Enclosure 12

Land Use Conflict Risk Assessment (LURCA) prepared by GeoLINK Environmental Management and Design, Version 2, date 24 May 2022

Land Use Conflict Risk Assessment

Lot 104 DP751388, James Creek Road Subdivision

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1. Introduction and Background

1.1 Background

GeoLINK has been engaged by MPD Investments to prepare a Land Use Conflict Risk Assessment (LUCRA) to support a development application (DA) for proposed residential subdivision at Lot 104 DP 751388 James Creek Road, James Creek within the Clarence Valley Local Government Area (LGA). This report aims to review and consider the potential for land use conflict in the context of surrounding rural zonings and associated land uses and whether interface management is required as part of the proposed subdivision. This LUCRA should be read in conjunction with the Statement of Environmental Effects (SEE) and the associated design plans/drawings.

1.2 Proposal Overview

The proposal is for subdivision of the site and associated development, including an internal access road that would connect to James Creek Road. The proposal involves:

- Creation of 332 lots (327 residential lots, 1 commercial lot, 4 drainage reserves and associated public open space areas). Residential lots abut the southern and eastern boundaries, whereas lots are offset 25m (by a perimeter road reserve) from the northern and western boundaries.
- Construction of infrastructure provisions (including service installations/connections and road construction).

The proposal will generally allow the retention of scattered trees along the north-east, western and southern boundaries of the site.

Access for all proposed lots will be via an intersection to James Creek Road. The internal road network comprises a permeable symmetric layout of through roads, including a main ring road and several smaller loop roads.

Illustration 2.1 and **2.2** (in **Section 2.1** of this report) provides a site locality map and an aerial image of the site overlaid with the proposed subdivision layout.

1.3 Planning Context

1.3.1 Statutory Controls and Local Environmental Plan

The site is zoned under the Clarence Valley Local Environment Plan 2011 (CVLEP) as follows:

- Zone R1 – General Residential
- Zone R3 – Medium Density Residential
- Zone B1 – Neighbourhood Centre.

Table 1.1 shows the zone objectives for each of the relevant zones.

Table 1.1 Zone Objectives

LEP Zoning	Zone Objectives
Zone R1 – General Residential	■ *To provide for the housing needs of the community.* ■ *To provide for a variety of housing types and densities.* ■ *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*
Zone R3 – Medium Density Residential	■ *To provide for the housing needs of the community within a medium density residential environment.* ■ *To provide a variety of housing types within a medium density residential environment.* ■ *To enable other land uses that provide facilities or services to meet the day to day needs of residents.* ■ *To enable serviced apartments while maintaining the medium density residential character and amenity of a locality.*
Zone B1 – Neighbourhood Centre.	■ *To provide a range of small-scale retail, business and community uses that serve the needs of people who live or work in the surrounding neighbourhood.* ■ *To reinforce the neighbourhood centres of Coutts Crossing, Glenreagh, Lawrence and Ulmarra as the locations for commercial premises.* ■ *To minimise conflict between land uses within the zone and land uses within adjoining zones.* ■ *To enable other land uses that are compatible with and do not detract from the viability of retail, business and community uses within the zone.*

The proposed subdivision has been designed to reflect the objectives of each of the zones and is considered consistent with the relevant zone objectives under CVLEP. The Proposal is permissible with consent.

Surrounding land use zones include a rural, large lot residential, and environmental zones. The site and surrounding zoning provisions are shown in **Illustration 2.2**.

1.3.2 Development Control Plan

The Clarence Valley Residential Development Control Plan (CVDCP) 2011 supports the provisions of CVLEP and provides a set of development objectives and provisions for development within the Clarence Valley LGA. The relevant provisions of the DCP and how they relate to the proposed development are addressed in the SEE.

The CVDCP (applicable to residential or rural zones) does not contain any specific policies or criteria relating to matters of potential rural land use conflict. Despite the lack of such guidance/controls in the CVDCP, the accepted guideline to assess land use conflict is the NSW DPI *Living and Working in Rural Areas Handbook* (the Handbook). This is the primary guide to assess proposals when there are residential uses proposed to interface with rural land or agricultural activities.

1.3.3 North Coast Regional Plan 2036

The purpose of the North Coast Regional Plan (NCRP) 2036 is to provide a strategic land use planning framework to guide land use and planning priorities in the North Coast Region to 2036. The Plan informs local strategic planning statements and local environmental plans.

The NCRP 2036 indicates the need for a minimum additional housing supply of 3,550 dwellings for the Clarence Valley LGA by 2036. The most relevant North Coast Regional Plan 2036 goal guiding this is *Goal 4: Great housing and lifestyle options,* which includes the following Directions:

- *Direction 22 - Support delivery of a greater housing supply*
- *Direction 23 - Increase housing diversity and choice*
- *Direction 25 - Deliver more opportunities for affordable housing*

Noting the importance and strategic direction given to boosting housing supply, the NCRP 2036 also acknowledges the importance of rural lands and agricultural activity on the North Coast and includes Direction 11 which is to *protect and enhance productive agricultural lands.* Under Direction 11, the following relevant Actions are noted:

- *11.1 Enable the growth of the agricultural sector by directing urban and rural residential development away from important farmland and identifying locations to support existing and small-lot primary production, such as horticulture in Coffs Harbour.*
- *11.2 Deliver a consistent management approach to important farmland across the region by updating the Northern Rivers Farmland Protection Project (2005) and Mid North Coast Farmland Mapping Project (2008).*
- *11.3 Identify and protect intensive agriculture clusters in local plans to avoid land use conflicts, particularly with residential and rural residential expansion.*

Importantly, these matters and related Directions and Actions are typically used to guide future urban land use planning and urban land release decisions, such as associated rezoning proposals. In the current context, the subject land at James Creek Road has already been through the strategic planning and rezoning process. It has been identified and designated for urban/residential development and zoned according.

The proposed subdivision has been designed to allow for the orderly future development of the site for residential purposes and ensure efficient use of land resources. The proposed development is permissible.

1.3.4 Mid North Coast Farmland Project 2008

The Mid North Coast Farmland Mapping Project followed the Northern Rivers Farmland Protection Project which was completed in March 2005. The project has aimed to identify and protect regionally significant farmland from urban and rural residential encroachment and land use conflict. Additionally, it has aimed to encourage farmland areas to be targeted for land management assistance where suitable through Catchment Management Authority funding.

Regionally significant farmland is defined, for Mid North Coast Farmland Mapping Project, as 'land capable of sustained use for agricultural production with a reasonable level of inputs and which has the potential to contribute substantially to the ongoing productivity and prosperity of a region.'

The resulting maps (see **Figure 1.1** for excerpt of relevant map) showed farmland to be protected from urban and rural residential rezoning by the Minister for Planning's former Section 117 Direction under the *Environmental Planning and Assessment Act 1979*. As depicted in **Figure 1.1**, the subject site of the proposed subdivision is identified as "proposed urban area". Furthermore, the immediately adjacent land is not mapped as "regionally significant farmland" but is mapped as "other rural land". The nearest mapped regionally significant farmland is approximately 290m to the east (refer to **Illustration 2.2**).

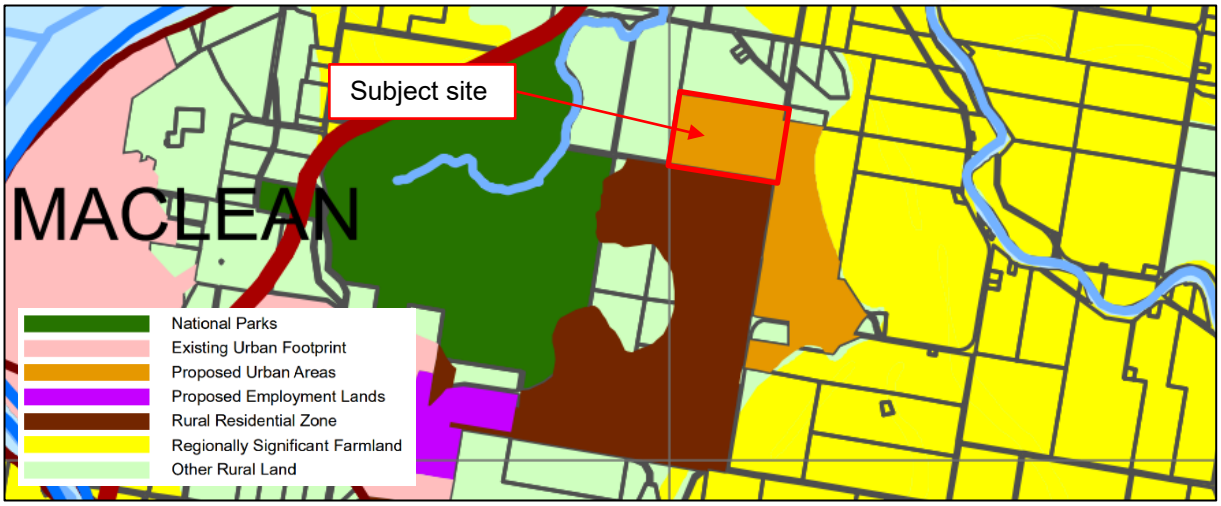


Figure 1.1 Excerpt from Map 1 of 4 from Mid North Coast Farmland Mapping Project (2008)

This acknowledges that at a strategic and statutory level, the site has been declared as suitable for residential purposes and the zoning/agricultural land mapping reflects this. Nonetheless, the area is yet to commence urbanisation, and rural land and agricultural activities remain present in the surrounding area. Hence, more specific consideration of the potential for rural land use conflict is now given based on the proposed DA for residential subdivision. The purpose of this LUCRA is to assess the potential for land use conflict between existing rural uses/activities and proposed residential uses, and recommend any necessary measures to help avoid, minimise, or manage this.

1.3.5 State Environmental Planning Policy (Primary Production) 2021

The relevant aims of State Environmental Planning Policy (Primary Production) 2021 (Primary Production SEPP) are:

(b) to reduce land use conflict and sterilisation of rural land by balancing primary production, residential development and the protection of native vegetation, biodiversity and water resources,

(c) to identify State significant agricultural land for the purpose of ensuring the ongoing viability of agriculture on that land, having regard to social, economic and environmental considerations,

Part 2.2 of the Primary Production SEPP provides identification and protection of agricultural land of State and regional significance. Land is State significant agricultural land if it is listed in Schedule 1. However, at the time of writing, Schedule 1 was blank and the Primary Production SEPP does not identity any land that is afforded such statutory protection due to its agricultural significance.

1.3.6 State Environmental Planning Policy (Resources & Energy) 2021

Biophysical Strategic Agricultural Land (BSAL) is land with high quality soil and water resources capable of sustaining high levels of productivity and has been mapped under the above SEPP which offers protections from mining activity that could impact BSAL land.

BSAL plays a critical role sustaining the State's $12 billion agricultural industry. A total of 2.8 million hectares of BSAL has been identified and mapped at a regional scale across the State. As shown in **Illustration 2.2** (see page 13), neither the subject site nor the immediately adjoining land is mapped as BSAL.

1.4 Living and Working in Rural Areas Guideline

The *Living and Working in Rural Areas Handbook* (Learmonth et al. 2007) (the Handbook) publication presents a consolidation of best practices and strategies arising from managing land use conflict on the North Coast of NSW. The Handbook addresses land use conflicts and interface issues arising between agricultural practices and neighbouring residents.

LUCRA's were initially conceived in the Handbook by the Centre for Coastal Agricultural Landscapes in partnership with the Northern Rivers Catchment Management Authority as a tool to better manage potential land use conflicts between residential development and rural activities and environmental attributes/assets on the NSW North Coast.

The Handbook, in particular *Chapter 6 Development Control*, provides guidance in the assessment and mitigation of potential land use conflict matters and have been used as a resource for this LUCRA. The Handbook outlines principles and measures to avoid or minimise the potential for land use conflict. Land use buffers (physical separation) are a common land use planning tool in reducing potential conflicts through the separation of certain uses. Though it is recognised that the purpose and application of buffers will vary depending upon individual circumstances and merit assessment. The Handbook recommends various general buffer distances (in metres) that may be considered as an adequate separation between residential areas/urban development and rural activities/primary industries, with the most relevant to this assessment being:

- Grazing of stock: 50m
- Sugar cane, cropping and horticulture: 300m
- State and regionally significant farmland: 300m

It is important however to recognise that buffers should not always be the default position and they are part of the toolkit in reducing land use conflict. While buffers can form part of a management response, they do not lessen the need for sound strategic planning and appropriate identification of land release areas and rezoning.

Additionally, generic application of separation/buffers do not replace the need for individual assessment of a proposal based on the specific characteristics of the site, locality and proposal itself. The site, proposal, and contextual specifics will inform the need for and range of potential management measures, and numeric separation buffers should not necessarily be used as an "easy" default position. Local and site-specific circumstances and application of relevant policies and specific guidelines will guide what measures are ultimately reasonable and appropriate in the circumstances. It is also noted that whilst complying with a default or standard buffer setback can help reduce conflict, it cannot guarantee the avoidance of conflict or interface issues completely. Chapter 3 of the Handbook also describes other management practices that could be used to reduce potential conflicts.

There are also a range of buffer types that can be utilised, in addition to standard physical separation, these include:

- Separation buffers: are the most common and involve establishing a physical separation between land uses where conflict could arise.
- Biological and vegetated buffers: created by vegetation planting and physical landscaping works. These can be a substitute where default physical separation distances cannot be fully achieved and/or also help with visual amenity and also reduce chemical spray drift and dust.
- Landscape and ecological buffers: refer to the use of existing vegetation to help reduce impact from development and can be used to maintain and protect existing vegetation and habitat.

- Property management buffers: refer to the use of alterative or specialised management practices or actions at the interface between uses where the potential for conflict is high.

It is noted also that where new residential development/dwellings are proposed on existing land with dwelling entitlement(s), or within land that has been through the strategic planning process and rezoned accordingly to residential, the setbacks and buffers normally required in a predominately rural setting may no longer be necessarily the most appropriate or practical response (if measures are necessary at all based on the site context). In these cases, discretion should be used to determine the level of potential conflict in this context and any necessary conflict avoidance strategies. Variations to buffer recommendations are permissible and ultimately the strategy adopted should consider the site-specific circumstances.

This LUCRA has been prepared given the proposed residential land use of the site and nearby/adjoining rural land. The purpose of the LUCRA is to identify land use compatibility and any potential conflict between the proposed land use and neighbouring land uses and therefore, assists in the identification of the potential for future land use conflict and any necessary management measures that may be required. The LUCRA aims to:

- assess the effect of the proposed land use on neighbouring land uses;
- identify any potential risk of conflict between the proposed and neighbouring land uses;
- provide an understanding of any likely land use conflict;
- where deemed necessary, address land use issues and risks before a new land use proceeds or before a dispute arises; and
- where required, highlight or recommend strategies to help avoid or minimise conflict.

In order to achieve the aims outlined above, a four-step assessment process has been undertaken as follows:

1. **Information Gathering** – The site biophysical characteristics, the nature of the development proposed, and the surrounding land uses are described.
2. **Risk Level Evaluation** - Each proposed activity is identified, and an assessment of potential land use conflict level is assigned. The higher the risk level, the more attention it will require.
3. **Identification of Risk Mitigation Management Strategies** – Where required, management strategies are identified which can assist in lowering the risk of potential conflict.
4. **Record Results** – Key issues, risk level and recommended management strategies are recorded and summarised.

2. Information Gathering

2.1 Site and Proposal Overview

Details of the subject site and proposal are summarised below:

Site details and address	Lot 4 DP751388, James Creek Road, James Creek
LGA	Clarence Valley Local Government Area
Zoning	Zone R1 – General Residential; Zone R3; Medium Density Residential; Zone B1 – Neighbourhood Centre; as per CVLEP.
Development type	Residential subdivision and associated works, including low and medium density residential lots, and construction of supporting infrastructure.

Illustration 2.1 (on the following page) shows the site locality and **Illustration 2.2** (at page 13) shows an aerial image of the site overlaid with zoning and the proposed subdivision layout.

0 1 Km

Site Locality - Illustration 2.1

Information shown is for illustrative purposes only
Drawn by: AB Checked by: RE Reviewed by: JTS
Source of base data: OpenStreet Map
Date: 05/05/2022

2.2 Site Description

Lot 104 DP 751388 (the site) is rectangular in shape and has an area of approximately 33 ha. It is situated mid-way along James Creek Road in James Creek, bounded by James Creek Road to the east and Austons Lane to the south, with large rural lots to the north and west. The lot to the north is densely vegetated. Approximately 650m further to the west flows James Creek and approximately 1.3km to the east flows Palmers Channel. Both waterways flow north, discharging into the Clarence River approximately 1.7km north of the site.

James Creek is a small, rural locality on the north coast of NSW. The nearest townships are Maclean, Gulmarrad and Yamba, all within 10-15 minutes' drive of the site. Grafton is the nearest larger centre, located 45 minutes' drive southwest.

The site has been historically cleared and modified for agriculture, sugar cane production and cattle grazing. It is currently essentially clear of vegetation other than grass. The crest of a small hill is located slightly to the north-west of the centre of the site. From this crest, the land falls away in all directions with slopes on the site typically in the range of 3% to 10%.

The site is predominantly zoned R1 General Residential, with a portion zoned R3 Medium Density Residential. There is also a small area approximately 2,100m² zoned B1 Neighbourhood Centre. This area has the potential to include a neighbourhood shop or similar compatible commercial development.

No natural watercourses or water features occur.

The site occurs on the New Italy (ne) soil landscape (Morand, 2001), characterised by moderately deep, poorly/imperfectly drained Grey Kurosols and moderately deep, imperfectly drained Yellow Kurosols throughout hillslopes and crests. Shallow (<100 cm), moderately well-drained Orthic Tenosols (Siliceous Sands) occur within rolling to steep low hills forming on the Maclean Sandstone Member of the Walloon Coal Measures.

Photographs of the site are shown at **Plate 2.1** through to **Plate 2.2**.

Plate 2.1 Subject site: Cleared land proposed to be developed and adjacent northern vegetation

Plate 2.2 Subject site: Cleared land proposed to be developed and adjacent northern vegetation

2.2.1 Topography, Climate and Natural Features

The crest of a small hill is located slightly to the north-west of the centre of the site. From this crest, the land falls away in all directions with slopes on the site typically in the range of 3% to 10%. The site ranges in elevation from around 5 m AHD to 21 m AHD.

The site comprises grassland with limited and isolated stands/scatters of native vegetation.

No natural watercourses or water features occur on the site.

The nearest weather station is located at Harwood Island (Harwood Sugar Mill) (6.6km away), however it does not offer the full range of climatic information. The next closest weather station with full statistics is located at Yamba Pilot Station (16km away). Climate statistics from this weather station are provided at **Figure 2.1**. Whilst not reflecting the exact on-site/local weather conditions, the results provide a reasonable indication of the general weather that can be experienced in the broader locality.

Figure 2.1 Monthly Local Climate Conditions and Statistics

Summary statistics YAMBA PILOT STATION

A summary of the major climate statistics recorded at this site is provided below. There is also an extended table with more statistics available. More detailed data for individual sites is available.

Site information

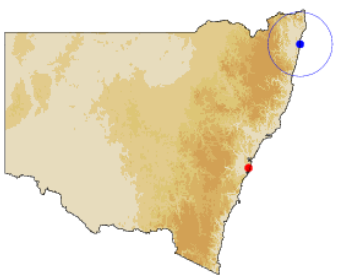
Site name: YAMBA PILOT STATION
Site number: 058012
Latitude: 29.43 °S **Longitude:** 153.36 °E
Elevation: 27 m
Commenced: 1877 **Status:** Open
Latest available data: 05 May 2022

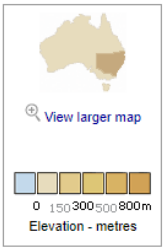
Additional information

Additional site information

Nearest alternative sites

1. 058027 HARWOOD SUGAR MILL (10.6km)
2. 058052 TABBIMOBILE STATE FOREST (27.3km)
3. 058212 EVANS HEAD RAAF BOMBING RANGE AWS (27.8km)





View: Main statistics / All available | Period: Use all years of data | Text size: Normal / Large

Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Years		Plot	Map
Temperature																	
Mean maximum temperature (°C)	26.8	26.8	26.1	24.3	21.8	19.7	19.1	20.2	22.1	23.4	24.7	26.0	23.4	145	1877 2022		
Mean minimum temperature (°C)	20.3	20.4	19.3	16.5	13.3	10.9	9.8	10.5	13.0	15.5	17.5	19.2	15.5	145	1877 2022		
Rainfall																	
Mean rainfall (mm)	139.5	163.2	191.6	160.4	153.4	136.7	100.3	75.2	58.8	79.6	92.3	117.7	1463.2	142	1877 2022		
Decile 5 (median) rainfall (mm)	112.5	137.6	163.4	136.1	123.2	112.5	65.8	54.4	42.6	65.7	76.2	102.4	1407.3	145	1877 2022		
Mean number of days of rain ≥ 1 mm	10.3	11.0	13.5	11.5	10.5	8.8	7.5	6.6	6.4	7.7	8.2	9.0	111.0	145	1877 2022		
Other daily elements																	
Mean daily sunshine (hours)																	
Mean number of clear days	8.0	6.3	7.8	9.9	10.7	11.5	14.6	16.1	15.2	12.1	9.6	9.4	131.2	54	1944 2010		
Mean number of cloudy days	10.7	10.7	11.7	9.4	10.7	9.5	7.6	6.2	5.6	8.2	9.9	10.0	110.2	54	1944 2010		
9 am conditions																	
Mean 9am temperature (°C)	23.8	23.5	22.6	20.3	16.9	14.1	13.1	14.7	18.0	20.4	21.5	23.0	19.3	58	1907 2010		
Mean 9am relative humidity (%)	78	81	80	79	78	78	74	70	67	69	74	76	75	54	1944 2010		
Mean 9am wind speed (km/h)	13.6	13.8	13.7	12.9	11.9	12.7	12.5	12.7	12.9	13.5	12.9	12.7	13.0	54	1944 2010		
9am wind speed vs direction plot																	
3 pm conditions																	
Mean 3pm temperature (°C)	25.2	25.3	24.4	22.7	20.5	18.5	17.9	18.6	20.1	21.2	22.6	24.0	21.8	55	1944 2010		
Mean 3pm relative humidity (%)	75	75	74	71	67	65	61	60	64	70	72	75	69	54	1944 2010		
Mean 3pm wind speed (km/h)	21.1	20.6	20.6	17.9	15.4	15.4	15.7	18.1	21.2	23.0	21.9	21.5	19.4	54	1944 2010		
3pm wind speed vs direction plot																	

Wind observations for Yamba are shown in the wind roses at **Figure 2.2** and **Figure 2.3**. Annual wind direction averages predominately tend from the south and southeast, with gentle westerlies also experienced in the morning. Winds predominately tend from south, southeast and northeast in the afternoon. Wind speed is mostly medium, with gentle and gusty conditions also experienced. However, it is noted that this stronger wind gust is likely influenced by the coastal location of the Yamba Station, with wind speeds generally less inland and therefore wind speeds at the site are likely to be low to medium.

Figure 2.2 Annual Wind Rose 9am

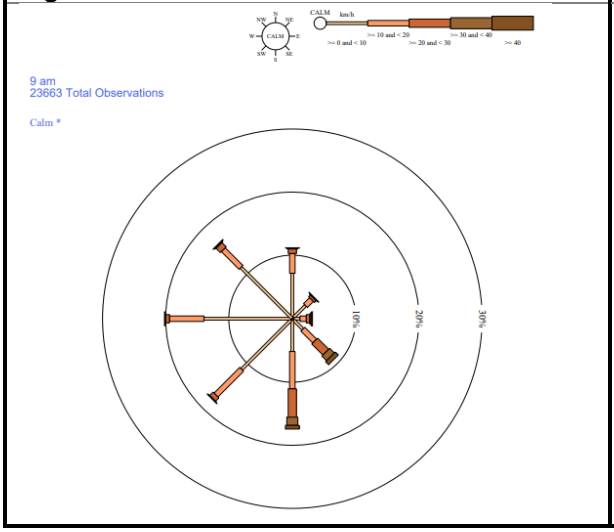
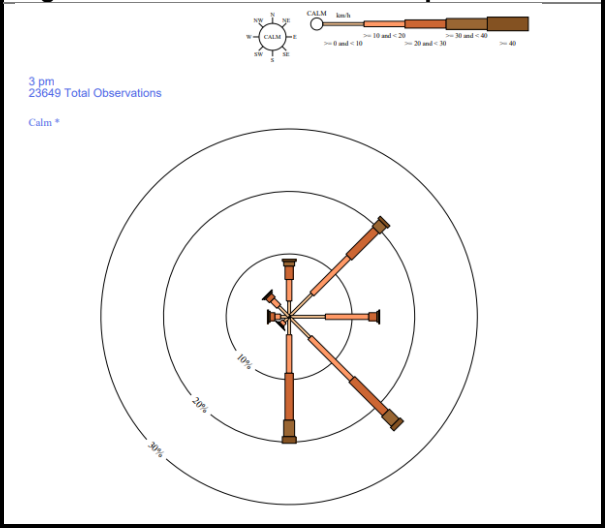


Figure 2.3 Annual Wind Rose 3pm



2.2.2 Adjoining and Surrounding Land Uses

The site sits on a large property within a rural context, with village type and large lot residential urban development present in the locality. Surrounding land is mostly rural in character and comprises grazing land, cropping and horticultural plantations, and interspersed rural dwellings/hobby farms, with a notable large lot residential development area directly to the south.

The following land uses adjoin the boundaries of the site:

- To the north is a rural property within the RU2 Rural Landscape zone, comprising forested land which extends along the entire northern boundary (refer to **Plate 2.3**. The nearest dwelling to the north is about 300m away.
- To the east is James Creek Road. Beyond the road is rural land zoned RU1 Primary Production, comprising open grassland and scattered trees, drainage lines and minor intermitted waterbodies. Further to the east, commenting about 550m from the site, are crops (sugar cane) and horticulture. The nearest dwelling to the east is approximately 200m away.
- To the south comprises of R5 Large Lot Residential zone that has been developed accordingly with dwellings. The nearest dwelling in this zone is about 120m south of the boundary.
- To the west is rural land zoned RU2 Rural Landscape. The adjoining western lot is a medium sized holding of 33ha and occupied by a dwelling (about 220m to the northwest of the subject site). The land is partly forested with remanent vegetation, including a section along the western boundary, and partly grassland used for low intensity cattle grazing (approximately 20-30 cattle were observed grazing the open pasture during a site inspection in April 2022). Further to the east is more rural land and also environmental conservation zoning that covers swampy forests/wetland areas. A view of historical aerial imagery indicates that the land use activity on this

land has not materially changed for decades. These biophysical conditions suggest that the land is unlikely to be able to support intensive agricultural activity or higher grazing stock densities.

The zoning and land uses present in the surrounding area, including that described above and dwellings surrounding the site, are depicted in **Illustration 2.2**. There are no other sensitive land use types within 500m of the site. **Plate 2.3** to **Plate 2.8** show the land use characteristics at the west, north and south boundaries of the site, as described above.

Plate 2.3 Vegetated land adjoining the northern boundary interface

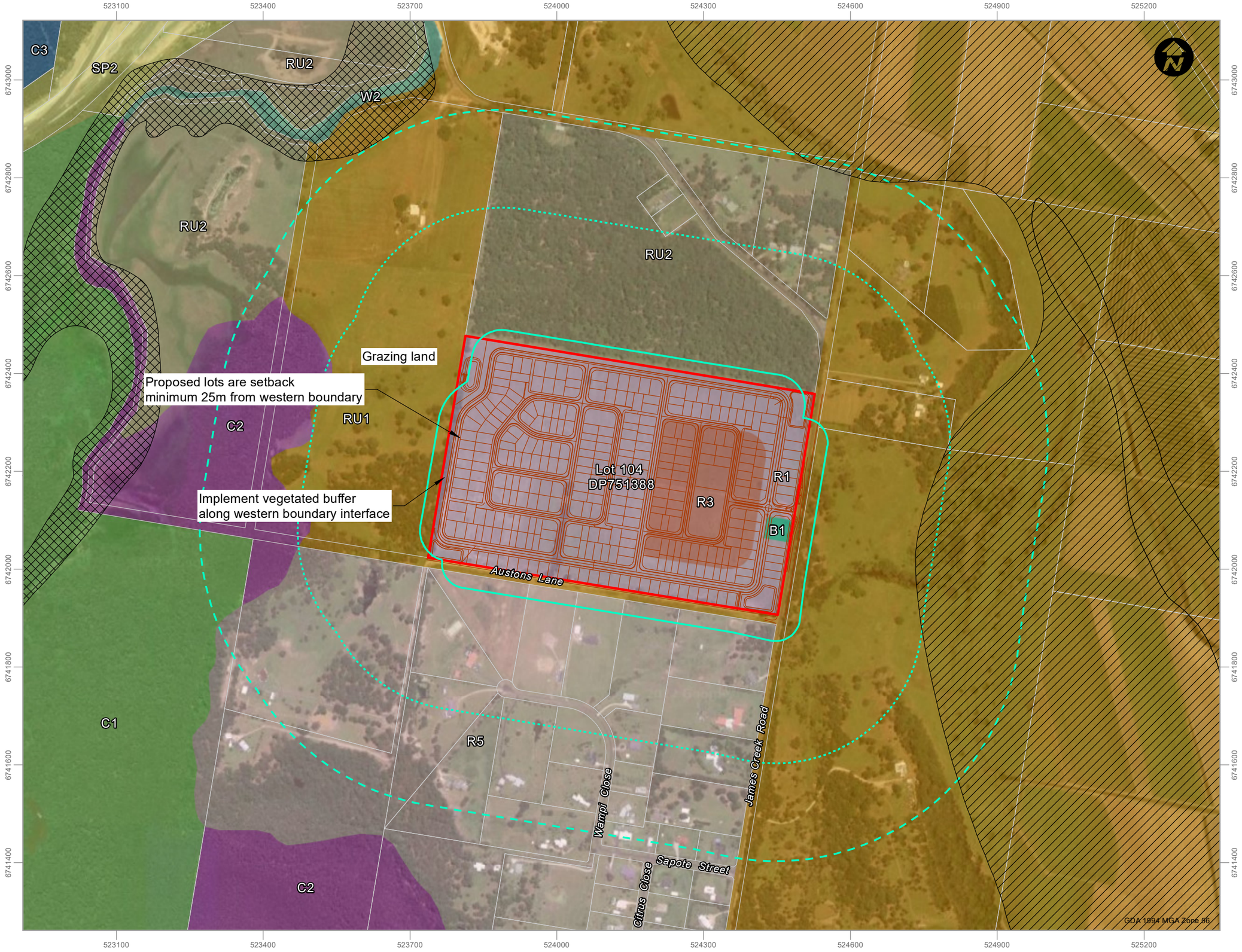
Plate 2.4 Large Lot Residential Land/Development to the South

Plate 2.5 Rural land to the west (partly forested section)

Plate 2.6 Rural land to the west (edge of forested area opening to grazing land beyond)

Plate 2.7 Open western interface to low intensity cattle grazing land.

Plate 2.8 Scattered trees along western boundary with low intensity grazing of cattle beyond.



0 150 Metres

Site Zoning and Surrounding Land Use Context - Illustration 2.2

Information shown is for illustrative purposes only
Drawn by: AB Checked by: RE Reviewed by: JTS
Source of base data: Google Maps
Date: 06/05/2022

2.3 Potential Land Use Conflict

2.3.1 General Potential Rural Interface Conflicts

The proposed development of a site should consider the surrounding land use context and where necessary be designed to minimise instances of incompatibility such that any important agricultural values or farming practices that may occur in an area are not inhibited, or adversely affect the amenity of future residents. Where such instances do arise, measures to ameliorate potential conflicts may be necessary.

Conflict between residential development and agricultural land uses (particular intensive forms) is most likely to occur where residential land uses directly abut, or are close to, active farmland and primary production such that they are likely to be affected by regular agricultural activities. Conflict between the proposed residential development of the site and existing agricultural activities is not seen as a cause for substantial concern or risk at this site given the lack of proximal intensive or large-scale agricultural activity (the adjoining cattle grazing is low intensity). Nonetheless, the risk of potential conflicts should be considered, yet again the likelihood is not expected to be high given the area is zoned for residential/urban purposes (meaning there is a reasonable expectation for development to occur) and there are no obvious high conflict activities present nearby.

Generally, potential conflict can arise from the use of agricultural chemicals, noise, dust and odour generating activities. Adverse impacts of the proposed future residential development of the site on farmland could include traffic, noise (vehicles), sediment and stormwater run-off. Complaints from new residents about proximal and intensive agricultural activities can also cause conflict and put pressure on agricultural uses if they cannot effectively co-exist.

When considering potential land use conflict between residential and agricultural activities it is important to also recognise that all agricultural activities:

- should incorporate reasonable and practicable measures to protect the environment in accord with the *Protection of the Environment Operations Act 1997* (POEO Act) and associated industry specific guidelines; and
- are legally conducted as required by other legislation covering workplace health and safety, and the use and handling of agricultural chemicals.

Nevertheless, certain activities practised by even careful and responsible farmers/operators may result in a nuisance to adjacent residential areas, for example, unavoidable odour drift and noise impacts. People's sensitivity to potential nuisance/impacts can be also be variable and subjective.

Possible typical conflicts that can arise between agricultural enterprises and residential development are provided in **Table 2.1**.

Table 2.1 Typical conflicts that can occur between agriculture/rural activities and nearby residential uses

Concern/conflict issue	*Common causes*
Noise	■ Dogs, general livestock noise. ■ Equipment, pumps, plant, spray machines, transport. ■ Ancillary equipment associated with on-farm processing. ■ Livestock processing. ■ Extractive industry processes (excavation, blasting etc).

Odour and Dust	■ Soil disturbance and excavation. ■ Excess/concentrated manure. ■ Agricultural fertilisers and chemicals. ■ Intensive animal industries. ■ Management and application of effluent to pasture.
Health concerns	■ Chemicals. ■ Spray drift. ■ Smoke.
Water	■ Access. ■ Pumping. ■ Quantity. ■ Runoff and pollution.
Smoke and ash	■ Burning off.
Visual amenity	■ Large structures. ■ Netting. ■ Greenhouses.
Nuisance	■ Stray dogs. ■ Vandalism. ■ Trespass. ■ Noxious and environmental weeds.

The Handbook (in particular Chapter 6 Development Control) provides guidance in the assessment and mitigation of potential land use conflict matters and has been used as a resource for this LUCRA where applicable.

2.3.2 Site-specific Observations and Potential Conflicts

Conflict between the proposed residential development of the site and agricultural activities is of low consequence in this context given the lack of proximal intensive or large-scale agricultural activity, and the known expectation for residential/urban development to occur given the site zoning and strategic land use planning proposes that has already occurred.

In summary:

- There is no risk of rural land use conflict to the north given the adjoining block is heavily forested and no future activity for agriculture use is envisioned (ie. the vegetation is unlikely to be cleared for the purpose of agricultural use).
- There is no notable rural land use conflict risk to the south, given the interface with a large lot residential development. Some of these properties may have animals, including limited numbers of livestock, however this would be more akin to pets and lifestyle/hobby farm situations given the restrained size of lots (being about 2ha).
- The eastern interface does not present any immediate rural activity or risk of conflict. James Creek road and boarder vegetation provide adequate separate from grazing land and the cropping land beyond is well separated from the site and satisfies the recommended separation buffer in the Handbook.
- The western boundary interfaces with open forest and cattle grazing land. The forested section is established and approximately 100m wide by 200-220m long (along the boundary). The forested area is expected to be less favoured by cattle for grazing. Whilst individual animals may meander through this area, it is unlikely for the herd to congregate in this forest. Open pasture however adjoins the northern half of the western boundary, with cattle able to roam free to the boundary fence. As noted previously, a site observation in April 2022 confirmed that the use appears to be

low intensity cattle grazing (about 20-30 cattle were observed in distance), with a limited herd. No notable agricultural activity, odour or noise was observed. Based on the size of the lot/land, there would be a maximum carry capacity of livestock and it is expected that paddock rotation would be employed (cattle grazing enterprises such as this practice paddock rotations to rest pasture and break parasite lifecycles in faeces, etc), meaning cattle may not always be present near this interface, and if they were, it is does not appear to be intensive nor potentially offensive. Furthermore, no cattle yards, sheds, stock transporting infrastructure or other intensively used facilities ancillary to livestock grazing activities are present or within view of this boundary interface.

Notwithstanding the above, surrounding rural land activities which could have a direct/ indirect impact on the proposal and future residential uses include:

- Presence of open grazing land interfacing with western boundary.

Theoretically, this rural activity could have the potential to result in the following conflict points with new residential uses (the likelihood of occurrence and potential consequence/risk of such matters specific to this local context/interface is assessed in **Section 3**):

Noise:

- Noise emissions can adversely affect residential amenity and enjoyment.
- Noise emissions could occur from livestock, weaning calves, and noise radiated by gates and other associated/ancillary farm infrastructure such as ramps, loading facilities, yards and sheds (of which there are none observed nearby).

Dust:

- Dust emissions can adversely affect residential amenity and enjoyment. Dry periods, land cultivation/frequent machinery movements, or potential overstocking of livestock could result in related dust and air quality impacts.

Odour:

- Livestock (including the rare occasion if an animal dies), wet/boggy areas, and excess accumulation of dung can cause potential odour if herds and pastures are not managed appropriately. Depending on wind conditions and proximity, this can drift and affect residential amenity and enjoyment.

Spray drift and residue:

- Graziers if they are not practicing organic grass-fed production can use chemicals. Farms may use pesticides and herbicides that are applied via spraying. Primarily if and when these are employed, they are done so in ideal conditions i.e. without strong winds. However, the potential for off-target movement of agricultural chemicals (spray drift) can be a cause for concern to residents in proximity. Concerns generally relate agricultural chemical exposure, but also due to detection of odours associated with the chemical. No aerial agricultural spraying is known to occur in the area.
- Broadcast spraying is not expected, however if done at excessive pressure, this increases the proportion of small droplets from a nozzle which are prone to drift. Small droplets can travel long distances in air currents and can cause damage to other crops, and the environment. Spot spraying of weeds by low pressure knapsack or hand lance from a vehicle are common potential spray requirements associated with certain farming activities. This method is targeted and does not present a significant risk of spray drift to the proposed adjoining residential development.

There are also codes of practice for agriculture and the use of chemicals; however, deviation from codes of practice can occur, and by the same token, complaints may occur despite compliance.

Threats to Biosecurity:

- Introduction of diseases and parasites
- Introduction and spread of weeds.

Domestic Animals:

- Domestic animals, including dogs, may get lose and chase or attack livestock.

Surface water and sediment laden runoff:

- Excessive irrigation or heavy rainfall could cause sediment, fertiliser or chemical laden surface water runoff to occur and impact land and the environment downstream. Alternatively, the proposed urban development will alter land surface characteristics and the hydrological balance on the subject site. The increase of impermeable surfaces and changes to drainage patterns can accelerate soil erosion, siltation and sedimentation, and increase the risk of flooding if not appropriately designed and managed. Techniques to alleviate conflict due to downstream effects of the proposed development include suitable erosion, sediment and stormwater control/treatment during the construction and operational stages of the development.

Traffic and access:

- Agricultural machinery/vehicles could cause traffic delays or interruptions if slow moving or heavy vehicles frequent the area/use the same collector road and if adequate design/updates are not undertaken. Similarly, new residential development will generate increased traffic movements that may impact primary industry traffic access and movements if appropriate road infrastructure is not provisioned.

3. Land Use Conflict Risk Assessment

3.1 Potential Activities, Issues and Risk

This assessment primarily relates to any issues arising from potential conflict between agricultural practices/ activities and the proposed residential subdivision. Potential risks or impacts that may give rise to possible land use conflicts have been considered and evaluated in the context of the site, surroundings and land use policy setting to establish if any minimisation or management measures may be required.

In this instance, the main potential for conflict to arise would be through perceived or actual impacts from adjoining (albeit limited) grazing activities to the west, on future residential uses/development. All potential conflict points identified in **Section 0** have been evaluated for risk in the following sections.

3.2 Risk Evaluation and Ranking

A risk assessment matrix is used in LUCRAs to rank the potential land use conflicts in terms of significance. The matrix assesses the environmental/public health and amenity impacts according to the:

- Probability of occurrence; and
- Severity/consequence of impact.

The procedure of environmental/public health and amenity hazard identification and risk control are performed in three stages.

1. Environmental/public health & amenity hazard identification;
2. Risk assessment and ranking;
3. Risk control development.

Procedure:

1. Prepare LUCRA Hazard Identification and Risk Control table/form.
2. List all hazards associated with each activity.
3. Assess and rank the risk arising from each hazard before “controls” are applied on the LUCRA form.
4. If required, an unacceptable risk rating is indicated, develop controls that minimise the probability and consequence of each risk using the five level methods.
5. Re-rank each risk with the control in place to ensure that the risk has been reduced to an acceptable level. If the risk ranking is not deemed to be acceptable, consideration should be given to whether the proposed activity should be allowed to proceed or whether additional management is required.

3.2.1 Risk Assessment Probability and Severity

Activities with the potential to cause conflict are assessed and ranked using the risk assessment/ranking matrix shown in **Table 3.1.**

It is necessary to differentiate between an 'environmental hazard' and an 'environmental risk'. 'Hazard' indicates the potential for harm, while 'risk' refers to the probability of that harm occurring. For example, the presence of chemicals stored in a building is a hazard, but while the chemicals are stored appropriately, the risk is negligible.

The risk ranking matrix yields a risk ranking from 25 to 1. It covers each combination of five levels of 'probability' (as defined in **Table 3.2**) and five levels of 'severity' or 'consequence', (a number 1 to 5 as defined in **Table 3.3**) to identify the risk ranking of each impact. For example, an activity with a 'probability' of D (unlikely) and a 'consequence' of 3 yields a risk rank of 9.

A rank of 25 is the highest magnitude of risk that is a highly likely, very serious event.

A rank of 1 represents the lowest magnitude or risk, an almost impossible and very low consequence event.

Generally, a risk rating of 1-10 is considered an acceptable risk that does not need intervention; whilst a risk ranking of 11-25 (highlighted red) is considered an unacceptable risk and likely requires management/mitigation measures to help avoid or reduce potential risk to an acceptable level.

Table 3.1 Risk Ranking/Assessment Matrix

PROBABILITY	A – Almost Certain	B – Very Likely	C - Possible	D - Unlikely	E - Rare
CONSEQUENCE					
1 – Severe	25	24	22	19	15
2 – Major	23	21	18	14	10
3 – Moderate	20	17	13	9	6
4 – Minor	16	12	8	5	3
5 – Negligible	11	7	4	2	1

Table 3.2 Probability of Occurrence

Level	*Descriptor*	*Description*
A	Almost certain	Common or repeating occurrence
B	Likely	Known to occur or 'it has happened'
C	Possible	Could occur or 'I've heard of it happening'
D	Unlikely	Could occur in some circumstances but not likely to occur
E	Rare	Practically impossible

Table 3.3 Measure of the Consequence/Severity of Impact

Severity	*Description and Implications*
Severe (Level 1)	▪ severe and/or permanent damage to the environment ▪ irreversible even with management ▪ odours so offensive people are evacuated or leave voluntarily ▪ many public complaints ▪ almost certainly contravenes Protection of the Environment & Operations Act (POEO Act) and the conditions of Council's licenses and permits.
Major (Level 2)	▪ serious and/or long-term impact to the environment ▪ long-term management implications ▪ some public complaints, impacts pass quickly ▪ likely contravenes POEO Act and the conditions of Council's licenses and permits.
Moderate (Level 3)	▪ moderate and/or medium-term impact to the environment ▪ some ongoing management implications ▪ broader public unaware and no, or only few localised, complaints ▪ impacts generally pass quickly ▪ may contravene POEO Act and the conditions of Council's licenses and permits.
Minor (Level 4)	▪ minor and/or short-term impact to the environment ▪ can be effectively managed as part of normal operations ▪ no complaints ▪ does not contravene POEO Act or the conditions of Council's licenses and permits.
Negligible (Level 5)	▪ very minor impact to the environment ▪ can be effectively managed as part of normal operations ▪ no measurable or identifiable impact on the environment.

Each proposed activity is recorded on **Table 3.5** and an assessment of potential land use conflict level is assigned accordingly. Ranking is given before and after any relevant ameliorating measures are applied to mitigate the given activity impacts. The higher the risk level, the more attention/ management it will likely require in order to reduce the ranking level. Risk rankings are derived from the risk ranking tables above.

Table 3.4 below provides an overview of the site features and conditions that can influence the potential level of conflict. These potential factors can influence the potential level of conflict and therefore inform the subsequent risk assessment. The areas of potential conflict outlined in **Table 3.4** will then be addressed through the risk/hazard assessment and management measures/controls outlined in **Table 3.5**.

Table 3.4 LUCRA Site Assessment and Influential Factors

Site Feature/ Element	*Condition/Comments*	*Potential for Conflict*
Residential Development/ Buffer Distances	Default buffer distances to residential development from the following activities identified in the Handbook include: ■ Grazing of stock: 50m ■ Sugar cane, cropping and horticulture: 300m ■ State and regionally significant farmland: 300m ■ No horticulture/plantations/cropping is present within 500m of the proposed residential lots. This satisfies the buffer recommendation. ■ The nearest mapped regionally significant farmland is about 290m away and would reasonably satisfy the buffer recommendation of 300m. The minor localised encroachment (as shown on **Illustration 2.2**) is inconsequential and is not currently cultivated. ■ The frontage of the nearest residential lots are setback 25m from the western adjoining grazing land and does not satisfy the 50m separation buffer distance recommended.	Adjacent grazing is low-intensity and presents a predominantly low potential conflict due to small scale, separation, and lack of nearby ancillary farm/livestock infrastructure.
Site Location: Vehicular Access	The subject site would be accessed off James Creek Road. This is the main road that local rural activities use. Hence there could be conflicts between heavy and slow-moving vehicles and future residents' cars. Measures to reduce any potential traffic impacts would be addressed through the design, development and traffic assessment component of this DA, including any necessary road upgrades and intersections.	Low to moderate
Exposure and wind	The majority of wind likely to be experienced in the area (refer to Wind Roses at **Figure 2.2** and **Figure 2.3**) would be of moderate speed and primarily from the south or east, or northeast.	Low-moderate
Run-on and Seepage, Site Drainage and Water pollution	Run-on or seepage on adjoining farmland will be negligible. The land is undulating however there are no defined drainage lines water courses present on site.	Low
Agricultural Chemical Spray Drift	Given the generally small-scale and type of nearby rural activity (grazing) in the area, and prevailing wind conditions, significant spray use/drift is not expected.	Low
Odour	Given the limited range of rural activities in the area (e.g. no intensive animal agriculture; only low intensity grazing) such risks would be low. Areas of surface saturation could increase odour, however wet and low-lying areas are more than 50m from the proposed residential lots. Complying with the recommended 50m buffer is not going to completely or notably reduce the risk of odour compared to a 25m separation buffer, with the addition of a vegetated strip within this buffer.	Low
Noise	The likelihood of noise impacts from the existing agricultural activities is low given there would be intermittent use of tractors and vehicles, general noise of grazing livestock, and there is a lack of nearby ancillary farm infrastructure (such as sheds, cattle yards and loading infrastructure).	Low

Site Feature/ Element	Condition/Comments	Potential for Conflict
Dust	The main sources of dust from nearby rural activities could include soil cultivation, tractor use, potential over-stocking (though unlikely), and transport movements. These activities in the local context of the adjoining land are not considered high risk in relation to generating airborne particulate matter (dust). Further, wind speeds are not expected to be significant at this location. The dominant wind directions would also minimise direct exposure to potential dust.	Low
Residential subdivision design	The residential subdivision has been designed to make efficient use of land resources zoned for such purposes. The layout includes an outer perimeter road along the northern and west boundaries, providing for separation/protection. The development will comply with Council policy and satisfies the DCP. All residential dwellings will be adequately setback from street frontages, side and rear boundaries. All lots will be adequately fenced. The development has been adequately engineered and designed to manage traffic generate and stormwater quality and quantity.	Low

Table 3.5 Hazard Identification, Risk Evaluation, Mitigation/Control & Ranking

Activity	*Identified Potential Issue/Hazard*	*Risk Ranking*	*Mitigating Factors and/or Control Methods*	*Residual and/or Controlled Ranking*
Noise (livestock grazing and ancillary farm infrastructure)	Livestock and weaning calves can make periodic noise. Pasture/paddock rotation would minimise exposure. Noise produced by gates and other associated/ancillary farm infrastructure such as cattle ramps, loading facilities, yards and sheds (of which there are none observed near to the western interface). No significant noise is expected. The adjoining grazing activity is low-intensity and there is no nearby ancillary farm infrastructure that would generate additional noise. Occasional minor livestock noise is not unreasonable and would generally be tolerable in this context.	C4 = 8 acceptable. D4 = 5 acceptable.	None required.	N/A
Dust generation	Dust emissions can adversely affect residential amenity and enjoyment. Dry periods, land cultivation/frequent machinery movements, or overstocking of livestock could result in related dust and air quality impacts. Pasture/ paddock rotation would periodically rest areas and minimise potential damage to/depletion of ground cover/pasture. Generation of high or frequent dust is unlikely given use and conditions of land.	D4 = 5 acceptable	None required.	N/A
Odour	Livestock activity/presence (including if an animal died nearby), wet/boggy areas,	C4 = 8 acceptable	None required.	N/A

	and excess accumulation of manure can cause potential odour which could drift. No significant odour is expected. The adjoining grazing activity is low-intensity and farmers tend to/check on their herds. There is no nearby ancillary farm infrastructure such as yards where cattle could be penned and therefore could result in concentrated odour production. Grass fed diet for cattle is likely to be of lower odour potential compared to grain/meal fed stock. Predominant wind direction is also likely to minimise potential drift of any odour toward the residential development.		Although no significant odour is expected, given the 50m recommended physical separation is not achieved, inclusion of a planted/vegetated buffer along the western boundary (using appropriate species, including native flowering or fragment species can help minimise odour) will assist in reducing any potential occurrence of odour.	
Runoff and erosion management during development construction	Potential for sediment laden or contaminated runoff and erosion if not effectively managed during construction.	C3 = 13 unacceptable	Sedimentation and erosion controls implemented for the construction phase of the development.	D4 = 5 acceptable
Surface water changes and stormwater and management from proposed development	Increase of impermeable surfaces and stormwater runoff. Need for appropriate integration and management of stormwater and avoidance of potential impacts to receiving environment and catchment.	C3 = 13 unacceptable	Stormwater runoff to be captured by drainage system/infrastructure, with adequate quality and quantity targets achieved. The design of the residential development would address stormwater management and drainage in accordance with the Development Control Plan.	D3 = 9 acceptable
Use of Agricultural/ Horticultural Sprays	Spraying is not expected to be a significant activity on the adjoining farmland. Nonetheless spray drift has the potential to adversely affect the health and safety of persons in non-targeted areas. There can also be perceived risk related to this practice being nearby.	C3 = 13 unacceptable	Although no significant spray regimes are expected nearby and localised/targeted spot weed spraying presents low risk, given the 50m recommended physical separation is not achieved, inclusion of a 7-8m wide planted/vegetated buffer along the western boundary will assist in reducing/capturing any potential occurrence of spray drift.	D4 = 5 acceptable

	Spot spraying of weeds by low pressure knapsack or hand lance from a vehicle are common potential spray requirements associated with certain farming activities and do not present a significant risk of spray drift. All landholders are required to incorporate reasonable and practicable measures to protect the environment in accord with the POEO Act and associated industry specific guidelines and are subject to workplace health and safety, and guidelines for the use and handling of agricultural chemicals.			
Surface water and sediment laden runoff	Potential for sediment laden or contaminated runoff from up-slope agricultural practices into residential areas. There is a lack of intensive agricultural activity up-slope of the site and the potential for significant adverse runoff is unlikely.	D4 = 5 acceptable	None required.	N/A
Threats to biosecurity	■ Introduction of diseases and parasites ■ Introduction and spread of weeds.	C3 = 13 unacceptable	■ Adequate boundary/exclusion fencing during construction and operation of the development (the site will be fenced with dog-proof fencing). ■ In NSW everyone has a general biosecurity responsibility under the *Biosecurity Act* to prevent, minimise and avoid the risk of from weeds. ■ During construction only clean machinery would be brought to site, disturbed ground would be stabilised progressively, and appropriate management measures implemented to prevent the possible spread/tracking of soil and weeds.	D4 = 5 acceptable
Domestic animals	■ Domestic animals, including dogs, may get lose and chase or attack livestock.	C3 = 13 unacceptable	■ The residential estate will be fenced with dog-proof fencing along the west, north, and south boundaries.	E3 = 6 acceptable

			■ All residential lots/rear yards would be securely fenced. ■ There are council policies for ownership of pets and associated responsibility (registration/microchipping etc).	
Traffic and access	Potential conflicts between farm/heavy vehicles and residential vehicular access and generation along James Creek Road.	C3 = 13 unacceptable	James Creek Road is proposed to be widened/upgraded at site frontage. The intersections with the future urban area will be designed to meet engineering standards to adequately and safely cater for the expected traffic generation, accounting for both existing traffic and traffic post development.	D4 = 5 acceptable

4. Discussion, Conclusion and Recommendations

The land use conflict risk assessment presented in **Section 3**, particularly **Table 3.5**, has identified and evaluated a range of potential land use conflicts between the future residential development of the subject site and surrounding land uses in the rural landscape, notably proximal low-intensity cattle grazing on adjoining land to the west.

While land in the locality contains active farmland and associated activities, this is primarily located over 500m to the east and northeast and satisfies the separation recommendations of the Handbook in these directions. The only proximal/adjoining farmland and rural activity is low-intensity cattle grazing to the west.

Most of the potential conflicts identified in this LUCRA are of low risk, with some being potentially moderate when unmitigated. Six matters were identified as being ranked as potentially unacceptable (though still not significant) prior to taking into account mitigating factors and/or control methods. These include the following matters associated with adjoining grazing activity and the interface with the proposed residential development:

- Runoff and erosion management during development construction
- Surface water changes and stormwater and management from proposed development
- Possible use of chemicals and sprays
- Threats to biosecurity
- Domestic animals
- Traffic and access.

Of the above, water runoff, stormwater/erosion management, threats to biosecurity, domestic animals, and traffic/access can be managed through common/standard measures that do not involve or require buffers or alternative buffer solutions (e.g. narrower vegetated buffers). These matters have been assessed in **Table 3.5** as being manageable, with an acceptable residual risk, based on design outcomes and engineering requirements that would be required as part of the subdivision design and proposal anyway (i.e. to assess relevant LEP and DCP provisions).

Potential impacts from adjoining grazing activities, including possible dust, some noise and potential minor odour were not considered high risk or likely to need specific intervention given the site context and low-intensity nature of the grazing activity. Yet even with low risk there is still the potential for conflict when introducing new residential uses in proximity. This risk is reasonably minimised by the presence of adjoining forest/woodland along nearly half of the site interface. The remaining half of the boundary is open to the adjoining grazing land and this area presents the greatest potential (although still not significant) for possible conflict to arise. However, the extent of residential lots facing this open interface and not meeting the Handbook's recommended 50m setback/buffer is limited and amounts to a small proportion of the proposed lots (about 8-10 lots) as shown in **Illustration 2.2**.

The Handbook, in particular Chapter 6 *Development Control*, provides guidance in the assessment and mitigation of potential land use conflict matters. Though it is recognised that buffers are effective at reducing potential conflicts, the purpose and application of buffers varies depending upon individual circumstances and buffers should not always be the sole or default position, especially where site specific circumstances and merit assessment warrants or justifies an alternative solution or variation. The Handbook outlines that where new residential development/dwellings are proposed on land with

dwelling entitlements, such as land that has been through the strategic planning process and zoned for residential purposes, the setbacks and buffers normally recommended for rural areas may not be appropriate or practical. In this case, discretion is required to determine the level of potential conflict in this particular context and whether conflict avoidance strategies are a necessity, and if so, to what extent they may be required to be effective and add value.

In this context, for the reasons outlined in this LUCRA and **Table 3.5** it is not necessary to impose the standard recommended 50m separation buffer distance from the western boundary. The proposed 25m setback of the proposed residential lots, combined with a planted/vegetated buffer of about 7-8m within this setback would be adequate and reasonably achieve the aims and objectives of the Handbook and land use conflict minimisation. The Lismore DCP suggests a vegetated buffer width of 5m to grazing lands. In this case, a 7-8m vegetated buffer width is available based on the spare space within the current design's road reserve (between the boundary and pedestrian footpath to be established behind the kerb of the street) and would complement the physical separation/setback.

This arrange is considered to be acceptable and justified as follows:

- There is no notable risk of land use conflict along the site's northern or southern boundary.
- Proximal surrounding agricultural activities are limited in scale and type to grazing, and do not pose a significant risk of conflict, with most risks being minor and manageable.
- More intensive plant-based agriculture and cropping, as well as mapped regionally significant farmland (west of the site and James Creek Road), is well separated from the site, reasonably satisfying the Handbook recommendations and objectives.
- The adjoining western interface, whilst rural land and rurally zoned, is not used (historically or presently) for intensive agriculture. Low intensity type grazing has occurred historically and is currently present. This is generally very low impact and typically most residents/public would be unaware of the limited number of animals grazing on the adjoining land. Hence a modest separation from this land use is generally adequate. Default physical separation/buffer metrics (e.g. 50m) as per the Handbook are not necessary in this context and would make for inefficient use of the residentially zoned land. The Handbook acknowledges this is not the intention of the recommended buffer metrics. Additionally, the level of risk in this context does not warrant this imposition as there is no broad scale or intensive grazing present, and there is no nearby farm infrastructure that could concentrate potential impacts (e.g. noise or odour associated with cattle yards, feed troughs, or loading/transport facilities). In this case, the subdivision would have a perimeter road reserve of 25m wide and dwelling setback requirements that would result in houses being setback an additional 6m (resulting in an overall dwelling setback of around at least 31m) from the immediate western boundary/interface. Given this, where people will live and recreate outside of their houses (in their rear yards) will be between at least 30m and 50m from the grazing land boundary interface, providing reasonable separation. A vegetated buffer (established within the western perimeter road reserve), combined with the presence of existing vegetation along/adjacent to part of the west boundary, would provide an additional mitigating element and result in an adequate buffer and vegetated screen that satisfactorily minimises the potential for conflict with the adjoining low intensity grazing activity. In this context this is an acceptable interface management response.
- Further to the above, despite no guidance/requirements regarding buffers in the CVLEP, the Lismore DCP offers some insights to what can be acceptable. Chapter 11 Buffer Areas of the Lismore DCP (applying to areas subject to the 2000 LEP) states that for grazing land: *Residential dwelling sites adjoining grazing land shall have a minimum 30 metre setback with a minimum 5 metre wide planted buffer along the boundaries adjoining the grazing land.* Whereas the Lismore DCP (Chapter 11 Buffer Areas applying to areas subject to the 2012 LEP) states that in relation to grazing land and associated infrastructure: *Residential dwellings and other incompatible land use*

sites adjoining grazing land should have a minimum 50 metre setback from cattle yards, shearing sheds, stock transporting infrastructure and other intensively used facilities ancillary to grazing activities. On this basis, the proposed buffer arrangement is acceptable as there are no nearby intensively used facilities ancillary to grazing activities and the proposed 25m boundary setback combined with a 7-8m wide vegetated buffer would be reasonably comparable and effective to that suggested by the Lismore DCP.

- The strategic, local and site-specific circumstances justify development of the land for residential purposes and whilst there are some active rural/agricultural interfaces, those nearby are limited to grazing and are not significant, nor does the immediate adjoining land represent significant or protected farmland, or wide-spread/intensive agricultural activity.

Overall, the identified potential risks are generally low and acceptable, and do not require high levels of intervention or management. Some limited risks were identified; however, these can be readily managed to an acceptable outcome. This LUCRA has demonstrated that the proposed development is acceptable, and the proposal is not expected to increase, substantially alter, or likely cause, unacceptable or significant land use conflict. Some limited risk associated with immediately adjoining low intensity grazing is present, however a 25m setback combined with integrated vegetated buffer strip, that would be established along the western boundary within the road reserve, would help ameliorate this to an acceptable level. Stormwater and traffic management would be subject to engineering design solutions which are required as part of the normal DA process and would achieve satisfactory outcomes.

The proposal therefore is reasonably consistent with the intent and relevant objectives of the Handbook and strict application of the recommended separation buffer for grazing in this context is unnecessary and onerous, especially when a small buffer, combined with vegetation, is likely to be of greater benefit/effect when working with relatively modest separation distances as this adds screening, filtering, and also fragrant plant opportunities (through suitable plant species selection) to preserve and even enhance amenity at the subject interface compared to a slightly wider standard open buffer with no vegetation present.

Recommendations:

Residential lots adjacent to the western grazing land shall have a minimum 25 metre setback from the western boundary. Additionally, within this setback, a 7-8 metre wide planted/vegetated buffer is to be established and maintained along the western boundary (within the development site, and as indicated on **Illustration 2.2**). The vegetated buffer is to be generally consistent with the following principles/criteria (adapted from *Planning Guidelines: Separation Agricultural and Residentials Land Uses* – The State of Queensland, Department of Natural Resources 1997 and Nambucca (Table F2) Development Control Plan):

- Establish a 7-8m wide planted/vegetated buffer along the western boundary of the development site/within the western road reserve (the minimum width of a vegetation buffer is that of the canopy at maturity). This needs to commence early in the development process, noting vegetation takes time to mature.
- contain random plantings of a variety of tree and shrub species of differing growth habits and mature heights (e.g. ground covers, low, mid-storey, and canopy species, fast growing pioneers and slower growing species) – refer to Lismore (Chapter 11) and Nambucca (Table F2) Council Development Control Plans for suitable guides to buffer planting species.
- include a diversity of species, including those with long, thin and rough foliage,
- provide a permeable barrier which allows air to pass through the buffer. A porosity of 0.5 is acceptable (approximately 50 per cent of the screen should be air space)
- foliage is to achieve reasonable coverage from the base to the crown

- include species which are fast growing and hardy
- have a mature tree height of at least five to ten metres
- Does not compromise Asset Protection Zones or conflict with *Planning for Bushfire Protection 2019,* and preferably favours species selection that are more resistant to combustion and bushfire.

A detailed landscape plan should be prepared by a suitably qualified person, generally in accordance with this recommendation.

References

Living and Working in Rural Areas. A handbook for managing land use conflict issues on the NSW North Coast, Centre for Coastal Agricultural Landscapes, 2007. Learmonth, R., Whitehead, R., Boyd, B., & Fletcher, S.

Planning Guidelines: Separating Agricultural and Residentials Land Uses, 1997. The State of Queensland, Department of Natural Resources.

Primefact: Buffer Zones to Reduce Land Use Conflict with Agriculture, 2018. NSW Government Department of Primary Industries.

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