schinus areira*) and eucalypt (*Eucalyptus spp.*) trees. Trees observed during the site inspection were found to be in healthy condition.

Groundcover is dense on the mid, and lower slopes and in low lying areas, however the upper slopes and hilltops are more sparsely populated. Groundcover was found to be growing vigorously across the subject area showing no signs of stress or salt effects.

Vegetation is dominated by slender rats tail grass (Sporobolus spp.). Groundcover on the upper slopes and hilltops also contained windmill grass (chloris spp.), flaxleaf fleabane (Conyza bonariensis) and saffron thistle (Carthamus

*lanatus*). The lower slopes are also populated by subterranean clover (*Trifolium subterraneum*), white clover (*Trifolium repens.*), and paspalum (*Paspalum dilatatum*), in addition to some areas of windmill grass (*chloris spp.*), flaxleaf fleabane (*Conyza bonariensis*), and saffron thistle (*Carthamus lanatus*). These species are not generally considered salinity indicator species. Couch grass (*Cynodon dactylon*) was found in a number of small isolated areas around Site 3 and is known to be tolerant of saline soil. However these populations were not found in conjunction with any other salinity indicator species and therefore are more likely to be indicative of poor soil fertility.

Plate 1 shows typical vegetation and topography across the subject land (photo taken from the northern end of the property near the cattle yards, looking south west).



Plate 1: Typical Vegetation and Topography

## Soil Sampling

Soil pits were excavated using a backhoe to approximately 1.5m at the five sample sites referred to as Sites 1 - 5. Observations of the soil profile were made and soil samples taken from subsoil (15/20 cm - 100 cm) at each pit. Ten (10) topsoil cores were taken at 1m intervals along a transect in an easterly direction from each soil pit to a depth of 15-20cm depending on the site. These cores were aggregated to provide a representative sample. The topsoil and subsoil layer depths sampled at each site are provided in **Table 1: Soil Sample Depths**.

Soil Sample Site Name	Topsoil Layer Depth (cm)	Subsoil Layer Depth (cm)
Site 1	0-20	20-100
Site 2	0-15	15-100
Site 3	0-15	15-100
Site 4	0-15	15-100
Site 5	0-15	15 – 100

### **Table 1: Soil Sample Depths**

The 6 soil samples were then taken from the site and laboratory tested.

Samples were stored in sterile sealed bags. One sampler performed all collection procedures wearing clean disposable gloves at each site. Sampling equipment was cleaned after sampling of each site to prevent cross contamination of samples.

In summary, quality controls that Minespex employed forming the field quality assurance were:

- Duplicate samples collected for each of the sample sites for the sampling event,
- Sampling personnel were consistent throughout field sampling,
- Logs were kept and sampling locations were recorded using a handheld GPS mapping device at the time of sample collection. The GPS points were overlayed onto the site's development map included in Attachment 3: Aerial Image of Subject Land and Soil Pit Sites.

Sample holding times were acceptable, with the samples being delivered to the laboratory within 24 hours of collection and transported in an esky.

The duplicate has been held by Minespex in case re-sampling is required. Identical methods of preservation, storage and transportation were used and the duplicate is stored in cool, dry conditions.

All samples were forwarded to ALS Sydney for analysis via the Mudgee ALS laboratory. ALS has NATA accreditation for all analyses performed (ALS NATA Accreditation Number 825 – Work order no.: ES1207933). ALS also performed tests under a quality system complying with AS17025.

## Soils and Site Condition

Topsoils across the low lying areas are generally loam with clay subsoil. Gravel was generally found throughout the soil profiles except at Site 1. Mid to upper slope areas had shallow topsoils (less than 15cm). Rocks and gravel could be seen on the soil surface across the majority of the subject land.

Erosion can be seen along the creek banks, however erosion across the remainder of the area is minimal.

The soil profile at the five soil pits excavated for use in the field investigation are shown in **Plates 1 to 5** below. The O and A1 horizon at the five sites were similar with loamy textures, gravel and pebbles ((1mm -100mm diameter) and

brown in colour due to accumulation of organic matter down to approximately 15cm. Site 1 differed with deeper topsoil (20cm) and very little gravel observed in these upper layers. The B horizon across the five sites was generally yellow to red brown clay with gravel and rocks increasing in size down the soil profile. The B horizon varied in depth across the five sites from approximately 40-70cm, with pits at sites on low lying land generally having a deeper B horizon. The C horizon was generally dark red to brown clay with gravel and rocks. Site 3 had a large floating rock in the B horizon approximately 60cm in diameter which was the largest rock found within the 5 soil pits.

All of the sites had red and grey mottling in the B and C horizons, and yellow mottling was also found in the B horizon at Sites 3 and 5. The mottling indicates there may have been waterlogging and some percolation of iron in the B and C horizons.



Plate 1: Soil Profile at Site 1 soil pit.



Plate 2: Soil Profile at Site 2 soil pit.



Plate 4: Soil Profile at Site 4 soil pit.



Plate 3: Soil Profile at Site 3 soil pit.



Plate 5: Soil Profile at Site 5 soil pit.

## SOIL LABORATORY ANALYSIS RESULTS

The analytes tested to provide preliminary information on salinity at the sites sampled include salinity (EC<sub>1:5</sub>), CEC, sodium and ESP%, soil pH, chlorides and soil texture. At the time of this interim letter report results are available for the laboratory analysis of soil salinity and soil texture. Soil salinity is a measure of the total soluble salts in a soil. A saline soil is one with an accumulation of free salts at the soil surface and/or within the profile affecting plant growth and/or land use. It is generally attributed to changes in land use or natural changes in drainage or climate, which affects the movement of water through the landscape. Salinity levels of soil were tested by determining the electrical conductivity (EC) of a mixture of soil and water at 1:5 ratio (Electrical Conductivity, 1:5 soil in water expressed as  $\mu$ S/cm –EC<sub>1:5</sub>).

The effects of salinity levels expressed as  $EC_{1:5}$  at 25° (*uS*/cm), on plants are:

- 0 to 1,000 very low salinity, effects on plants mostly negligible.
- 1,000 to 2,000 low salinity, only yields of very sensitive crops are restricted.
- > 2,000 saline soils, yields of many crops restricted.

Results of the laboratory analysis of the soil electrical conductivity for each soil sample are provided in **Table 2: Soil Electrical Conductivity (EC<sub>1:5)</sub> and Soil Texture Analysis Results**.

Soil texture results have also been received for the 10 soil samples. Soil texture descriptions allow for the  $EC_{1:5}$  results to be converted into an  $EC_e$  measurement.  $EC_e$  is the electrical conductivity of saturated extract. This takes into account the soil texture. Soil texture is an important factor as the impacts of salt on building materials such as concrete depends on the rate of water movement (and therefore salts) through the soil and how rapidly salts can be supplied/replenished at the face of the material (Cement Concrete and Aggregates Australia, 2005). Conversion factors for different soil textures are shown in **Table 3: Factors for Converting EC**<sub>1:5</sub> to EC<sub>e</sub>. Results of the soil texture analysis are summarised in **Table 2: Soil Electrical Conductivity (EC**<sub>1:5)</sub> and **Soil Texture Analysis Results** in addition to the relevant conversion factors and calculated  $EC_e$  values.

Analyte	Unit	Site 1	Site 1	Site 2	Site 2	Site 3	Site	Site 4	Site 4	Site 5	Site 5
		Тор	Sub	Тор	Sub	Тор	3	Тор	Sub	Тор	Sub
							Sub				
EC <sub>1:5</sub> @ 25°	μS/cm	36	88	54	321	28	144	22	38	20	37
Soil Texture		Fine Sandy Loam	Light Clay	Loam	Medium Clay	Fine Sandy Loam	Light Clay	Clay Loam	Light Clay	Sandy Loam	Light Clay
Conversion Factor Applied		14	8.5	10	7	14	8.5	9	8.5	14	8.5
Calculated EC <sub>e</sub> (dS/m)		0.75	0.50	2.25	0.54	1.22	0.4	0.32	0.2	0.31	0.28

## Table 2: Soil Electrical Conductivity (EC<sub>1:5</sub>) and Soil Texture Analysis Results

Table 3: Factors for Converting EC<sub>1:5</sub> to EC<sub>e</sub>

Soil texture group	Multiplication factors
Sands	17
Sandy loams	14
Loams	10
Clay loams	9
Light clays	8.5
Light medium clays	8
Medium clays	7
Heavy clays	6

Source: 'Site Investigations for Urban Salinity', Department of Land and Water Conservation (2005)

The EC<sub>1:5</sub> recordings within the study area range from 20  $\mu$ S/cm (Site 5 topsoil) to 321  $\mu$ S/cm (Site 2 subsoil). Electrical conductivity of the EC<sub>1:5</sub> soils sampled was low and the effects of salinity on plants at these levels is negligible.

Using the conversion factors provided, the  $EC_e$  of the soil samples ranges from approximately 0.2 to 2.25 dS/m.

**Table 4: ECe Values of Soil Salinity Classes** provides assessment of EC<sub>e</sub> values as referred to by Hazelton, P. and Murphy, B. (2007).

Class	EC <sub>e</sub> (dS/m)	Comments
Non-Saline (NS)	<2	Salinity affects most negligible
Slightly Saline (SS)	2-4	Yields of most sensitive crops may be affected
Moderately saline (MS)	4-8	Yield of many crops affected
Very Saline (VS)	8-16	Only tolerant crops yield satisfactorily
Highly Saline (HS)	>16	Only a few very tolerant crops yield satisfactorily

Utilising the values provided in **Table 4: ECe Values of Soil Salinity Classes**, the current salinity situation at all of the sites is Non-Saline (NS) except for the subsoil at site 2 which is Slightly-Saline (SS).

## CONCLUSIONS AND RECOMMENDATIONS

There were no visual indicators of salinity observed during the site investigation within the subject land. Topography varies considerably across the area with localised drainage lines and a creek located within the site.

Field investigations and analysis of soil samples across the five soil sample sites indicate the soils generally have very low salinity levels based on  $EC_{1:5}$  measurements. Soil texture analysis contributes to assessment of the electrical conductivity findings and has been used to calculate  $EC_e$  for each of the 10 samples. Calculated  $EC_e$  values indicate that the soils are generally Non-Saline at all of the sites except for Site 2 where the subsoil was found to be Slightly-Saline. However, both non-saline and slightly saline classes would be regarded as non-aggressive in terms of concrete durability (Cement Concrete and Aggregates Australia, 2005) and would have negligible impact on most plant species.

Based on the site observations and soil laboratory analysis results for soil salinity and soil texture, current soil salinity levels appears to be low. However, saline soils have been found in the Gulgong and Mudgee regions with salinity levels ranging from non-saline to highly saline at various depths through the soil profiles. On the basis that the site is located within a regional area that has known salinity expressions, particularly where subsurface drainage causes discharge of groundwater close to or at the soil surface, a precautionary approach to salinity management is

recommended for urban development within the subject land. Adoption of the principles of 'Building in a Saline Environment' (DIPNR, 2003) is recommended to mitigate against potential salinity impacts.

Mitigation against salinity should focus particularly on water management at the site. Storm water management, site surface and subsurface drainage design, effluent management design and landscape/garden designs will be important considerations in preventing accessions to groundwater systems onsite and down slope of the proposed development.

Further details of the preliminary salinity investigation and full laboratory analysis of soil samples results will be provided in a report to follow this interim letter. If you have any queries with regard to this interim letter report, please do not hesitate to contact Minespex on (02) 63729512 or myself on 0428 126 255.

Yours faithfully,

Christine LBrown.

CHRISSY BROWN Minespex

## ATTACHMENT 1: Proposed Development Area, Mudgee NSW

The land subject of this investigation is highlighted yellow and green.





## **ATTACHMENT 2: Land Description Schedule**

Lot 129A	DP756894
Lot 130	DP756894
Lot 131	DP756894
Lot 133	DP756894
Lot 134	DP756894
Lot 135A	DP756894
Lot 136	DP756894
Lot 137	DP756894
Lot 139	DP756894
Lot 140	DP756894
Lot 141	DP756894
Lot 151	DP756894
Lot 189	DP756894
Lot 218	DP756894
Lot 219	DP756894
Lot 221	DP756894
lot 222	DP756894
Lot 223	DP756894
Lot 225	DP756894
Lot 226	DP756894
Lot 227	DP756894
Lot 228	DP756894
Lot 231	DP756894
Lot 233	DP756894
Lot 234	DP756894
Lot 235	DP756894
Lot 236	DP756894
Lot 237	DP756894
Lot 341	DP756894
Lot 1	DP 1146227

## ATTACHMENT 3: Aerial Image of Subject Land and Soil Pit Sites

