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AGRICULTURAL CAPABILITY ASSESSMENT

on

Lot 4 DP 635505

150 Lismore Road, Bangalow

Prepared by:

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1 EXECUTIVE SUMMARY

1. An agricultural report has been requested in relation to a proposed rezoning of lands identified as Lot 4 DP 635505 situated at 150 Lismore Road, Bangalow.
2. The report has determined that the land comprises Class 3 lands. A higher agricultural land classification is limited by the lands flood and frost prone nature. In terms of agricultural land uses the land is best suited to low intensity grazing operations on native pastures. Long term agricultural use of the land is however severely limited by the small area of land that is available (and therefore low economic viability) and also the higher perceived value of the land for non-agricultural uses.
3. The Byron Shire Business and Industrial Lands Strategy has highlighted a demand for increased jobs, business and industrial premises in line with the projected population growth of the region. The Strategy has identified a portion of the land within the Site as been one of the areas requiring further investigation for Industrial development. The proposal is complimentary therefore to the Shire Strategy.
4. The Site is classified as Regionally Significant Farmland as per the Northern Rivers Farmland Project. The Project does allow for the provision of industrial developments on regionally significant farmland provided several conditions are met. Of particular relevance in this regard the report has shown that the rezoning will not negatively impact the integrity of other regionally significant lands and nor will the rezoning create impacts or conflicts that would compromise the use of other agricultural lands in the locality.
5. While approval of this development proposal will result in the alienation of the land from future agricultural production it is also inevitable that the development of current non-industrial lands in the locality to industrial will occur in any event.
6. Given the lands limited potential for agricultural production both now and into the future, approval of this proposal will in no way significantly detract from the existing or future agricultural production of the wider region. Furthermore, approval of the proposal will take pressure off surrounding better quality agricultural lands for similar developments.
7. From an agricultural perspective therefore, there is no reason why Council should not approve the application.

2 INTRODUCTION

8. Allen & Associates have been requested to undertake an agricultural capability assessment of the land identified as Lot 4 DP 635505 situated at 150 Lismore Road, Bangalow. The purpose of the assessment is to assist with a proposal to rezone the land from RU1 Primary Production to IN1 General Industrial.

9. Land within the Lot 4 which exists on the southern side of Maori Creek has been identified (Byron Shire Business and Industrial Lands Strategy) for further investigation as to its suitability to industrial development.

2.1 Byron Shire Business and Industrial Lands Strategy – October 2020

10. The Byron Shire Business and Industrial Lands Strategy was published in October 2020 by Byron Shire Council. This Strategy was prepared in response of the North Coast Regional Plan (NCRP) which as a part of its first direction requires Councils to “prepare land release criteria to assess appropriate locations for commercial and industrial uses.”¹ The Plan acknowledges an anticipated population growth for the region and a subsequent increased demand for a range of jobs, business and industrial premises.

11. The Byron Shire Business and Industrial Lands Strategy as prepared provides specific directions to be taken in order to deliver on the Strategy’s aim. Direction 3 of the Strategy in particular is to: “Secure a sustainable long term supply of suitable industrial lands². This Direction states that the current supply of zoned industrial land for the Shire is insufficient for future demands. Subsequently a number of investigation areas for new industrial and or business parks were identified. A portion of the lands that are the subject of this report are listed as one of these investigation areas and are identified within the Strategy as Area 7 Bangalow Industrial Estate Expansion.

3 PROPERTY DESCRIPTION

3.1 General

12. Appendix 1 shows the location of the site which is situated approximately 1.5 kilometres by sealed road from the township of Bangalow to the north-east. Refer to Appendix 1 which also shows a closeup view of the location of the Area 7 Bangalow Industrial Estate investigation area.

13. The site is approximately 4.8 hectares in area and is divided into 2 separate portions by Maori Creek. The site is bounded by Lismore Road to the east, the existing Bangalow Industrial Estate to the south and the Bangalow Railway to the west. Entrance to the northern portion of the site is gained from Lismore Road while entrance to the southern portion for which the rezoning is

¹ Byron Shire Council (2020), Byron Shire Business and Industrial lands Strategy – October 2020

² *ibid*

proposed is gained from Dudgeons Lane as it goes through the existing Industrial Estate. This is of particular significance to the long term use of this portion of the site to Agricultural purposes – that is a separate access that must be gained through an existing Industrial area is not convenient.

14. The current land use of the site is identified as rural lifestyle. An existing residential dwelling with associated infrastructure (shed) is located on the land on the northern side of Maori Creek. Landuses that immediately surround and that are near to the site are Industrial, Waste Water treatment, grazing, residential and horticulture. The existing Bangalow Industrial Estate is situated directly adjacent to the site (southern boundary). Refer to Appendix 2.

4 LAND CLASSIFICATION

15. It is normal to define land use potential by using the Rural Land Evaluation Manual³ (RLEM) to classify land forms into classes based on their potential land use. The land classes in the RLEM are as per the below.

<p>Class 1</p> <p>Arable land suitable for intensive cultivation where constraints to sustained high levels of agricultural production are minor or absent.</p>
<p>Class 2</p> <p>Arable land suitable for regular cultivation for crops but not suited to continuous cultivation. It has a moderate to high suitability for agriculture but edaphic (soil factors) or environmental constraints reduce the overall level of production and may limit the cropping phase to a rotation with sown pastures.</p>
<p>Class 3</p> <p>Grazing land or land well suited to pasture improvement. It may be cropped in rotation with pasture. The overall production level is moderate because of edaphic or environmental constraints. Erosion hazard and soil structural breakdown or other factors including climate may limit the capacity for cultivation and soil conservation or drainage works may be required.</p>
<p>Class 4</p> <p>Land suitable for grazing but not for cultivation. Agriculture is based on native pastures or improved pastures established using minimum tillage techniques. Production may be seasonally high but the overall production level is low as a result of major environmental constraints.</p>
<p>Class 5</p> <p>Land unsuitable for agriculture or at best suited only to light grazing. Agricultural production is very low or zero as a result of severe constraints, including economic factors, which preclude land improvement.</p>
<p>Special Class</p> <p>Land which, because of a combination of climate and soil, is well suited to intensive production of a crop or a narrow range of crops whose special requirements limit their successful culture to such land. This class may include some lands formerly described as unique.</p>

16. Land classification studies are made based on the analysis of the lands biophysical (terrain, soil type, climate etc.), social and economic factors. In this particular situation and as per the RLEM Land Classification Classes, land within the subject site is classed as being Class 3 land. In this

³ RLEM. Rural Land Evaluation Manual (1988), New South Wales Department of Planning Sydney

instance the principal land class determining factors are identified as being terrain (slope) and soil type. Further discussion around each of the principal factors studied is provided in the Sections 4.1 through to 4.4.

4.1 Topography

17. Refer to Appendix 3 that shows the terrain of the site. The site is situated within a wider Low Hills landform pattern with associated elements of slope and drainage depressions. Maori Creek dissects the site as it flows through from the north-west to south-east. The degree of slope within the site is only very gentle as evidenced by the lack of contours.

18. The site is however vulnerable to flooding from Maori Creek during periods of intense and extended rainfall. Refer to Appendix 4 which shows the extent of land affected by a 1 in 100 year flood – this image was provided by the Client for whom the report has been prepared.

19. Appendix 3 shows the location of the 50 metre contour line. From experience and local knowledge lands below this elevation are frost prone. Lands below the 50 metre contour therefore (all of the site with the exception of the north-east corner) are only suited to frost tolerant crops or frost susceptible crops during the non-frost period of the year.

20. Both the flood and frost prone nature of the land within the site therefore represent a significant restraint to the use of the land for agricultural cropping.

4.2 Soil Type

21. Soils throughout the site are identified as Krasnozems with Alluvial Krasnozems being located on the lands adjacent to Maori Creek and the traditional Krasnozem occupying the remainder of the land within the site. The soil survey undertaken agrees with that of the Soils Landscape map for the Lismore – Ballina⁴ area.

22. Krasnozem soils are typically strongly structured⁵ deep well drained red to red-brown soils that are loam to clay loam textured at the surface and which gradually become more clayey with depth. In this instance.

23. In this instance Krasnozem soils are characterised by up to 25cm of dark red brown clay loam to clay surface soil or A horizon overlying a dark red brown to red brown (at depth) light to medium (at depth) clay B horizon that extends to a depth of at least 60cm or greater. The Alluvial Krasnozems, as distinct from the typical Krasnozem, are characterised by the presence of fine sand grains at varying intensities throughout the profile/s.

⁴ Morand, D.T. (1994) Soil Landscapes of the Lismore-Ballina 1:100000 Sheet. Department of Conservation and Land Management.

⁵ Charman, P.E.V., Murphy, B.W. (eds). (1991), Soils. Their Properties and Management. A Soil Conservation Handbook for New South Wales. Sydney University Press.

24. The lightly textured nature of the Krasnozem surface soil throughout the site means that the soil is vulnerable to the processes of soil erosion when in a non-vegetated state. In this instance the gentle slope that exists throughout most of the site mitigates this to some degree although and at the same time the flood prone nature of the lower elevated land (a significant portion of the land) negates this benefit.

4.3 Climate

25. The property enjoys a variable but favourable annual rainfall which is ideal for the successful production of many agricultural crops.

26. Rainfall intensity in the area can be extremely high and this along with the flood prone nature of the lands immediately adjacent to Maori Creek impose a significant restriction on the use of these lands for agricultural cropping enterprises.

27. Temperatures are warm to hot in summer and this allows a long pasture and crop growing season when moisture levels permit. Lands below the 50 metre contour interval are believed to be frost prone. This imposes a further restriction on agricultural use of the site (frost prone crops) as the majority of the land is located below the 50 metre contour line.

4.4 Water

28. Maori Creek runs through the property from the north-west to south-east. The writer is not aware of any existing water extraction or irrigation licenses associated with the site. The adequate availability of water is a critical component in the establishment of agricultural cropping enterprises that require adequate irrigation for optimal production.

5 POTENTIAL LAND USE

29. The highest and best agricultural land use is grazing on native or improved pastures. The soil type and terrain (in terms of degree of slope) inherent to the site are normally attributes that would suit the land to more intensive forms of agricultural production including horticulture and cropping.

30. In this instance however a major proportion of the site is identified as being flood prone and additionally the greater part of the site is frost prone.

31. Horticultural operations such as low chill stone fruit would normally be able to be grown on lands above the identified flood prone area. The absence of adequate water for irrigation purposes however effectively restricts these and other similar land uses that require supplementary irrigation.

32. Lands above the 50 metre contour line may be suited to the production of frost susceptible crops. There is however only a very small area within the site (north-east) that has this or higher elevation.

33. The highest and best agricultural land use suited to the site is believed to be livestock grazing. Land uses of this nature are less lucrative than other more intensive operations such as horticultural cropping.

34. The Site is only a small land holding and as such would have only a small economic production potential. Furthermore, the use of the land for agriculture is significantly restricted by its flood and frost prone nature. The land is not high value or significant agricultural land.

6 THE APPLICATION AND RELEVANT ISSUES

6.1 Byron Shire Business and Industrial Lands Strategy – October 2020

35. Direction 3: Long Term Supply of the Strategy is to “Secure a sustainable long-term supply of suitable industrial lands”. As a part of this, 7 areas within the Shire have been identified for further investigation into their suitability for development to industrial use. The southern portion of Lot 4 DP 635505 (the Site) is listed as Area 7 within this Direction 3.

36. Approval of the rezoning application is therefore complimentary to the long-term Byron Shire Business and Industrial Lands Strategy.

6.2 Northern Rivers Farmland Protection Project

37. According to Appendix 5 the land is classified as Regionally Significant Farmland and this agrees with the agricultural land classification that is provided within this report. The underlying aim of the Farmland Protection Project is to protect important agricultural land from the encroachment of non-agricultural land uses that include for instance residential.

38. The Farmland Protection Project does however allow for the provision of industrial developments on regionally significant farmland in certain situations⁶ and provided:

- *It would not significantly undermine the integrity of a regionally significant farmland area; and*

39. The site is not situated within a hub of regionally significant farmland. The location of the Bangalow Industrial estate directly adjacent (south) to the site in addition to neighbouring residential and non-agricultural land uses near the site makes the land well suited to the development. Furthermore, approval of the development will take pressure off other rural lands separate to the site for similar developments.

⁶ (2005), *Northern Rivers Farmland Protection Project – Final Recommendations February 2005*.

- *It would not compromise local or regional agricultural potential by alienating agricultural infrastructure or agricultural transport routes or decreasing 'critical mass' for any existing agricultural industry; and*

40. There is nothing associated with this development proposal that will compromise either the local or regional agricultural potential. The site is not of a scale that is large enough to be realistically used for purposeful long term agricultural use.

- *It would not create impacts which would compromise the agricultural use of nearby regionally significant land; and*

41. The land is bounded on all sides by suitable buffers (railway to the west, Lismore Road to the east, Bangalow Industrial Estate to the south) that will avoid the development of any conflict for instance that would compromise the purposeful use of nearby agricultural lands.

- *It would not be located in an area where there was an identified risk of land use conflict near an existing agricultural enterprise; and*

42. Refer to the previous point. Furthermore, the proposed rezoning would result in a land use that is complimentary to the immediately adjacent land uses. Existing agriculture that exists adjacent to the site (grazing to the north-west and south-east) are grazing operations (low risk of conflict) and furthermore are spatially separated by existing infrastructure (railway and main road).

- *It would not involve filling part of a floodplain unless consistent with a floodplain management plan prepared in accordance with the Floodplain Management Manual; and*

43. Appendix 4 shows that a portion of the site would be impacted by a 1 in 100 year flood event. However, the flooding risk could be suitably avoided by importing fill to the proposed development area - refer Appendix 4.

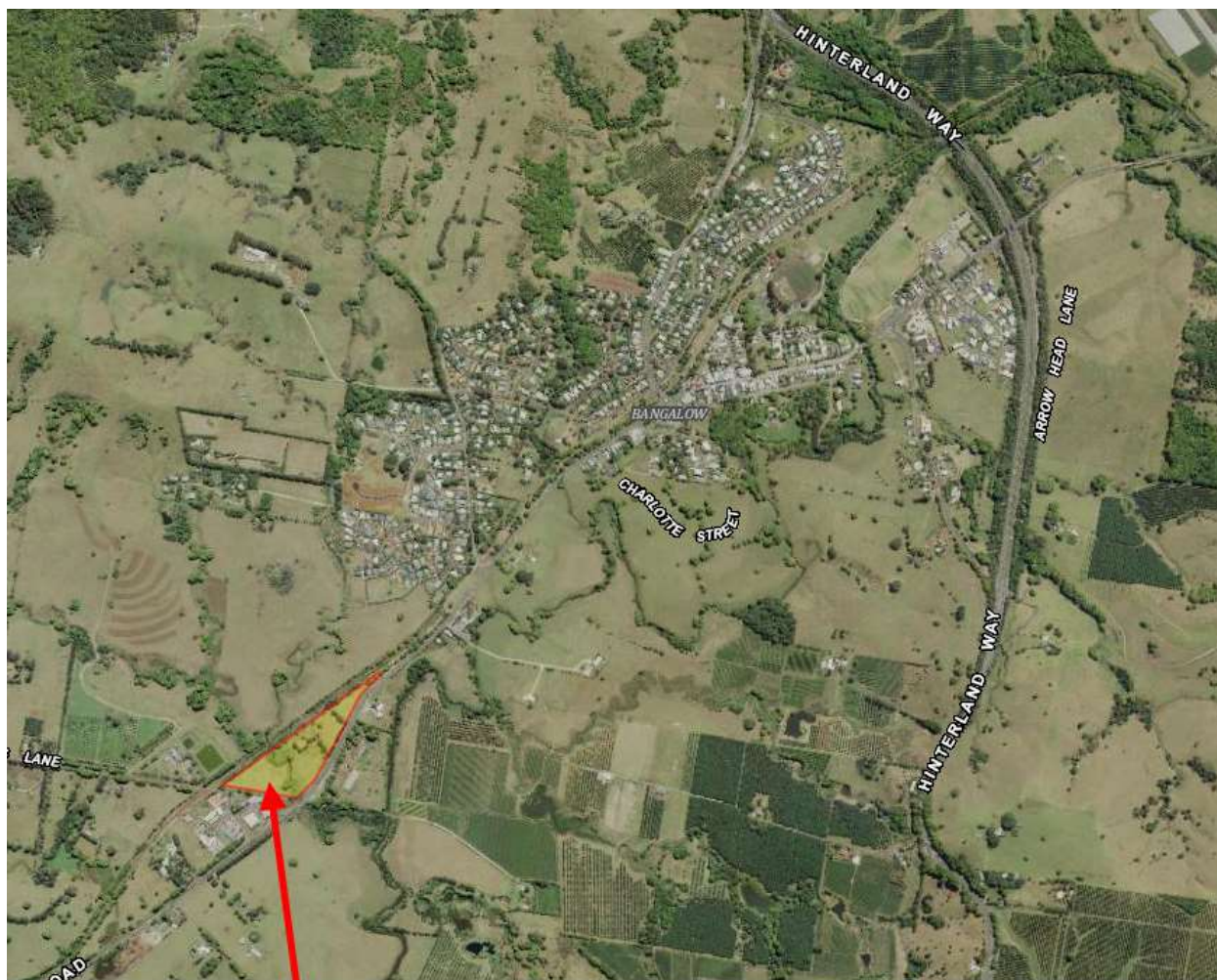
- *No viable alternative land is available which is suitable for the proposed industrial use.*

44. The site is situated directly adjacent to the existing Bangalow Industrial Estate. The site is therefore in an appropriate and complimentary location for such a development.

6.3 Alienation of Agricultural Land

45. Approval of the application will remove the proposed development area of the site from future agricultural production. In terms of potential agricultural production, the land has been identified as been suited to low intensity grazing operations at best. The land is not high value agricultural land due to its small land area and poor potential economic productivity. The loss of this land from future agricultural production (grazing or otherwise) will have no significant impact on the existing or future agricultural production potential of the location or wider region as a whole.

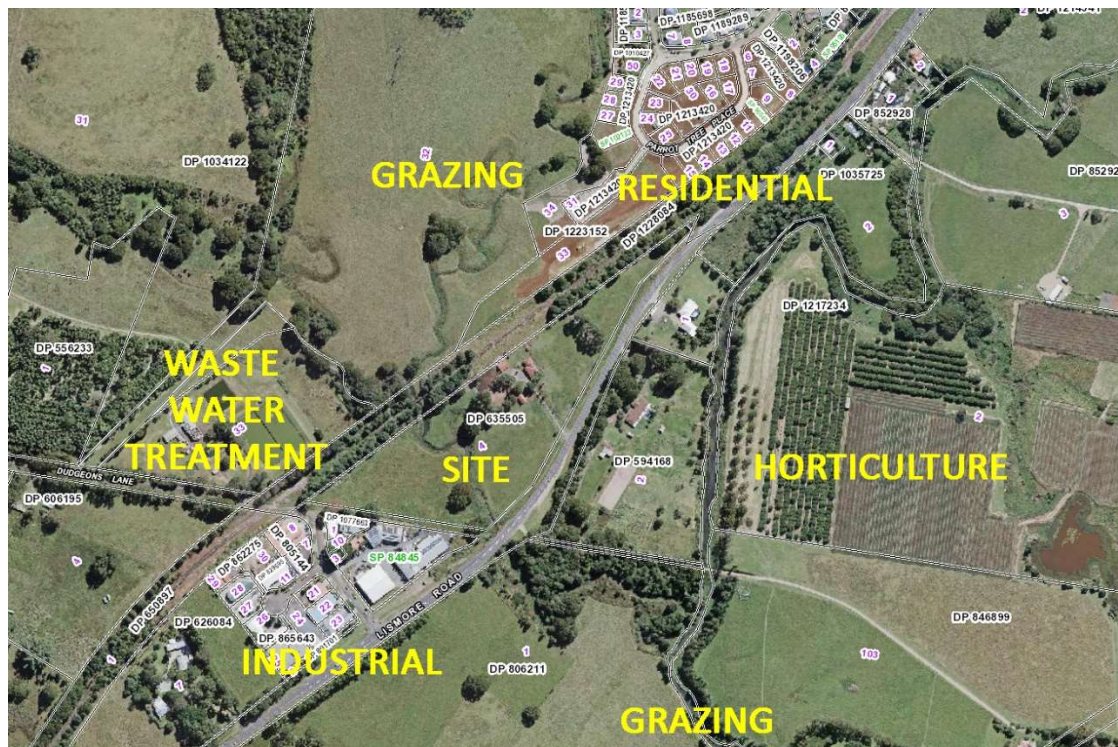
Appendix 1: Site Location



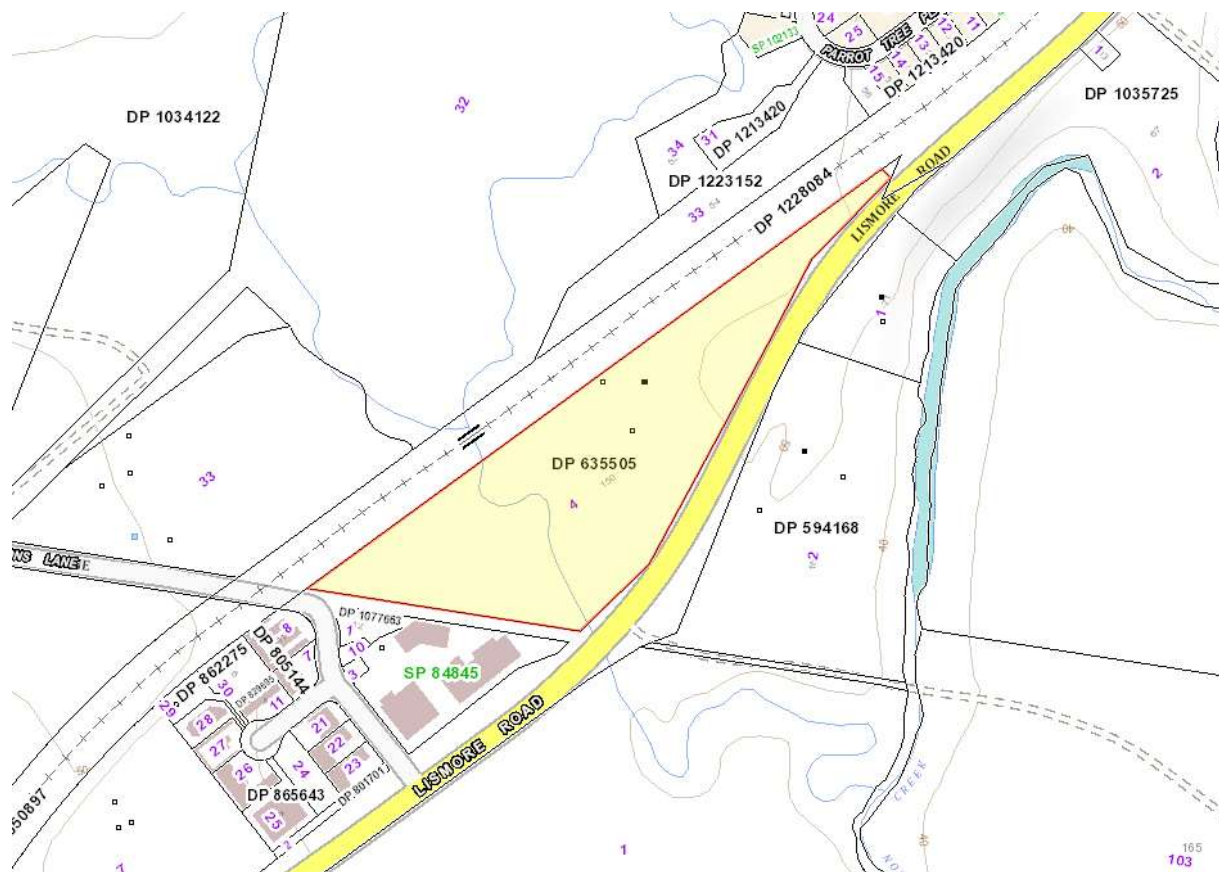
Area 7: Bangalow Industrial Estate expansion

Area Number	7.
Description	Lot 4 DP 635505 150 Lismore Road, Bangalow
Image of investigation area	

Appendix 2: Surrounding Land Uses



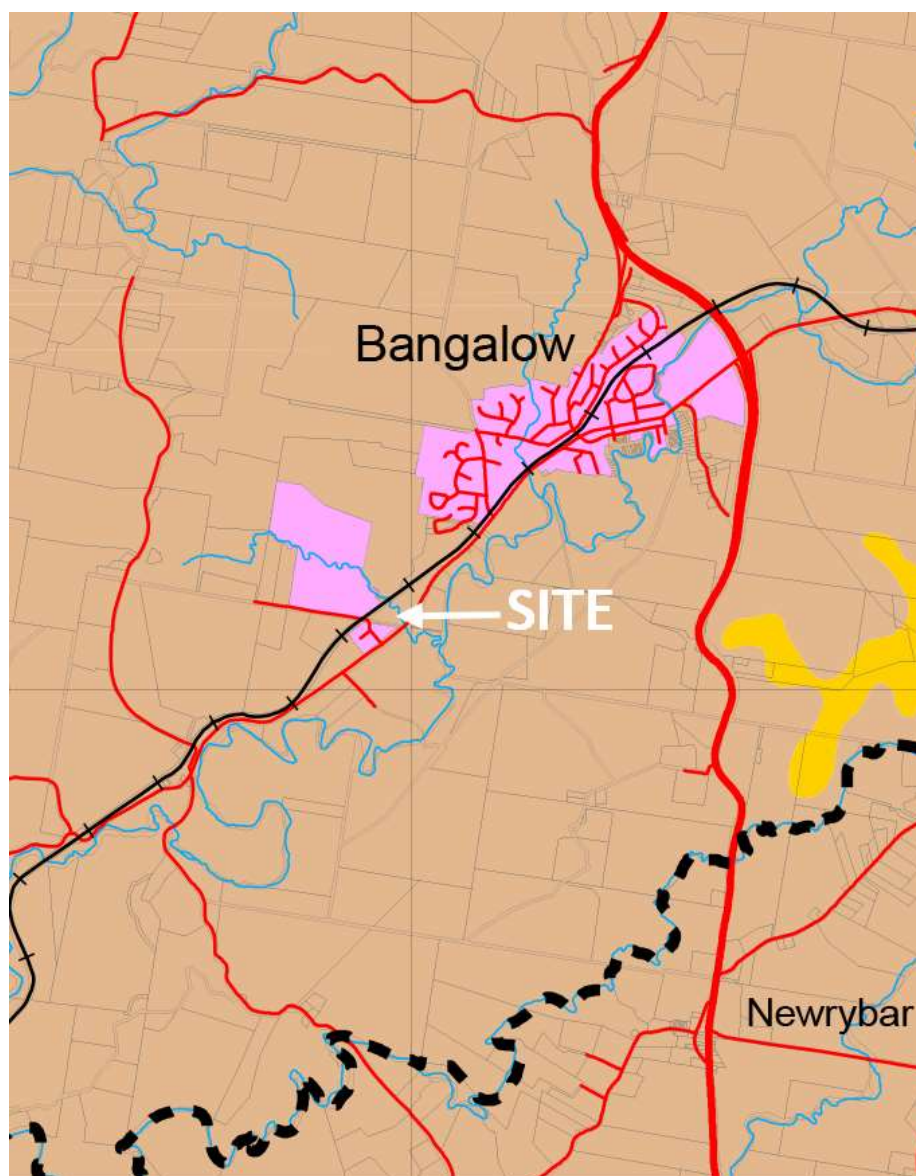
Appendix 3: Topography













Appendix 4: Flood Mapping



Appendix 5: Northern Rivers Farmland Protection Mapping



LEGEND

- | | |
|---|--|
|  | State Significant Farmland |
|  | Regionally Significant Farmland |
|  | Significant Non-Contiguous Farmland |
|  | Other Rural Land |
|  | Committed Urban Uses and Rural-Residential Zones |
|  | National Parks, State Forests |
|  | Land outside Northern Rivers Catchment Management Area |
|  | Highways |
|  | Major Roads |
|  | Railways |
|  | Watercourses |
|  | Land Parcel Boundary |
|  | Catchment Management Board Boundary |
|  | Local Government Boundary |