



Agricultural Land Capability Report

Northern Rd, Glenmore Park



September 2023

Agricultural Land Capability Report

Prepared for Nergl Developments Pty Ltd
by



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Chapter 1: Introduction

1.1. Introduction

Nerpl Developments Pty Ltd owns land at Glenmore Park and in association with other landowners is seeking to have the land rezoned to allow residential development.

Edge Land Planning has been engaged by Solve Property Pty Ltd, to provide an assessment of the agricultural capability of the land.

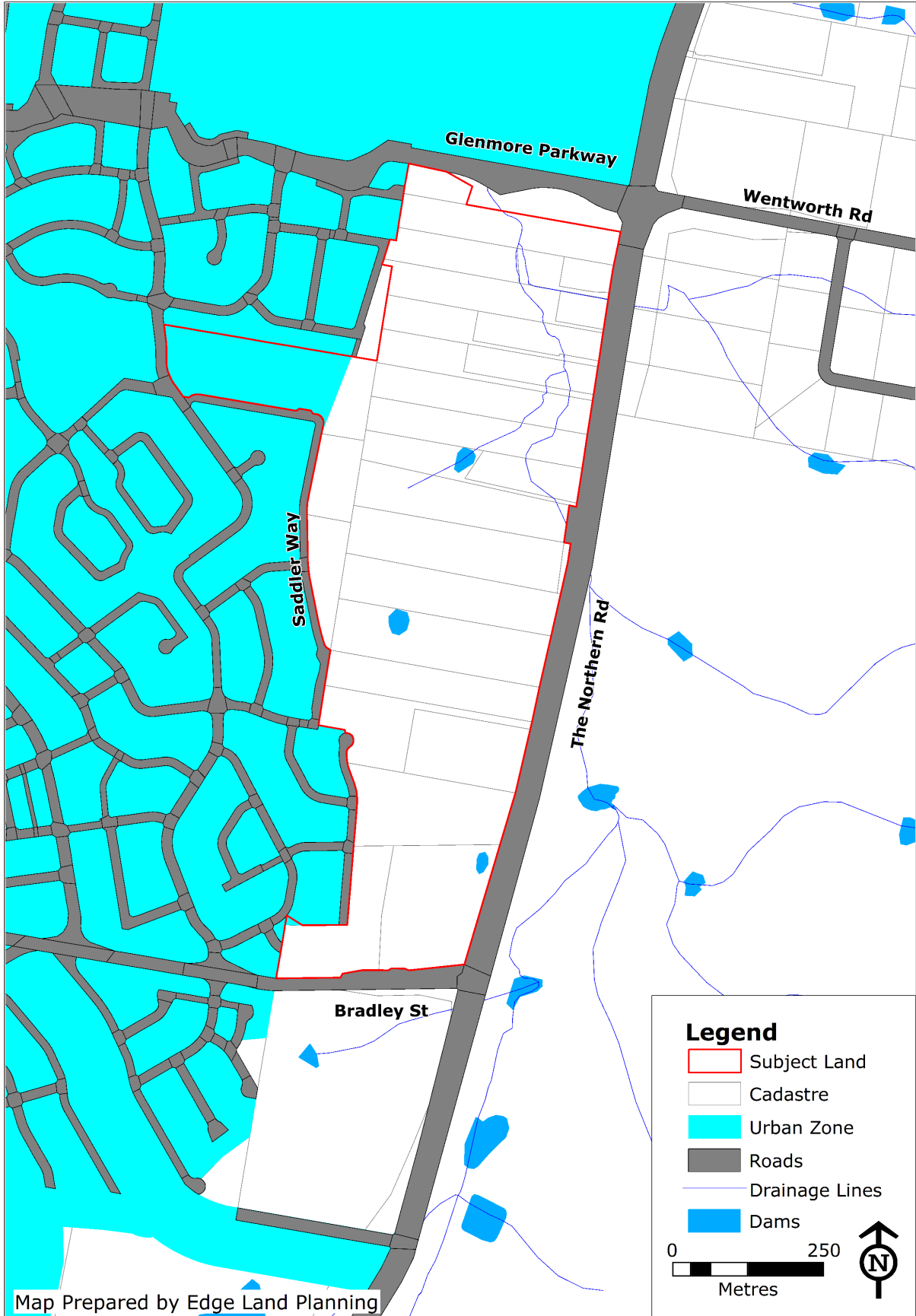
This study has been prepared to accompany a Planning Proposal to be submitted to the NSW Department of Planning and Environment.

1.2. Study Area

The subject land is located adjacent to the eastern boundary of the Glenmore Park Urban Area which is in the Penrith LGA on Sydney's western outskirts. The land has an area of 47.95 ha and has frontage to The Northern Rd to the east.

A map of the study area is shown in Map 1.

The land consists of a twenty-seven lots in twenty separate ownerships ranging in size from 0.4 ha to 17.2 ha.



Map 1: Study Area

Chapter 2: Site Description

2.1. Introduction

This chapter provides a detailed description of the site and focuses on the slope, drainage, vegetation, soils, and the land use of the site.

The land is currently used for grazing of cattle as well as rural residential development.

Map 2 shows an aerial photo of the site.



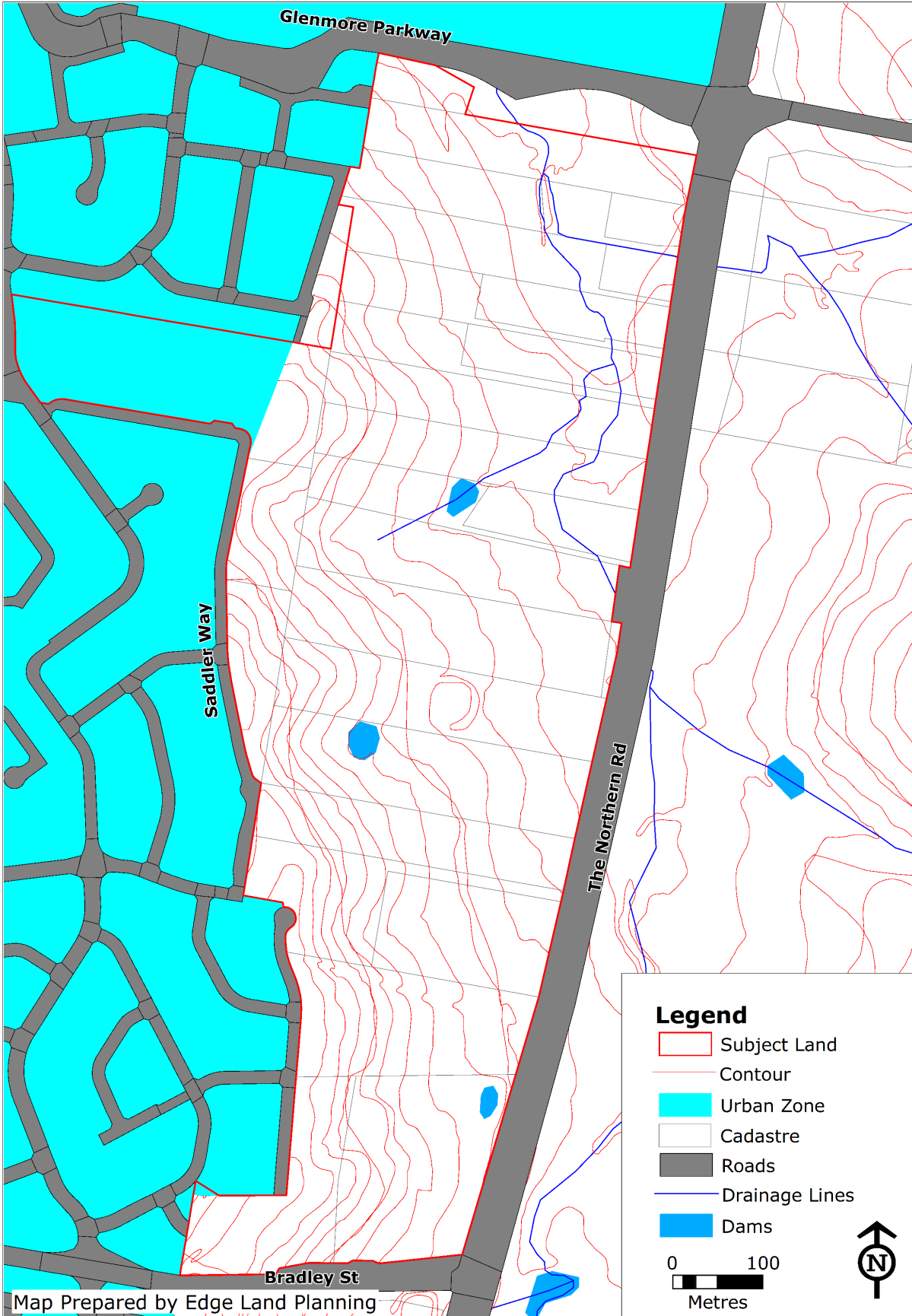
Map 2: Aerial Photograph of the Site

2.2. Slope

The lands slopes generally from west to east with the highest point in the south western corner which is 76m. The lowest point is where the drainage line exits the site under Glenmore Parkway on the northern boundary which has a height of 48m.

The land is steeper in the south western corner and along the western boundary generally.

The topography of the land can be seen from Map 3.



Map 3: Topography

2.3. Drainage

There are three drainage lines that run through the site and they join in the north eastern part of the subject land and then flow through the urban area to the north.

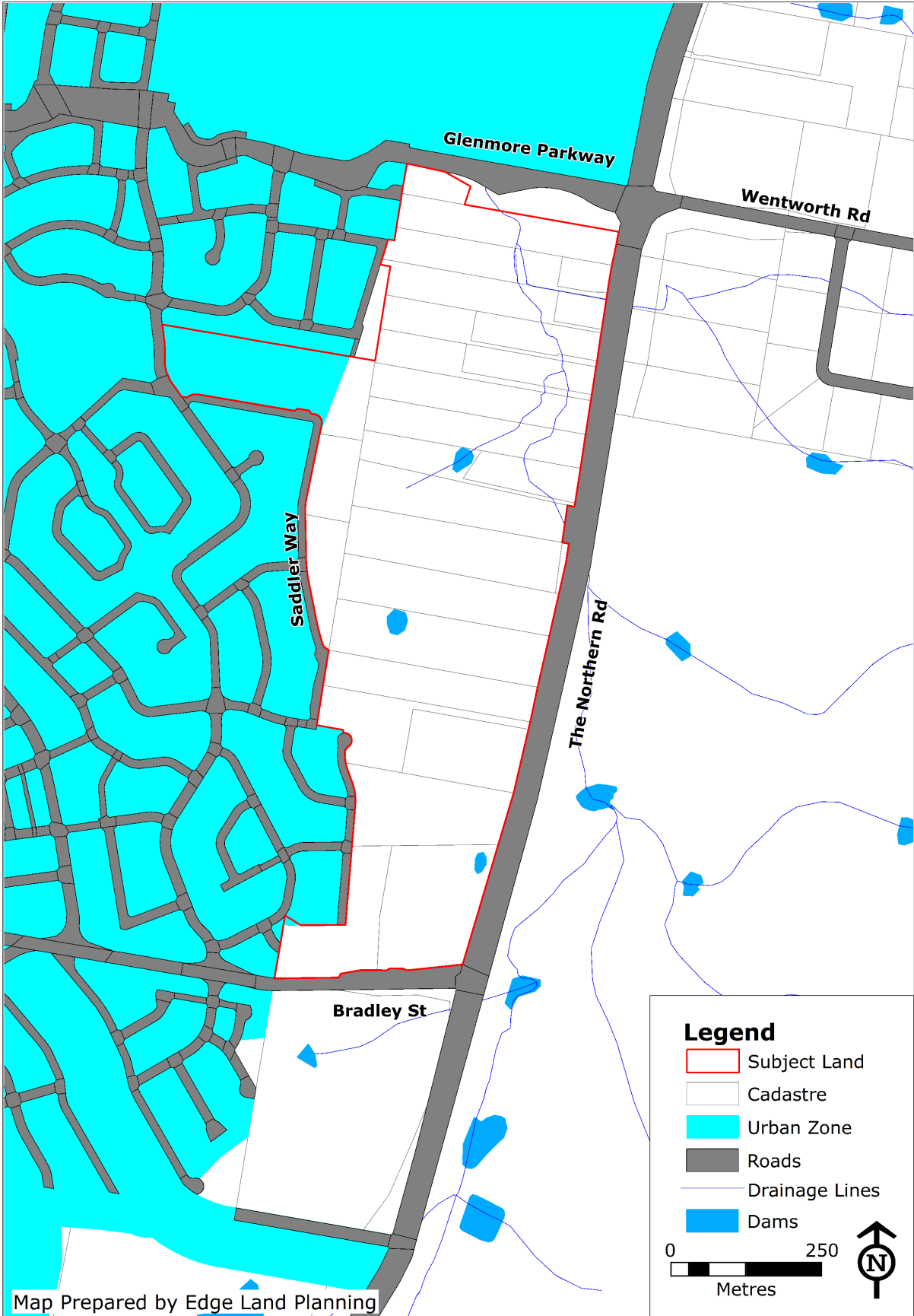
They can be described as follows:

- The southern most drainage line starts to the south east of the site and flows under the Northern Rd.
- A smaller drainage line joins the southern most one and has a length of approximately 250m.
- The northern most drainage line flows from the east under The Northern Rd and joins the southern most one near the north east corner of the subject land.

There are four small dams on the land.

This can be seen from Map 4.

The drainage lines are intermittent due to the small size of the catchments and are therefore not a permanent source of water.



Map 4: Drainage

2.4. Vegetation

The site is cleared with some scattered trees located on the subject land as follows:

- On the eastern boundary there are three stands of vegetation.
- There are some trees forming the western boundary in the vicinity of Saddler Way.
- There is some scattered vegetation associated with the drainage lines in the northern part of the site.

The vegetation has been cleared to facilitate the grazing of the land more than 50 years ago.

The cleared nature of the site can be seen from Map 5.



Map 5: Aerial Photo showing vegetation.

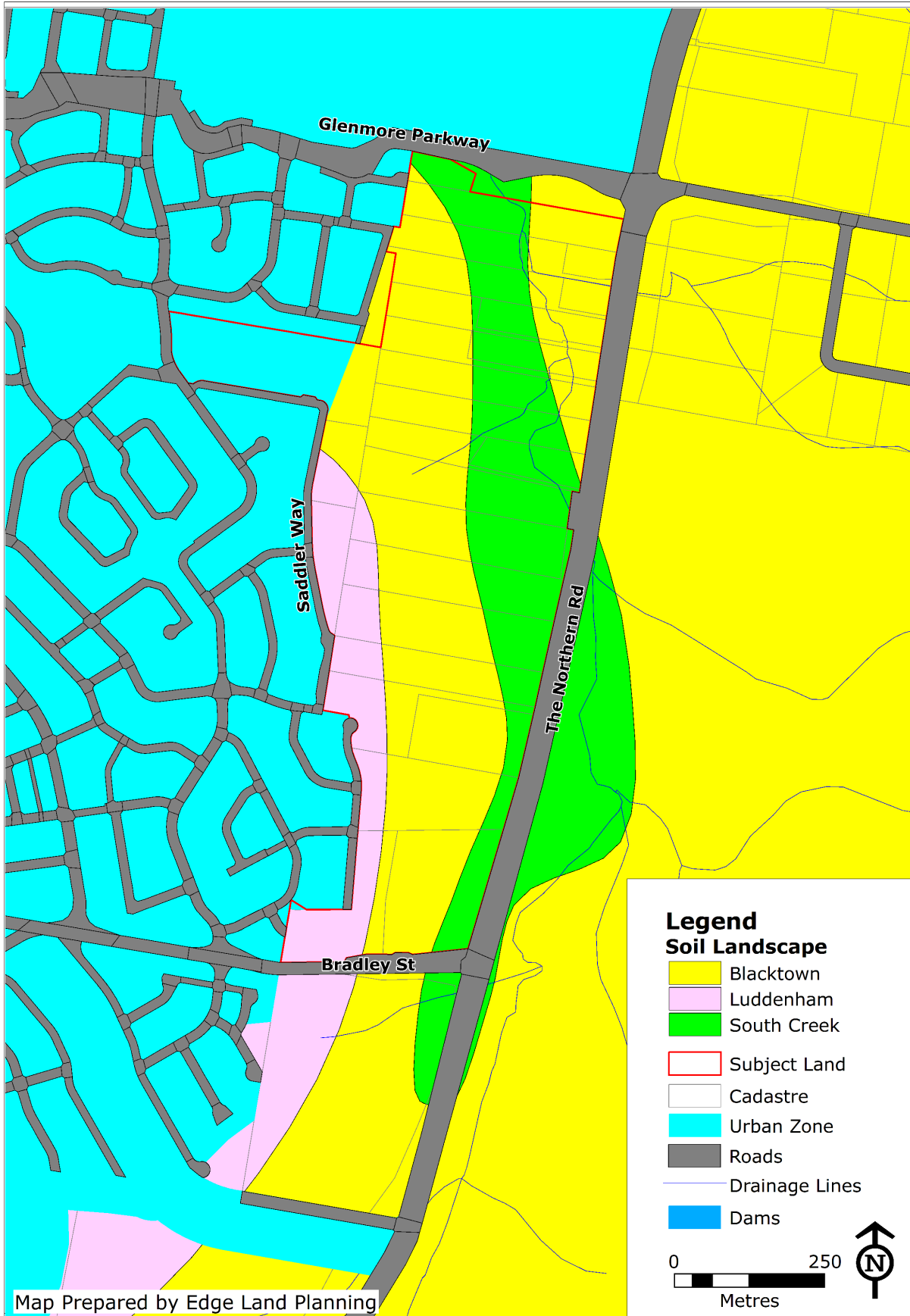
2.5. Soils

The Soil landscapes of the Penrith 1:100,000 Map (Bannerman S, 2011) has been used to derive details about the soils of the site.

There are three soil landscapes on the site shown on Map 6 below:

- *Blacktown*. This soil landscape covers most of the subject land site. It is described as having gently undulating rises on Wianamatta Group shales. Local relief to 30 m, slopes usually greater than 5%. Broad rounded crests and ridges with gently inclined slopes. It is a Cleared Eucalypt woodland and tall open-forest (dry sclerophyll forest). The limitations are described as being localised seasonal waterlogging, localised water erosion hazard, moderately reactive highly plastic subsoil, localised surface movement potential. The soils in this landscape have a moderate to low fertility and they are moderately erodible. The land uses are mostly urban with some rural uses such as horticulture and animals. It is capable of sustaining grazing and some cultivation.
- *Luddenham*. This landscape is on the western hillier part of the site. It is described as having undulating to rolling low hills on shale and sandstone with slopes of 5 to 20 % gradient and is extensively cleared with scattered open-woodland. It has low to moderate soil fertility. The limitations are described as being high soil erosion hazard, localised impermeable highly plastic, moderately reactive subsoils, potential mass movement hazard. The dominant land use is grazing and urban development. Its rural capability is for some regular cultivation and grazing.
- *South Creek*. This landscape generally follows the drainage lines and surrounding land. It is described as having floodplains, valley flats and drainage depressions of the channels on the Cumberland Plain. Usually flat with incised channels which are mainly cleared. It has low soil fertility. The limitations are flood hazard, seasonal waterlogging, localised permanently high-water tables, localised water erosion hazard, localised surface movement potential. The land use is mostly grazing of livestock or non-agricultural uses because of the frequent flooding. Its rural capability is for some regular cultivation and grazing.

To summarise, the soils on the site can be described as low to moderately fertile, however, the limitations of waterlogging, soil erosion and localised surface movement potential limits its rural land capability to grazing of cattle and some cultivation, but not suited to continuous cropping.



Map 6: Soil Landscapes

2.6. Land Use

The land use of the subject land can be described as rural residential with some e cattle grazing.

The land use of the land surrounding the study area can be seen from Map 7. The land use survey methodology can be seen from Appendix 1. The land surrounding the subject land has a mixture of rural residential use, urban, commercial and public uses. It adjoins the Glenmore Park urban area. There is one holding of 17.2 ha which is used for grazing cattle and the rest of the lots are used for rural residential use.

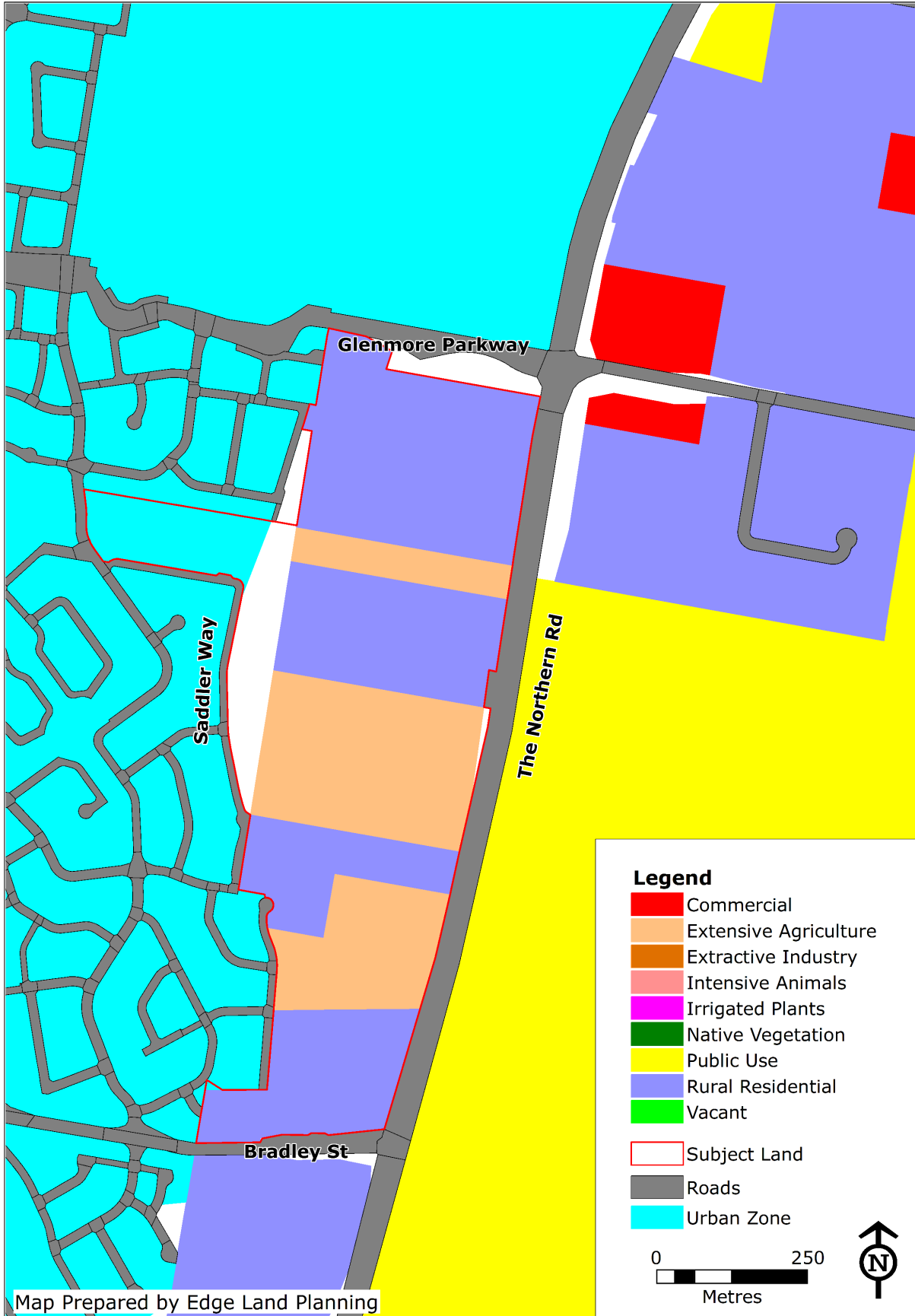
As has been stated, rural residential development is the most dominant of the surrounding land uses. A definition of this land use can be found in a planning text as follows:

"The residential use of rural land is called rural residential development; that is, people live on rural lots, but use the land primarily for residential rather than agricultural purposes. Although some engage in 'hobby farming', most derive the principal source of their income from pursuits not carried out on the land. The main distinction between urban housing and rural residential housing is bigger lot size and larger distances between dwellings. This creates a sense of openness and of living in the landscape rather than in an urban area. Rural residential dwellings are often large (up to 1000 to 2000 square metres in floor area). They can be found in clusters of new houses and are often mixed with intensive plant and animal uses, which invariably leads to rural land-use conflict. (Sinclair, Docking, Jarecki, Parker, & Saville, 2004) They can have varying degrees of native vegetation cover, from totally covered to totally cleared. This has been termed 'rural sprawl' (Daniels, 2014) because of its pervasiveness over the rural landscape, particularly adjoining the metropolitan areas as well as large cities and towns.

Rural residential development can be divided into two main categories: rural fringe and rural living. Rural fringe development is characterised by single detached houses and dual occupancies on lot sizes of approximately 4000 square metres to two hectares laid out in an estate. This estate usually joins or is in close proximity to an urban area.

Rural living, on the other hand, features single detached houses and dual occupancies on lot sizes between one hectare and 40 to 100 hectares and can adjoin farmland or vegetated areas (it should be noted that there are sometimes lots of less than one hectare). People living on these lots use the land primarily for residential purposes, although they may graze some cattle or have horses. This requires lot sizes of more than two hectares if land degradation is to be avoided. The lots do not adjoin townships or villages and are scattered throughout the rural landscape." (Sinclair & Bunker, 2012)

The presence of agriculture near rural residential and urban development can lead to a loss of amenity by these residents because of pollution from the agriculture. They will often complain about this, thus causing rural land use conflict (Sinclair & Bunker, 2012). From a land use planning perspective, it is preferable not to have agricultural land uses located near to rural residential and urban land uses, so that land use conflict can be avoided.



Map 7: Land Use

Chapter 3: Agricultural Suitability

3.1. Introduction

This chapter explores the constraints of the site to assess the current agricultural practices and determine its suitability for agriculture. Information has also been provided on the types of agriculture practiced in the area to gain an understanding of local farming practices and the characteristics of the farming community.

The information contained in this section has been obtained from several sources including the ABS Agricultural Census.

3.2. Agriculture in Penrith LGA

The ABS Agriculture Census is a good source of information about agriculture in the Penrith LGA. It outlines the characteristics of farming in the LGA which provide some context to the agriculture suitability of the subject land.

The value of Agriculture in the LGA is \$87.2m (ABS, 2022e).

It should be noted that the cut off for filling the Agricultural Census is \$40,000 farm gate value and so this data only shows an accurate picture of farmers who earn income from the farm. It is also based on farmers who have an Australian Business Number and therefore have a registered business. \$40,000 is a relatively small income given it is less than half of the Australian adult average full time weekly wage of \$1,835.2 (ABS, 2022a) which equates to \$95,430 per annum.

Table 1 shows the value of the individual commodities which are found in the Penrith LGA. The data shows that 44.3% of the value comes from eggs, followed by poultry meat at 25.1% which with the other livestock makes up 74.4% of the value of production coming from livestock. Of the cropping, vegetables make up 16.1% followed by nurseries (4.4%) and turf (3.3%) with the other of the cropping making up the rest.

Table 1: Value of Agriculture

Commodity	Penrith LGA	% of Penrith	% of Sydney Peri-Urban	% of NSW	% of Australia
Broadacre Crops	\$108,931	0.1%	18.7%	0.0%	0.0%
Hay	\$209,119	0.2%	4.7%	0.0%	0.0%
Nurseries	\$3,876,839	4.4%	2.5%	0.9%	0.3%
Flowers	\$760,029	0.9%	5.1%	2.7%	0.3%
Turf	\$2,904,829	3.3%	2.9%	2.0%	1.1%
<i>Total Nurseries, Flowers & Turf</i>	<i>\$7,541,697</i>	<i>8.6%</i>	<i>2.8%</i>	<i>1.3%</i>	<i>0.4%</i>
Fruit & Nuts	\$416,691	0.5%	2.6%	0.0%	0.0%
Perishable Vegetables	\$8,664,104	9.9%	5.4%	2.5%	0.5%
<i>Total Vegetables</i>	<i>\$14,051,373</i>	<i>16.1%</i>	<i>6.0%</i>	<i>2.2%</i>	<i>0.3%</i>
<i>Total Crops</i>	<i>\$22,327,811</i>	<i>25.6%</i>	<i>4.2%</i>	<i>0.2%</i>	<i>0.1%</i>
Wool	\$3,260	0.0%	0.8%	0.0%	0.0%
Milk	\$10,914	0.0%	0.0%	0.0%	0.0%
Eggs	\$38,599,583	44.3%	34.4%	9.9%	3.4%
Total Livestock Products	\$38,613,758	44.3%	27.3%	2.0%	0.5%
Sheep	\$4,488	0.0%	0.8%	0.0%	0.0%
Cattle	\$1,411,265	1.6%	6.6%	0.1%	0.0%
Pigs	\$2,921,413	3.3%	72.5%	1.2%	0.2%
Poultry Meat	\$21,927,766	25.1%	11.7%	2.8%	0.7%
Other	\$7,512	0.0%	9.9%	0.1%	0.0%
<i>Total Livestock Meat</i>	<i>\$26,272,445</i>	<i>30.1%</i>	<i>12.3%</i>	<i>0.5%</i>	<i>0.1%</i>
Total Crops	\$22,327,811	25.6%	4.2%	0.2%	0.1%
Total Livestock	\$64,886,203	74.4%	18.3%	0.9%	0.2%
Total Agriculture	\$87,214,013	100.0%	9.9%	0.5%	0.1%

Source: (ABS, 2022d, 2022e)

The value of Agriculture in Greater Sydney (Sydney and Central Coast) is \$880.3m which makes Penrith's contribution 9.9% making it the third largest in the region(ABS, 2022d).

The Agricultural Census counted 115 farms in the Penrith LGA having a total area of 4,439 ha making the average farm size in the LGA 39 ha (ABS, 2022b).

Table 2 shows the industry of employment drawn from the ABS Census of Housing and Population (2021) for the Penrith rural lands and for Penrith LGA. In the Penrith rural area 4.3% of the workforce are employed in in agriculture, forestry and fishing which is number 10. Construction is the number one sector of employment for the residents of the living in the rural lands.

Table 2: Industry of Employment

Industry of Employment 2021	Rural Population	Penrith LGA
Agriculture, Forestry and Fishing	4.3%	0.7%
Mining	0.2%	0.2%
Manufacturing	7.5%	7.4%
Electricity, Gas, Water and Waste Services	1.2%	1.5%
Construction	20.6%	12.0%
Wholesale Trade	3.4%	3.6%
Retail Trade	8.8%	10.0%
Accommodation and Food Services	4.1%	5.1%
Transport, Postal and Warehousing	7.0%	7.4%
Information Media and Telecommunications	0.6%	1.1%
Financial and Insurance Services	2.0%	4.0%
Rental, Hiring and Real Estate Services	2.1%	1.6%
Professional, Scientific and Technical Services	4.4%	4.6%
Administrative and Support Services	2.5%	2.9%
Public Administration and Safety	4.6%	6.9%
Education and Training	6.7%	8.0%
Health Care and Social Assistance	8.7%	13.2%
Arts and Recreation Services	1.2%	1.1%
Other Services	5.4%	3.7%
Inadequately described/Not stated	4.5%	4.9%
Total	100.0%	100.0%

Source: (ABS, 2022c)

The top five employment sectors are shown in Table 3 which compares the Penrith rural lands, with the LGA, the Greater Sydney Capital City Region, NSW, and Australia. This shows that the rural land does not have a high proportion of the workforce employed in agriculture and the number one sector is construction by a large margin followed by retail trade, and health care and social assistance. The low number of people who work in agriculture provides an evidence base for the land use surrounding the subject land being rural residential as discussed in section 2.6. People who are employed in these employment sectors either work from home or just live in the area and work in other places. It can be said therefore that most of the rural lands are rural residential use, with some areas of agriculture.

Table 3: Top Five Employment Sectors

Rural Lands	Penrith LGA	Sydney GCCA	NSW	Australia
Construction 20.6%	Health care & social assistance 13.2%	Health care & social assistance 13.4%	Health care & social assistance 14.4%	Health care & social assistance 14.5%
Retail Trade 8.8%	Construction 12.0%	Professional, Scientific and Technical Services 10.9%	Retail trade 9.0%	Retail trade 9.1%
Health care & social assistance 8.7%	Retail Trade 10.0%	Retail trade 8.8%	Professional, Scientific & Technical Services 8.9%	Construction 8.9%
Manufacturing 7.5%	Education & Training 8.0%	Education & training 8.5%	Education & training 8.7%	Education & training 8.8%
Transport, Postal and Warehousing 7.0%	Manufacturing 7.4%	Construction 8.2%	Construction 8.6%	Professional, Scientific & Technical Services 7.8%

Source: (ABS, 2022c)

The average age of a farmer in the Penrith LGA region is 51 years old (ABS, 2017), which is younger than the Sydney Peri-Urban Area (55) and NSW (57) and Australian farmers (56).

The agriculture situation in the Penrith rural lands can be summarised as:

- Nearly three quarters of all the agricultural production is from livestock comprising eggs and poultry meat.
- Vegetable production makes more than half of the crop production.4.3%% of the rural workforce.
- The age of the farmers is younger than Sydney, NSW and Australia.
- The average farm size in the LGA is 37 ha.

3.3. Constraints for Agriculture

The site constraints for agriculture are soils, size of the land, water availability and the proximity to the Glenmore Park urban area.

As discussed in Chapter 2, the land has undulating topography which makes it suitable for grazing as well as limited cropping.

The holding that is used for grazing of cattle has an area of 17.2 ha and it is noted that the average size of farms in the 37 ha which suggests that the grazing of cattle on land with an area of less than that would not be sufficient to return enough profit to earn the average wage from the grazing of cattle.

The combination of drainage lines and the lack of good soils create significant constraints to using the land for the growing of plants – both intensive and extensive cropping on the entire property.

The proximity to the Glenmore Park urban area also creates problems with the operation of a farm. Dogs residing in the urban area can kill or injure livestock.

3.4. Current Agricultural Practices

The current owner uses the site for grazing of cattle.

The current owner carries out a small cattle business purchasing and selling cattle each year. The cattle graze pasture but due to its poor state, they are mostly supplementary fed a combination of pellets and hay. There are a total of 25 cattle bought and sold each year.

The cattle are sold for between \$750 to \$950 per head at the Moss Vale Saleyards returning between \$18,750 to \$23,750 per annum. The costs associated with running the farm are approximately \$32,500 per year leaving a loss, which is mainly due to the cost of feeding the cattle. Given the average annual income is \$95,430 (as outlined in Section 3.2), this does not derive sufficient income to support a family without an appropriate source of off farm income.

3.5. Suitability of the Site for Agriculture

The site is constrained for its use as an agricultural operation by several factors, discussed above and outlined further below:

- Soil quality.
- Size of land.
- Lack of permanent water supply.
- Urbanisation of surrounding land.

The constraints listed must be considered when contemplating the suitability of the site for agriculture. There are a range of potential agricultural uses that could be carried out in addition to the current use for cattle grazing. This includes intensive cropping for market gardening or protected cropping as well as poultry farming. However, all forms of agriculture are prohibited in the zone which means that apart from extensive agriculture that is currently being carried out, any other type of agriculture is not permitted and will not be discussed any further.

Chapter 4: Planning Policy Context

4.1. Introduction

The below planning policies and studies apply to the future of the land and will be addressed separately.

- Penrith LEP 2012;
- Western Sydney District Plan
- Planning Directions.

4.2. Penrith LEP

The subject site is covered by Penrith LEP 2010 which zones the land as C4 Environmental Living.

The objectives of the zone are as follows:

- To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values.
- To ensure that residential development does not have an adverse effect on those values.
- To minimise conflict between land uses within the zone and land uses within adjoining zones.
- To ensure land uses are compatible with the available infrastructure, services and facilities and with the environmental capabilities of the land.
- To preserve and improve natural resources through appropriate land management practices.

It has a minimum subdivision size of 1ha.

The zoning table shows that agriculture is prohibited in the zone and so this means that apart from the extensive agriculture cattle grazing which has continuing use rights, no other agricultural use is permitted on the land.

4.3. Western Sydney District Plan

The Structure Plan for the Sydney Region Plan – A Metropolis of Three Cities includes the land within the Greater Penrith Eastern Creek Growth Area. (Greater Sydney Commission, 2018). This means that it is not within the Metropolitan Rural area and as such has not been designated as suitable for agriculture in the future.

4.4. Planning Directions

The Department of Planning and Environment has issued a set of Planning Directions pursuant to section 9.1 of the Environmental Planning and Assessment Act, 1979 which must be followed when a Council is preparing any amendment to its LEP.

It is noted that the land is zoned as C4 Environmental Living with a minimum lot size of 1 ha and as such is not considered to be rural land.

There are no planning directions that are relevant to the subject land..

Chapter 5: Conclusion

The owners of land a Glenmore Park between the existing urban area and the Northern Road are seeking to have it rezoned for residential purposes. Edge Land Planning has been engaged to prepare a study investigating its potential to carry out agriculture.

The subject land is used for a mixture of rural residential development as well as one property of 17.2 ha which is used for the grazing of cattle. The site has constraints for its use as an agricultural holding due to the poor soil fertility, lack of a permanent water supply and proximity to the urban area of Glenmore Park. These constraints limit its use to cattle grazing and the land size is not large enough to make a sufficient income to support a family full time and as a result, an off-farm source of income is needed. All other forms of agriculture are prohibited in the zone.

The land is not suitable for full time agriculture and it is not within the Metropolitan Rural Area and so is not required for future agricultural use.

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Appendix 1: Land Use Methodology and Definitions

The Land Use Survey:

A land use survey has been carried out to determine the land use of the study area and the surrounding land.

The first step is to identify the categorisation of the land uses to be surveyed. The land use has been categorised into primary and secondary land use categories. The primary land use categories are as follows:

- Commercial
- Extensive Agriculture
- Extractive industries
- Irrigated Plants
- Intensive Animals
- Native Vegetation
- Public Use
- Rural Residential
- Urban
- Vacant

Definitions of each use which were used for the purpose of identifying the land uses are as follows:

- *Commercial* uses are uses that are used for a commercial or industrial type of use and which do not have any dwellings associated with them.
- *Extensive Agriculture* means the growing of plants using natural rainfall or the rearing of animals using grazing as a feeding method. It also includes the growing of fodder crops and irrigated pasture.
- *Extractive Industry* means a use that extracts material from the land and includes mining, sand and clay mining and quarrying of sandstone and other stones.
- *Irrigated plants* means the growing of vegetables and ornamental plants for commercial gain using the application of irrigated water and includes market gardening, protected cropping structures, orchards, vineyards, and other similar uses.
- *Intensive Animals* means the rearing of animals using a feeding method other than natural grazing and includes poultry and piggeries mainly.
- *Native Vegetation* means a lot that has no dwellings or structures on it and which has the majority of the land covered in native vegetation.
- *Public Uses* mean a use that is commonly used and or operated by a public authority or associated body. It includes community facilities, golf courses and Government owned uses of the land.
- *Rural Residential* means a house on a lot that is greater than 0.4 ha generally, and is in a rural environment where the main source of income is from other sources than agricultural use of the land. Rural-residential is further divided into three categories, being:
 - ⇒ *Rural Fringe*: estate style development on lots ranging from of 0.4 to 2 ha;

⇒ *Rural Living: lots ranging from 1 ha to 40 ha scattered throughout the landscape*

- *Vacant* land is land that is mostly cleared of native vegetation, and which does not have any dwellings or other structures on it.

The sub-categories are a detailed description of the land use of each parcel. It includes the following:

- Commercial: factory
- Extensive agriculture: grazing,
- Extractive Industry: coal Mine
- Intensive Animals: poultry
- Irrigated Plants: protected cropping
- Native Vegetation: native vegetation
- Public Use: church
- Rural Residential: dwellings,

Methodology:

There are 3 components to the carrying out of the land use survey as follows:

- Preliminary identification of land use.
- Study area inspection.
- Data entry and mapping.

Preliminary identification of land use occurred in the office prior to the field inspection. Aerial photography was used to identify the land use. The major things to be picked out are extensive agriculture, intensive animals, irrigated plants dwellings on small lots, vacant land, lots which are totally covered with native vegetation, and extractive industries. Only one major land use was identified for each site. An assumption was made that lots less than 40 ha which did not have an intensive agricultural, commercial, industry or public use and were in a separate ownership to the surrounding land, were rural residential. Where there is just a dwelling, it was coded in the second use as dwelling, if there was a horse, horse and if there was a truck use it was coded as a truck use. If the land is cleared and has a dwelling house located on it and is either greater than 40 ha, or was owned in association with the surrounding land and was greater than 40 ha, it was coded as extensive agriculture.

This information was entered into the database using the coding that has been identified for the primary and secondary land uses.

The study area inspection was carried out by windscreen survey of all of the roads. This was done to check the primary land use categories and also to enter secondary ones that could not be identified from the aerial photos. As each road is driven on the land use is clarified against the preliminary identification. Signage, which gives an indication that the property may be used for a secondary use such as a home business or a commercial use, was also noted. Many photos were taken of the land use and general landscape of the rural lands.