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Lot 14 DP 5188, Lot 1 DP 1195163 and Lot 1 DP 1173995 Kia-Ora Road, Armidale

Proposed Rezoning

Existing Biodiversity Report

18 September 2015

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Document Control

Reference	Status	Date	Prepared	Checked	Authorised
630.11270	Version 2.0	18 September 2015	J Pepper & F Iolini	M Proos	J Pepper
630.11270	Version 1.0	18 June 2015	J Pepper & F Iolini	J Pepper	J Pepper

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KIA-ORA ROAD, ARMIDALE

PROPOSED REZONING

EXISTING BIODIVERSITY REPORT

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KIA-ORA ROAD, ARMIDALE

PROPOSED REZONING

EXISTING BIODIVERSITY REPORT

1 INTRODUCTION

1.1 Background and Proposal

The subject site is located to the south of the New England Highway and is bound by Kia-Ora Road in the west and Mills Road to the east. The site includes Lot 14 DP 5188, Lot 1 DP 1195163 (aka Lot 15 DP 5188) and Lot 1 DP 1173995 (Figure 1). The site is located approximately five kilometres to the southwest of the Armidale town centre, within the Armidale Dumaresq Local Government Area (LGA).

A proposal is being prepared for the rezoning of the study area from 'RU4 Primary Production Small Lots' to 'IN2 Light Industrial'.

This *Existing Biodiversity Report* provides a description of the existing biodiversity of the site and an assessment of the likely ecological impacts associated with the proposed rezoning, including and consideration of impacts on flora and fauna.

1.2 Definitions

The following definitions apply to this report:

- subject site — Lot 14 DP 5188, Lot 1 DP 1195163 and Lot 1 DP 1173995 Kia-Ora Road, Armidale (Figure 1)
- locality — a 10 kilometre radius around the subject site

1.3 The Proposed Rezoning

The site is to be subject to a proposal to rezone from rural to light industrial uses. In this regard, a letter from Armidale Dumaresq Council (dated 12 July 2013) outlines the process for a Gateway Determination. The letter also makes note of the Armidale Industrial Lands Study (AEC Group 2013), which recommends amending the *Armidale Dumaresq Local Environment Plan 2012* to re-zone the site from 'RU4 Primary Production Small Lots' to 'IN2 Light Industrial'.

In addition, comments received from the NSW Office of Environment and Heritage (OEH) (letter dated 22 August 2015) titled "c*onsultation on Armidale Industrial Land Study*" were provided. Relevantly these comments advise "*while the OEH does not have any specific comments to make at this stage, it is recommended that, prior to any decision to increase intensification of land use in areas containing native vegetation (for example, the Airport East Site may contain open woodland) and/or areas where there has been low soil disturbance, investigations are conducted to ascertain implications on flora, fauna and Aboriginal cultural heritage*".

1.4 Scope and Aims of this Report

This report is based on a one-day ecological survey of the subject site and surrounds by a qualified SLR ecologist. Other information has been acquired during desktop review of available information and design plans at the time of writing.

The aims of this *Existing Biodiversity Report* with respect to the subject site are:

- to identify the flora and fauna species present and/or likely to occur;
- to assess the likely impacts of rezoning and future development on the natural environment in general and on threatened biota in particular;
- to consider the likely future impacts pursuant to:
    - the *Environmental Planning & Assessment Act 1979* (EP&A Act);
    - the *Threatened Species Conservation Act 1995* (TSC Act);
    - the *Water Management Act 2000*;
    - relevant environmental planning instruments, notably *State Environmental Planning Policy No. 44 – Koala Habitat Protection* (SEPP 44); and
- to provide preliminary recommendations for mitigation of impacts associated with rezoning and future development of the site:

1.5 Methods

Existing information regarding relevant threatened and other native biota was also obtained from:

- the OEH *BioNet Atlas of NSW Wildlife* for previous records of threatened species (as listed under the TSC Act) for the locality (*ie* within a 10 km radius of the site);
- the Border Rivers Gwydir Namoi Vegetation Mapping (Roff *et al*. 2012); and
- relevant published literature on threatened biota (see References).

A site inspection was undertaken on 03 of June 2015 to provide specific observations for this report. The survey involved assessment of the vegetation and habitats across the subject site using the following techniques:

- a general survey of the flora and fauna - noting canopy tree species, assessing vegetation type and condition and recording any notable fauna habitat features (*eg* tree hollows);
- collection of site photographs (Appendix A);
- collection of floristic data including a general species list;
- targeted searches for threatened plants (in particular for Blackbutt Candlebark, Narrow-leaved Black Peppermint and Bluegrass) using the 'random meander' technique (*sensu* Cropper 1993) through areas of suitable habitat; and
- general searches for evidence of threatened fauna and/or their habitats (*eg* hollow-bearing trees, Koala scats and scratches).

The weather was cool, calm and mostly sunny, with a temperature range of minus 2.3 to 11.4ºC and calm westerly winds recorded at the Armidale Airport.

2 SITE DESCRIPTION

The site is 53 hectares (ha) in area and is bounded by the New England Highway along its northern boundary, Kia Ora Road to the west, an unmade road to the south and Mills Road (and an unmade easement for this road extending south) to the east (**Figure 2**). The site and surrounding properties are rural, with surrounding land being primarily used for cattle grazing. The site was subject to cattle grazing until recently, with intensive grazing ceasing around three years ago. As a likely consequence, there is a dense grass and herb cover across most of the site (extending up to 1.5 m in height) and no evidence of recent trampling or stock use.

The site is currently zoned RU4 Primary Production Small Lots under *Armidale-Dumaresq Local Environmental Plan 2002* (LEP), as shown in **Figure 3**.

The topography of the site may be described as gently sloping or undulating, with contour heights of 1080 m AHD through the northern and central parts of the site to around 1060 m above sea level near the southwestern corner of the site (**Figure 2**). There is a general southerly aspect and a very gentle slope to the south. GIS mapping data indicates the presence of a drainage line running east-west through the southern parts of the site, named Lagoon Gully (**Figure 2**). However, based on observations during the site inspection, there is no discernible watercourse in this area. There is a small dam which lies in the southeastern parts of the site, which appears to drain westward to another small dam just beyond the southern boundary of the site. At the time of the inspection, water levels in the dam were low, and there was an absence of aquatic and semi-aquatic vegetation around the dam (apart from a patchy cover of exotic herbs and grasses), with no aquatic fauna observed.

With regard to infrastructure, two overhead power lies traverse the site, one crossing the northern parts of the site through an easement (Lot 1 DP 1173995) and another across the southern parts of the site, in the vicinity of the dam. Underground sewer pipes and NBN cables have recently been trenched and buried along the western (Kia Ora Road) and northern (New England Highway) boundaries of the site. The sewer lines feed to a pumping station just beyond the far southwestern corner of the site, which was recently excised from the site. Cleared and disturbed ground (with bare soil) is evident along these boundaries (see photos in Appendix A). Various unsealed farm vehicle tracks traverse the site.

The soil landscapes described for the site (OEH 2015) include ‘Ironstone’ and ‘Kelly's Plains’. Ironstone landscapes are variable terrain characterised by ferrocrete/ironstone outcrop and surface rock. Soils are shallow to very shallow, well drained Rudsols. The Kelly’s Plains landscapes are gently undulating lower slopes, footslopes and colluvial fans on basalt and basalt-related colluvium. They typically comprise soils that are moderately to very deep and moderately well drained black and red chromosols and ferrosols (chocolate soils).

3 EXISTING FLORA and FAUNA

3.1 Flora

3.1.1 Flora Species

The current surveys of the subject site reveal a flora assemblage of 72 plant species, including 26 natives and 46 exotics (Appendix B). Of the exotic species, three species are also listed as “*noxious*”

weeds within New England Tablelands County Council local control authority area under the NSW *Noxious Weeds Act 1993* (Department of Primary Industries) (see Table 1).

Table 1 Noxious Weeds recorded on the site

Species	Common Name	Control Category
Senecio madagascariensis	Fireweed	4 [1]- Locally Controlled Weed. The plant must not be sold, propagated or knowingly distributed.
Rosa rubiginosa	Sweet Briar	4 [2] - Locally Controlled Weed. The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread.
Rubus fruticosus spp. agg.	Blackberry	4 [3] - Locally Controlled Weed. The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread and the plant must not be sold, propagated or knowingly distributed.

3.1.2 Vegetation Types

The vegetation on the site can be described as an open grassland, with small isolated patches of modified open woodland. The vegetation is in poor condition with impacts from historic clearing activities.

The areas of open grassland contain a mix of native and exotic grasses, herbs and forbs, with evidence of historic disturbance from grazing, tracks, and fencing and more recent disturbance from installation of underground sewer lines and broadband cables. The grass layer extends to around 1 – 1.5 m high and is widespread across the site, with a generally dense cover (foliage projective cover >70%). The groundcover layer comprises a grassland with occasional small logs, exposed rocks, ant nests, leaflitter and sticks. Common species in this layer include mainly exotic perennial grasses (Kikuyu, Giant Parramatta Grass, African Lovegrass and Couch) and annual and perennial weeds (Fleabanes, Spear Thistle, Paddy's Lucerne and Purpletop). Native species which were moderately common in patches include Paddock Lovegrass, Purple Wiregrass and Kidney Weed. A number of isolated paddock trees, mainly *Eucalyptus viminalis* and several stags, also occur throughout the grassland community.

Small patches of open woodland occur along the northern and western boundaries of the site, with isolated scattered occurrences elsewhere through the central/southern parts of the site. The patches of open woodland vegetation are dominated by Manna Gum *Eucalyptus viminalis,* with a few occasional Snow Gum *E. pauciflora* and Yellow Box *E. melliodora*. The canopy is around 15-20 metres in height, with foliage projective cover of 10-30%. Canopy trees are predominantly mature age (approximately 50-80 cm DBH), although larger over-mature specimens are present. Despite the widespread occurrence of weeds across the site, the woodland patches contain a reasonable diversity of native groundcover species (growing amongst exotic species), with evidence that the cessation of grazing has allowed some limited regeneration of native plants within the canopy cover of these patches (where exotic perennial grasses have not invaded the ground layer entirely).

Small patches of juvenile eucalypts were observed, trees being young in age and less than 1 m in height, indicating recent natural seeding and regeneration (possibly as a result of the recent cessation of grazing). There are several dead trees present across the site, some of which contain hollows, but

most do not. Most of the live canopy trees also do not contain hollows, although a handful of hollow bearing trees were mapped during the survey (see Section 3.2).

The mid-canopy and understorey layers are largely absent, although there are widely scattered individuals of the exotic Sweet Briar and Blackberry growing to 1 - 2 m in height.

No vegetation mapping was available for the subject site or the Armidale district. However, the vegetation can be aligned with one or more plant community types from nearby regional vegetation mapping datasets, including the 'Ribbon Gum – Rough-barked Apple – Yellow Box grassy woodland' of the Border Rivers Gwydir / Namoi catchments (OEH 2015; noting that the eastern limits of this mapping lie over 5 km west of the site). The vegetation also aligns generally with the 'Community 2 *Eucalyptus viminalis* (Manna Gum) Grassy Forest and Woodland' of Hunter (2007), which occurs in a degraded form in Imbota Nature Reserve (on the outskirts of Armidale).

Vegetation types most closely resembling the woodland patches on the site are listed in Table 2. A map showing the distribution of vegetation patches across the site is provided in **Figure 4**.

Table 2 Vegetation types associated with the woodland patches on site

Mapping Source	Veg Type	Dominant Canopy Species	Associated Canopy Species
NSW Vegetation Types Database	NA149: Manna Gum - Rough-barked Apple - Yellow Box grassy woodland/open forest of the New England Tablelands and North Coast	*Eucalyptus viminalis*	*E. melliodora, Angophora floribunda, E. obliqua, E. campanulata*
Hunter (2007) Vegetation of the Imbota and Yina Nature Reserves, Armidale	Community 2: *Eucalyptus viminalis* (Manna Gum) Grassy Forest and Woodland'	*E. viminalis*	*Acacia filicifolia, Eucalyptus bridgesiana*, *E. caliginosa*, *E. melliodora*, *Angophora floribunda*, *E. blakelyi*, *A. implexa*
Border Rivers Gwydir / Namoi Vegetation Mapping (OEH 2015)	PCT 571: Ribbon Gum - Rough-barked Apple - Yellow Box grassy woodland of the New England Tableland Bioregion and NSW North Coast Bioregion	*E. viminalis*, *Angophora floribunda*, *E. melliodora*	*E. viminalis*, *Angophora floribunda*, *E. melliodora*

3.2 Fauna and Fauna Habitats

A fauna assemblage of 12 native fauna species and one exotic species (the European Rabbit) was recorded on the subject site during the site inspection on the 03 June 2015 (Appendix C). The native fauna recorded include 11 birds and one mammal, the Eastern Grey Kangaroo. All species observed are typical of disturbed open woodland and grassland which is present on the subject site and surrounding properties. Given the brief nature of the survey it is likely that an array of additional species typical of disturbed habitats would occur – such as grassland and woodland birds (cockatoos

and parrots) and bats (Grey-headed Flying-fox and micro-bats) and reptiles (lizards, skinks and snakes).

Fauna habitats and resources present on the site include:

- Open grassland, which contains potential foraging habitat for woodland birds (those that feed on grass seed), burrow sites for small to medium sized ground mammals (eg rats, mice, wombats, rabbits, etc) and potential hunting grounds for raptorial birds (which prey on small ground mammals and small birds).
- Small woodland patches and paddock trees, which contain flowering tree species that provide limited blossom and nectar for a selection of woodland birds. The trees also provide potential nesting opportunities for locally occurring woodland birds, noting that two bird nests were observed during the survey.
- Hollow bearing trees – there are a number of dead trees (stags) and one or two live canopy trees that contain hollows. A small proportion of these hollows could be suitable as roosting sites for microchiropteran bats and/or woodland birds (small to medium sized birds). No large hollows (that could support roosting forest owls) were recorded, nor any evidence of active roosting or nesting in hollows observed during the site survey;
- Hollow logs, exposed boulders and rock outcrops and ground litter, which are widely scattered over the site and could provide protection and cover for locally occurring reptiles, invertebrates and ground mammals.
- Thickets of Blackberry and Sweet Briar, which provide denning and protective cover opportunities for introduced ground mammals, mainly the Red Fox and European Rabbit.

Conversely, the site lacks many features that are utilised by native fauna, including fully structured riparian vegetation, wetlands and a dense shrub layer. Consequently, there are very few habitats and resources available for fauna species that utilise these features, being mainly wading birds, amphibians, small ground-dwelling mammals or small passerine birds.

The dam in the south of the site is highly degraded, and does not contain native riparian or aquatic vegetation and therefore would provide only limited habitat for amphibians and water birds. There is also a low number of trees containing hollows and large distances between woodland patches and paddock trees, which renders the site of low value to arboreal mammals (eg Brush-tailed Possum, Sugar Glider etc).

3.3 TSC Act listed Threatened Biota

3.3.1 Threatened Species

A search of the OEH Wildlife Atlas (Appendix D) indicates that five threatened species of plants and 24 threatened species of animals have previously been recorded within a 10 km radius of the subject site. The location of previous threatened species records within 5 km of the site is shown in **Figure 5**.

The only threatened species of flora that could possibly occur on the site is Bluegrass *Dichanthium setosum*, which has been recorded nearby (**Figure 5**). Bluegrass is an upright grass less than one metres tall with densely hairy paired flower-clusters usually appearing in summer. The species is associated with heavy basaltic black soils and red-brown loams with clay subsoil, where is often found

in moderately disturbed areas such as cleared woodland, grassy roadside remnants and highly disturbed pasture (DEH 2015). Neither the Bluegrass nor any of the other threatened species of flora were detected during the recent survey despite targeted searches.

Threatened species of fauna that are considered most likely to utilise the site have been recorded nearby (**Figure 5**) and include the Black Falcon, Grey-headed Flying Fox, Koala, Little Eagle and Square-tailed Kite.

The Black Falcon is a large, very dark falcon with pale grey cere, eye-rings and feet (DEH 2015). It is uniformly dark brown to sooty black, with a pale throat and an indistinct black streak below each eye. The Black Falcon is widely, but sparsely, distributed in NSW, mostly occurring in inland regions. There is assumed to be a single population that is continuous with a broader continental population, given that falcons are highly mobile, commonly travelling hundreds of kilometres (DEH 2015).

The Grey-headed Flying-fox is a large grey/black bat with an orange neck collar (DEH 2015). The species roosts in large camps near food resources, commonly in gullies, close to water and with a dense canopy (DEH 2015). Foraging is over very large areas feeding on the nectar and pollen of native trees (in particular Eucalyptus, Melaleuca and Banksia) or fruits of rainforest plants (DEH 2015). Whilst individual Flying Foxes could visit the site on a temporary and seasonal basis while eucalypts are in flower, it is not likely to roost or visit the site on any permanent basis.

The Koala is an arboreal marsupial of unmistakable appearance. In the Armidale Dumaresq LGA the species prefers to browse on the leaves of Ribbon Gum *Eucalyptus viminalis*, which occurs on the subject site. The species is inactive for most of the day, feeding and moving mostly at night. The home range size varies with quality of habitat, ranging from less than two to several hundred hectares in size.

The Little Eagle is a medium-sized bird of prey that occurs in two colour forms: either pale brown with an obscure underwing pattern, or dark brown on the upper parts and pale underneath, with a rusty head and a distinctive underwing pattern of rufous leading edge, pale ‘M’ marking and black-barred wingtips (DEH 2015). The species occupies most of NSW where it inhabits open eucalypt forest, woodland or open woodland. It nests in tall living trees within a remnant patch, where pairs build a large stick nest in winter, with eggs laid in spring.

The Square-tailed Kite is a reddish, medium-sized, long-winged raptor. The species is found in a variety of timbered habitats including dry woodlands and open forests and shows a particular preference for timbered watercourses (DEH 2015). Breeding is from July to February, with nest sites generally located along or near watercourses, in a fork or on large horizontal limbs.

No threatened species of fauna, nor any particularly suitable habitat for those species, was observed during the recent site survey. Local populations of these species, if present in the locality, are not likely to rely on the subject site for their survival, given the extent, type and condition of the habitats and resources available for native fauna on the site.

3.3.2 Endangered Populations

No endangered populations were recorded on the site and there are no previous records of any such populations in the locality (Appendix D).

3.3.3 Endangered Ecological Communities

Seven endangered ecological communities (EECs) listed under the TSC Act have been recorded within the locality of the site. It is possible that one or more of the small patches of *E. viminalis* Woodland occurring along the southern and western boundaries of the site contain sufficient diagnostic species to constitute the EEC known as *Ribbon Gum-Mountain Gum-Snow Gum Grassy Forest/Woodland of the New England Tableland Bioregion* (referred herein as 'Ribbon Gum-Mountain Gum-Snow Gum Grassy Forest'). This community is listed as endangered under Schedule 1 (Part 3) of the TSC Act.

The *Identification Guidelines* (DECC 2007) for this EEC note that:

> "*Ribbon Gum-Mountain Gum-Snow Gum Grassy Forest is an open forest or woodland that typically occurs at elevations between 700m – 1500m. It is mainly confined to the high undulating plateau of the New England Tablelands with deep basalt (chocolate or krasnozem) loam soils. It is characterised by a tree layer that is usually 20m - 30m tall, although it may be less tall in exposed or damp sites or where there has been past clearing or thinning. Common trees include Ribbon Gum (Eucalyptus viminalis), Mountain Gum (Eucalyptus dalrympleana subsp. heptantha), Snow Gum (E. pauciflora) and occasionally Black Sallee (E. stellulata). It is usually a grassy forest with only spare shrubs*".

OEH (2014) note that throughout the range of this community, most of the understorey is highly modified, with many weeds present and reduced native species richness. Many occurrences are regrowth after clearing or have had their understorey adversely affected by grazing or weed invasion. This description is consistent with the condition of woodland vegetation recorded on the subject site at Armidale.

As the vegetation recorded on site falls within the New England Tablelands at an elevation of around 1000 m AHD, and lies on chocolate soils of the Kelly's Plains landscape, with the dominant canopy tree being Ribbon (or Manna) Gum *E. viminalis*, there is a correlation between the characteristics of the Ribbon Gum-Mountain Gum-Snow Gum Grassy Forest EEC and the woodland patches recorded on the site. The distribution and extent of these woodland patches within the site is shown in **Figure 4**. Further detailed surveys during spring (when the majority of ground cover species would be flowering) would be required to identify more characteristic species of this EEC.

Regardless of their status under the TSC Act, the patches of woodland recorded within the site contain a higher number of native plants than the remaining majority of the site and therefore warrant further attention during future site planning and development stages, as discussed in more detail in Section **4.2.3**.

No other EECs listed under the TSC Act were recorded on the site or are likely to be present.

4 GENERAL IMPACT ASSESSMENT and DEVELOPMENT CONSTRAINTS

4.1 General Ecological Values

The subject site is largely vegetated by open grassland interspersed with paddock trees, stags and small disjunct patches of woodland dominated by Ribbon Gum. The site was until recently subject to cattle grazing over a long period and would likely have been subject to historic tree clearing. Habitat for fauna is restricted to a small number of scattered hollow-bearing trees, scattered flowering trees and a grassy groundlayer inclusive of occasional ground logs/fallen timber, ant nests, exposed rocks and leaflitter.

Relevant matters in assessing the general ecological (or biodiversity) values of the site include:

- Its land use history and recent use;
- the modified nature of the site;
- the limited variety of resources or habitat features to be impacted;
- the nature of the proposed development (involving only rezoning at this stage); and
- the presence of vast areas of adjoining similarly degraded grassland and open woodland in the locality.

Due to its poor condition, the site is considered to provide potentially suitable habitat for only more mobile and wide-ranging species which may be present on occasion (such as threatened bats and birds – Appendix D).

4.2 Threatened Biota

4.2.1 Threatened species

No threatened species, populations or communities have been detected on the subject site.

There is some possibility that individuals of a few of the locally occurring threatened species (e.g. Bluegrass and mobile fauna such as threatened bats and birds) could be detected at the site during more detailed ecology work at the development application stage, though given the current condition of the site this is not likely. Nonetheless additional flora and fauna surveys are recommended to inform any future development application for the site.

4.2.2 Endangered Populations

There are no endangered populations listed as occurring in the locality and none that are likely to occur.

4.2.3 Threatened Ecological Communities

There is evidence that some of the small patches of woodland recorded on the site constitute a very small and degraded occurrence one EEC, namely Ribbon Gum-Mountain Gum-Snow Gum Grassy Woodland, which is listed as endangered under the TSC Act. However, these patches are of limited ecological value as they are subject to weed invasion, are of small size and have limited connectivity in the landscape to other patches of woodland.

With regard to the significance of potential impacts on the Ribbon Gum-Mountain Gum-Snow Gum Grassy Woodland EEC, the seven factors under Section 5A of the EP&A Act are addressed below. As the current proposal is for rezoning only, the extent of vegetation clearing that may be required under a future development application is not currently known. Consequently, a conservative approach is adopted and it is assumed below that rezoning to industrial uses, as proposed, will require clearing of all native vegetation on the site.

Factor (a) Threatened Species – Risk of Extinction

Factor (a) is not relevant to EECs.

Factor b Endangered Populations – Risk of Extinction

Factor (b) is not relevant to EECs.

Factor c Endangered Ecological Communities – Risk of Extinction

(c) in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:
(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or
(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

The TSC Act defines an "*endangered ecological community*" (EEC) as "*a community specified in Part 3 of Schedule 1*" of the Act. One endangered ecological community, Ribbon Gum-Mountain Gum-Snow Gum Grassy Woodland, occurs on the subject site. With regard to the considerations under Factor (c) of Section 5A of the EP&A Act:

- Any clearing of the Manna Gum Grassy Woodland and Forest vegetation type from the site will reduce the extent of the Ribbon Gum-Mountain Gum-Snow Gum Grassy Woodland EEC in the locality. The occurrence of this EEC on the subject site is as a selection of small disjunct patches of degraded woodland, with a combined total area of around 2.8 ha. The woodland patches do not form part of a larger (and regionally significant) stand of this vegetation type and are separated from the nearest occurring patches of similar woodland by large expanses of clearing grazing land, with the New England Highway, the Armidale Airport, local roads, overhead powerlines and nearby buildings forming distinct boundaries or gaps in the distribution of this vegetation in the landscape. Clearing of these patches of woodland will not, therefore, have an adverse effect on the extent of this EEC in the locality (Factor (c)(i)).
- Future development of the site is not likely to "modify the composition" of any remaining stands of this EEC on adjoining lands, provided that suitable construction management measures are implemented, so as to avoid undue erosion, sedimentation and weed dispersal. The composition of any EEC vegetation on adjoining lands is not likely to be adversely affected by the rezoning to any measurable extent. Should any stands of this vegetation type be retained *in situ* (within the site), they should be managed appropriately to control existing weeds (particularly invasive perennial grasses), erosion and maintain suitable fire regime (eg within asset protection zones). This will ensure that the composition of retained woodland is not compromised or adversely affected (Factor (c)(ii)).

Factor d Impacts on Habitat for Threatened Biota

(d) in relation to the habitat of a threatened species, population or ecological community:
(i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and
(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and
(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality

In relation to the considerations under Factor (d) of Section 5A:

- The extent of habitat for the Ribbon Gum-Mountain Gum-Snow Gum Grassy Woodland EEC to be modified or removed is relatively small, being a series of small disjunct stands of degraded woodland with a total area of around 2.8 ha (Factor (d)(i)).
- The occurrence of this EEC on the site at Armidale is a series of disjunct patches separated by open (largely exotic) grassland. Collectively, these patches are separated from other patches on adjoining or nearby lands by cleared expanses or infrastructure (mainly roads, the airport and overhead powerlines). Consequently, the occurrence of this EEC on the site is already "fragmented" and "isolated" and hence future rezoning is not likely to result in any habitat for this EEC becoming "*fragmented or isolated from other areas of habitat*" (Factor (d)(ii)),
- Given the small size, degraded condition and low level of connectivity in the landscape, the patches of EEC vegetation on the site could not be construed as important to the long-term survival of the EEC in the locality or the region (Factor (d)(iii).

Given the circumstances described above, and given the nature and condition of the subject site, as well as its context and size, "the action proposed" is not likely to have significant adverse effects on the habitat for Ribbon Gum-Mountain Gum-Snow Gum Grassy Woodland EEC.

Factor (e) Critical Habitat
(e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

There is no "critical habitat" listed on the Critical Habitat Register of relevance to the site. Moreover, the subject site does not represent "critical habitat" for any threatened biota listed under the TSC Act.

Factor f Recovery Plans and Threat Abatement Plans
(f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan

There is currently no 'recovery plan' relevant to Ribbon Gum-Mountain Gum-Snow Gum Grassy Woodland EEC. A *Priority Action Statement* is listed for the EEC, but only states that the management actions identified for this community are "Identify threats and determine recovery strategies".

The "action proposed" on the site at Armidale is not likely to be inconsistent with the likely objectives or proposed actions of any potentially relevant recovery plan or threat abatement plan, given:

- the circumstances of the subject site, including its location and size, and the existing levels of disturbance;

- the threatened biota which could potentially occur on the land; and
- the impact amelioration and environmental management measures proposed.

Factor g Key Threatening Processes

A "threatening process" is defined in the TSC Act as "a process that threatens, or may have the capability to threaten, the survival or evolutionary development of species, populations or ecological communities". 'Key threatening processes' are listed in Schedule 3 of the TSC Act. Those that are potentially relevant to rezoning of the site and future development impacts on the Ribbon Gum-Mountain Gum-Snow Gum Grassy Woodland EEC include:

- Bushrock removal (as described in the final determination of the Scientific Committee to list the threatening process)
- Clearing of native vegetation (as defined and described in the final determination of the Scientific Committee to list the key threatening process)
- Competition and grazing by the feral European Rabbit, *Oryctolagus cuniculus (L.)*
- Competition and habitat degradation by Feral Goats, *Capra hircus* Linnaeus 1758
- Infection of native plants by *Phytophthora cinnamomi*
- Introduction and establishment of Exotic Rust Fungi of the order *Pucciniales* pathogenic on plants of the family Myrtaceae
- Invasion of native plant communities by exotic perennial grasses
- Loss of hollow-bearing trees
- Predation by the European Red Fox *Vulpes vulpes* (Linnaeus, 1758)
- Predation by the Feral Cat *Felis catus* (Linnaeus, 1758)
- Predation, habitat degradation, competition and disease transmission by Feral Pigs, *Sus scrofa* Linnaeus 1758
- Removal of dead wood and dead trees

Any future development proposal will need to address the relevant threatening processes listed above. The key processes of relevant to the Ribbon Gum-Mountain Gum-Snow Gum Grassy Woodland EEC are

- clearing of native vegetation; and
- removal of dead wood and dead trees

The 'clearing of native vegetation' is a key threatening process listed in the TSC Act. The proposed rezoning will likely involve the removal of native vegetation (including a very small area of EEC). However, the native vegetation to be removed is not considered to be of local or regional importance with regard to the persistence of this vegetation type in the locality, as noted in Factor (d)(iii).

The "*removal of dead wood and dead trees*" is a "*key threatening process*" listed in the TSC Act. Several stags and hollow logs were recorded on the site and some of these will require removal based on safety and based on their location within future development footprints. It is possible that these trees provide potential habitat for native fauna and possibly some threatened microchiropteran bats. Pre-

clearing inspections of these hollows will avoid any adverse impacts on hollow obligate fauna, if present.

The rezoning proposal is not considered likely to exacerbate the existing impact of any key threatening process to any significant or relevant extent. Consequently, the action proposed will not involve either the imposition of or the exacerbation of a key threatening process such that EEC vegetation would be affected to any significant extent.

Conclusions

Given the considerations outlined above, the proposal is not "likely" to impose a "significant effect" upon Ribbon Gum-Mountain Gum-Snow Gum Grassy Woodland EEC, pursuant to Section 5A of the EP&A Act.

4.3 SEPP 44 Koala Habitat Protection

State Environmental Planning Policy No.44 – Koala Habitat Protection (SEPP 44) aims to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

SEPP 44 applies to development applications for sites that are over one hectare in area within local government areas listed under Schedule 1 of the policy. Armidale Dumaresq LGA is listed under Schedule 1 of the policy, and the subject site has an area of more than one hectare. One tree species, the Ribbon Gum *Eucalyptus viminalis*, listed as a feed tree under Schedule 2 of the policy, was recorded on the site and forms over 15% of the number of trees of the tree canopy present on the site. Accordingly, the site would constitute 'potential koala habitat' as defined under the policy.

However, there was no evidence of use of the site by the Koala, including recent scats, scratches in tree bark, calling males or females with young. The site, therefore, is not considered to constitute 'core koala habitat' and SEPP 44 does not apply to the proposal.

4.4 Watercourses

A named creek known as Lagoon Gully is mapped in the southern portion of the site. The creek is mapped as beginning at a dam in the southeastern corner of the site, flowing west to a small dam outside the southwest corner of the site, then continuing through degraded agricultural land for approximately 3 km to the southwest until reaching Saumarez Creek.

Photographs have been taken in the vicinity of the mapped watercourse and dams during the recent site inspection (Appendix A) which show a lack of watercourse structure (formed bed and banks) and the highly degraded nature of the area mapped as containing the watercourse.

On this basis, the drainage line mapped as Lagoon Gully does not form a creek with true bed and banks and does not constitute 'waterfront land' within the meaning of the NSW *Water Management Act 2000*. It is therefore unlikely to represent a constraint to future development of the site. There is no suitable habitat for threatened species of amphibians and there is only limited habitat for threatened waterbirds.

5 REZONING OPPORTUNITIES

5.1 The Proposed Rezoning

The proposal to rezone the subject site to IN2 Light Industrial is not, based on the evidence collected to date, constrained by the existing biodiversity on the subject site. The majority of the site comprises degraded open grassland and woodland dominated by exotic grasses and weeds. However, the presence or absence (or likelihood of occurrence) of threatened species on the site will need to be confirmed with more detailed field surveys as part of any future development application.

By exception, a few of the small patches of woodland along the southern and western boundaries have a higher diversity of native groundcover species and may constitute the Ribbon Gum-Mountain Gum-Snow Gum Grassy Forest EEC. These woodland patches contain only a small number of hollows and are not well connected to other patches within or adjacent to the site, hence they would not represent important habitat for all but the most mobile and wide ranging species of native fauna, such as raptorial birds, some bats and some woodland birds. Given their small size and lack of connectivity to other larger patches of native woodland in the landscape, they are not considered to be of particular conservation importance. Accordingly, and as concluded in Section **4.2.3**, the proposed rezoning is not likely to have a significant effect on the Ribbon Gum-Mountain Gum-Snow Gum Grassy Forest EEC.

The site is not likely to provide important habitat for any of the threatened species previously recorded in the locality.

5.2 Impact Amelioration and Environmental Management Measures

Notwithstanding the minor impacts on the natural environment that could ensue from the rezoning of the subject site at Armidale, appropriate impact mitigation and environmental management measures would be anticipated (as standard practice) at the development application stage.

Specific measures in this regard would include:

- Flora and fauna survey work should be included as part of future DA process; such as detailed mapping of any native grassland, targeted searches for Bluegrass (in the summer months), as well as a fauna survey program to search for evidence of use of the site, in particular by bats and birds.
- Retention of patches of moderate condition woodland in future design layouts. In this regard, the recovery strategies for Ribbon Gum-Mountain Gum-Snow Gum Grassy Forest/Woodland EEC (DECC 2007) are relevant, as follows:
    - Ensure remnants remain connected or linked to each other; in cases where remnants have lost connective links, re-establish them by revegetating sites to act as stepping stones for fauna, and flora (pollen and seed dispersal)
    - Manage stock to reduce grazing pressure in high quality remnants and develop more sustainable fire regimes.
    - Mark remnants onto maps (of the farm, shire, region, etc) and use to plan activities (e.g. remnant protection, rehabilitation or road, rail and infrastructure maintenance work).
- Retention of hollow-bearing trees in future design and the implementation of a hollow-

bearing tree protocol where removal is unavoidable.

- Management of weeds during and after any future construction activities.

GLOSSARY

Bioregion	see region
DA	A *Development Application* prepared pursuant to the EP&A Act.
Endangered Ecological Community	"*an ecological community specified in Part 3 of Schedule 1*" of the TSC Act.
Endangered Population	"*a population specified in Part 2 of Schedule 1*" of the TSC Act.
EP&A Act	*Environmental Planning & Assessment Act 1979*.
EPBC Act	*Environment Protection & Biodiversity Conservation Act 1999*.
Key Threatening Process	"*a threatening process specified in Schedule 3*" of the TSC Act.
NPWS	NSW National Parks & Wildlife Service.
OEH	Office of the Environment & Heritage, which is part of the Department of Premier & Cabinet, and which incorporates most of the DECCW.
Proposal	"*the development, activity or action proposed*" (DGRs).
Recovery Plan	"*a plan prepared and approved under Part 4*" of the TSC Act.
Region	"*a bioregion defined in a national system of bioregionalisation that is determined (by the Director-General by order published in the Gazette) to be appropriate for those purposes*" (TSC Act).
SIS	*Species Impact Statement* prepared pursuant to Sections 109, 110 and 111 of the TSC Act.
Threatened Species	"*a species specified in Part 1 or 4 of Schedule 1, Part 1 of Schedule 1A or Part 1 of Schedule 2*" of the TSC Act.
Threatened Ecological Community	"*an ecological community specified in Part 3 of Schedule 1, Part 2 of Schedule 1A or Part 2 of Schedule 2*"
Threatening Process	"*a process that threatens, or may have the capability to threaten, the survival or evolutionary development of species, populations or ecological communities*" (TSC Act).
TSC Act	*Threatened Species Conservation Act 1995*.

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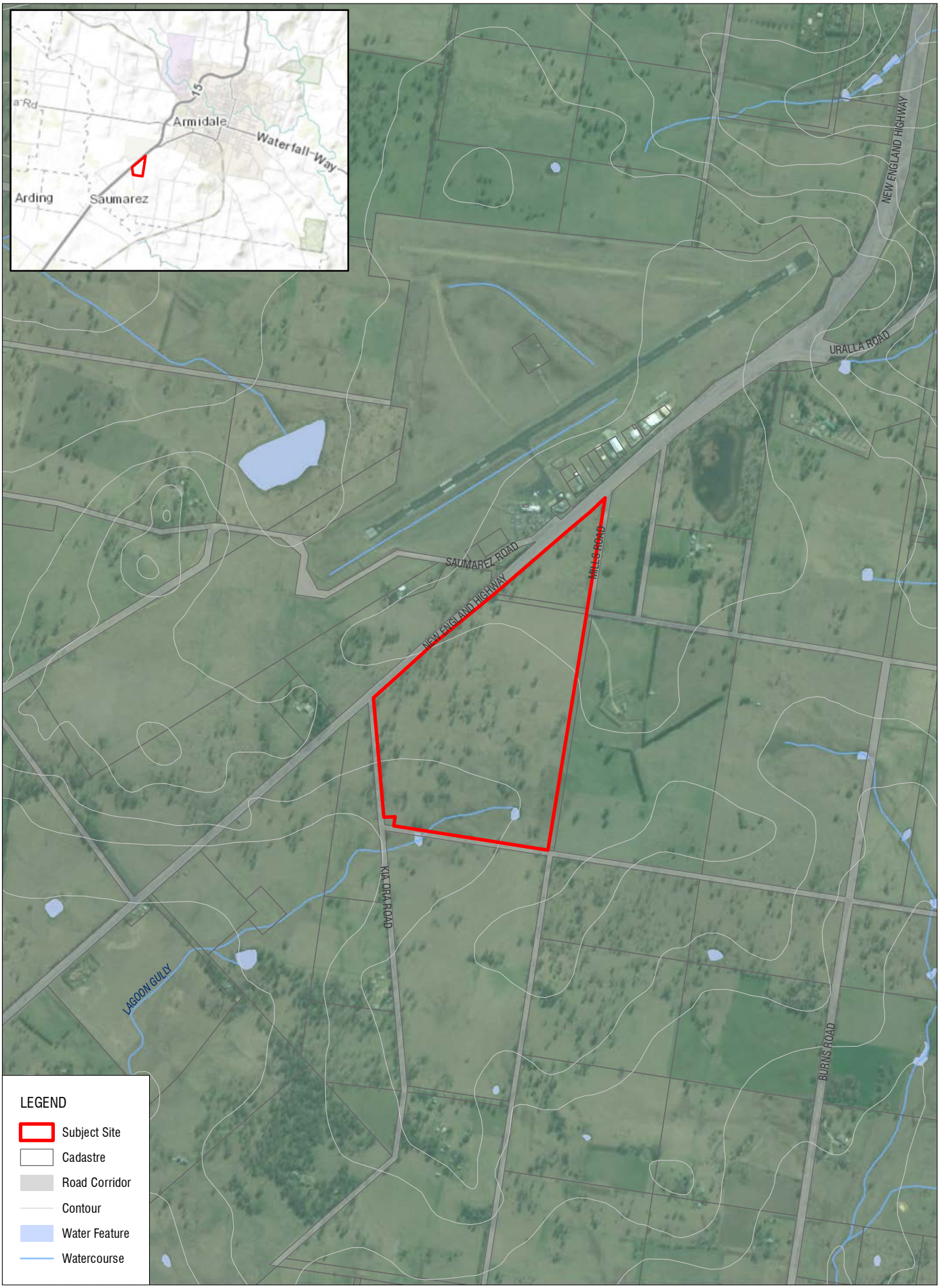

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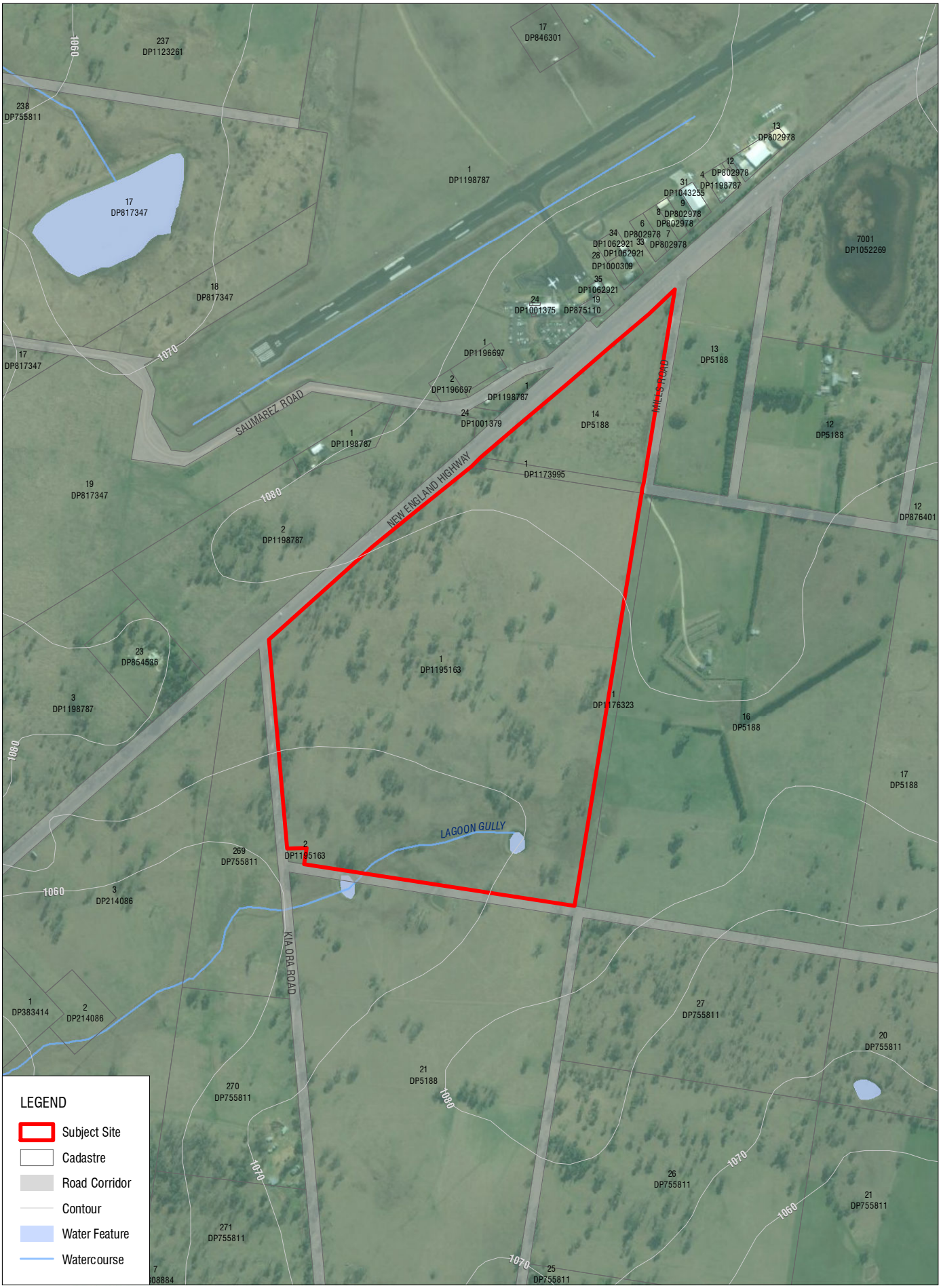
Peter Maguire and Rasha Shammas

Rezoning - Kia-ora Road, Armidale

Site Location

FIGURE 1



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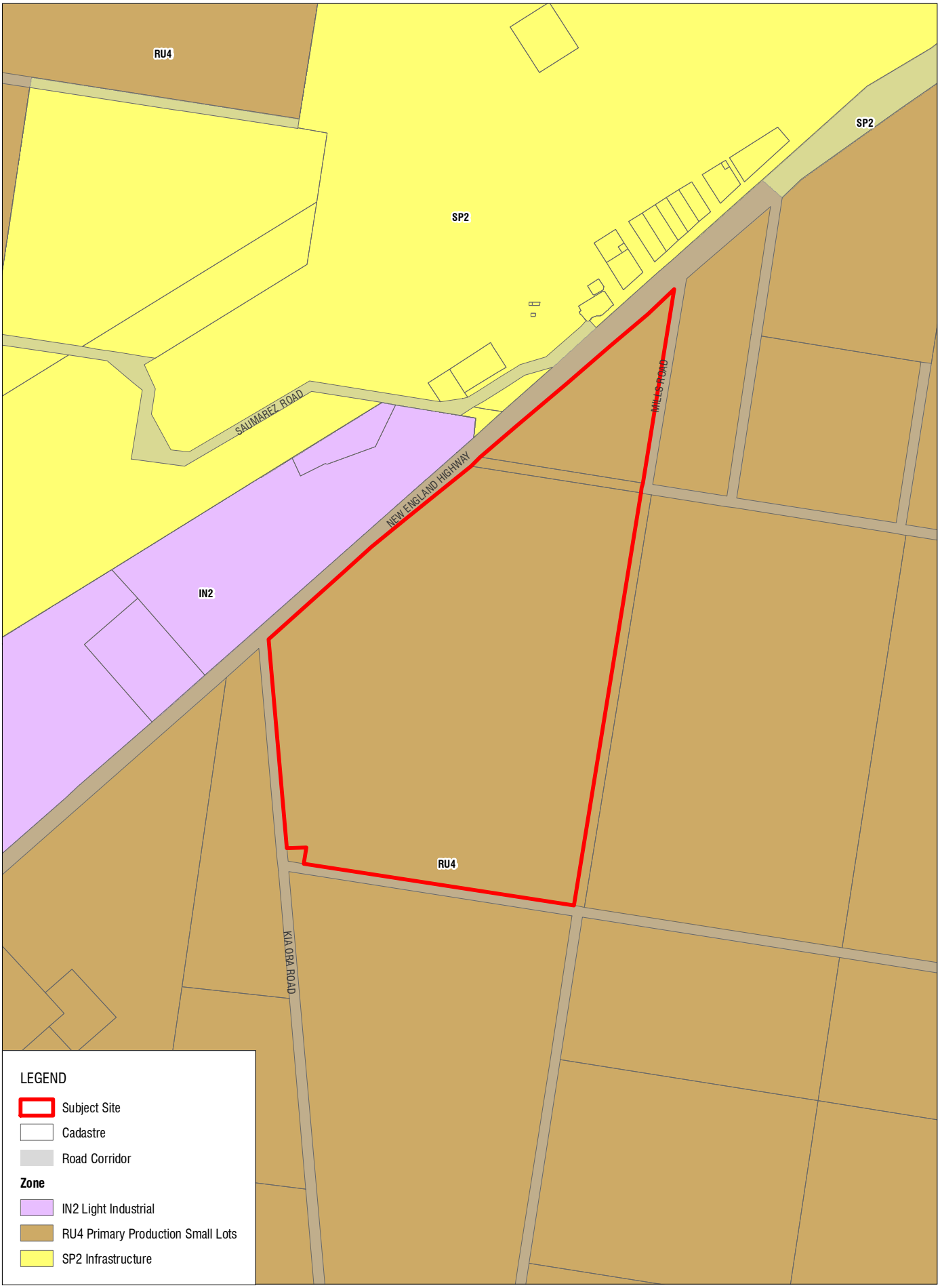
Rezoning - Kia-ora Road, Armidale

Site Details

FIGURE 2



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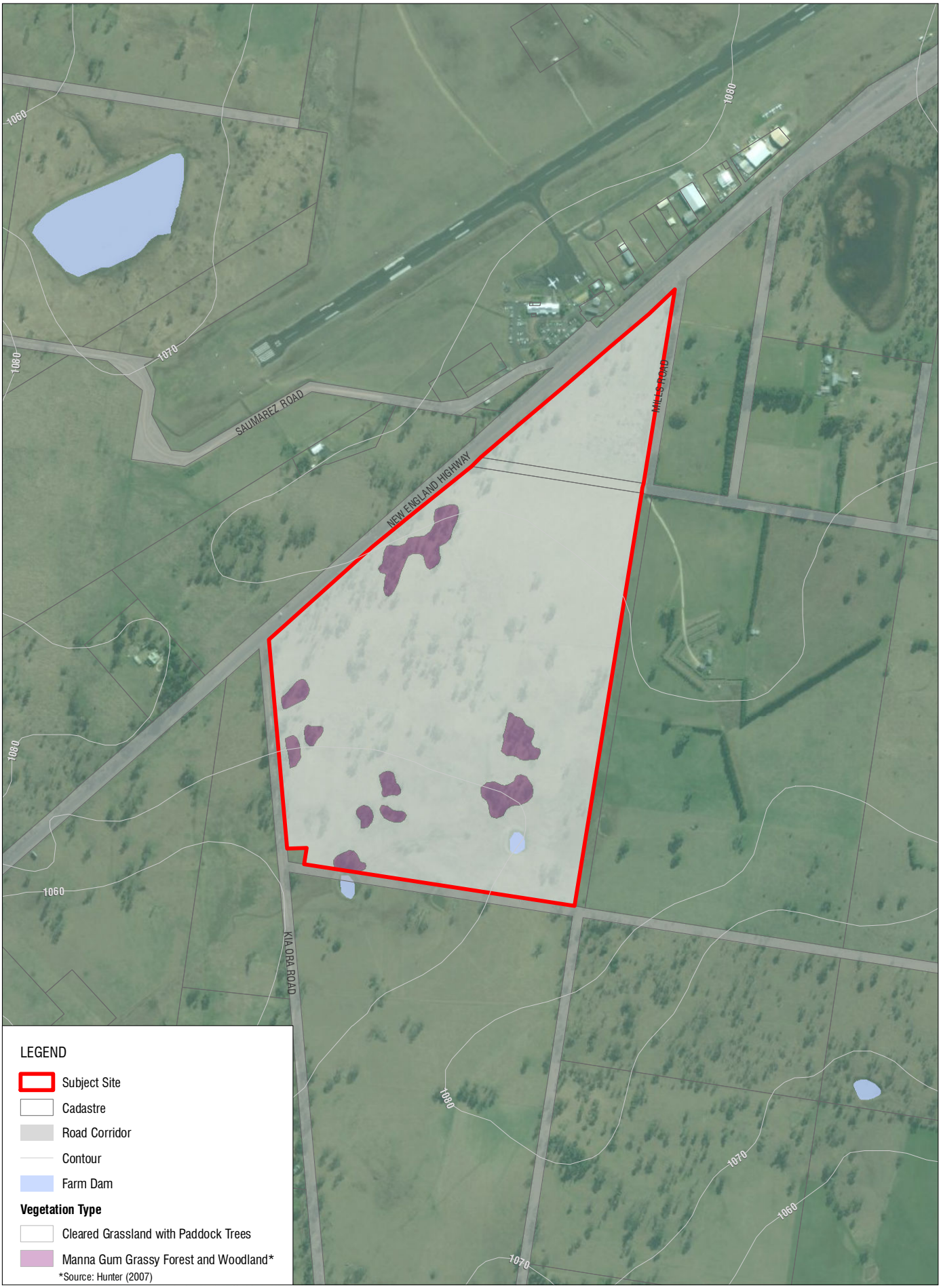
Rezoning - Kia-ora Road, Armidale

Land Zoning
Armidale Dumaresq LEP 2012

FIGURE 3



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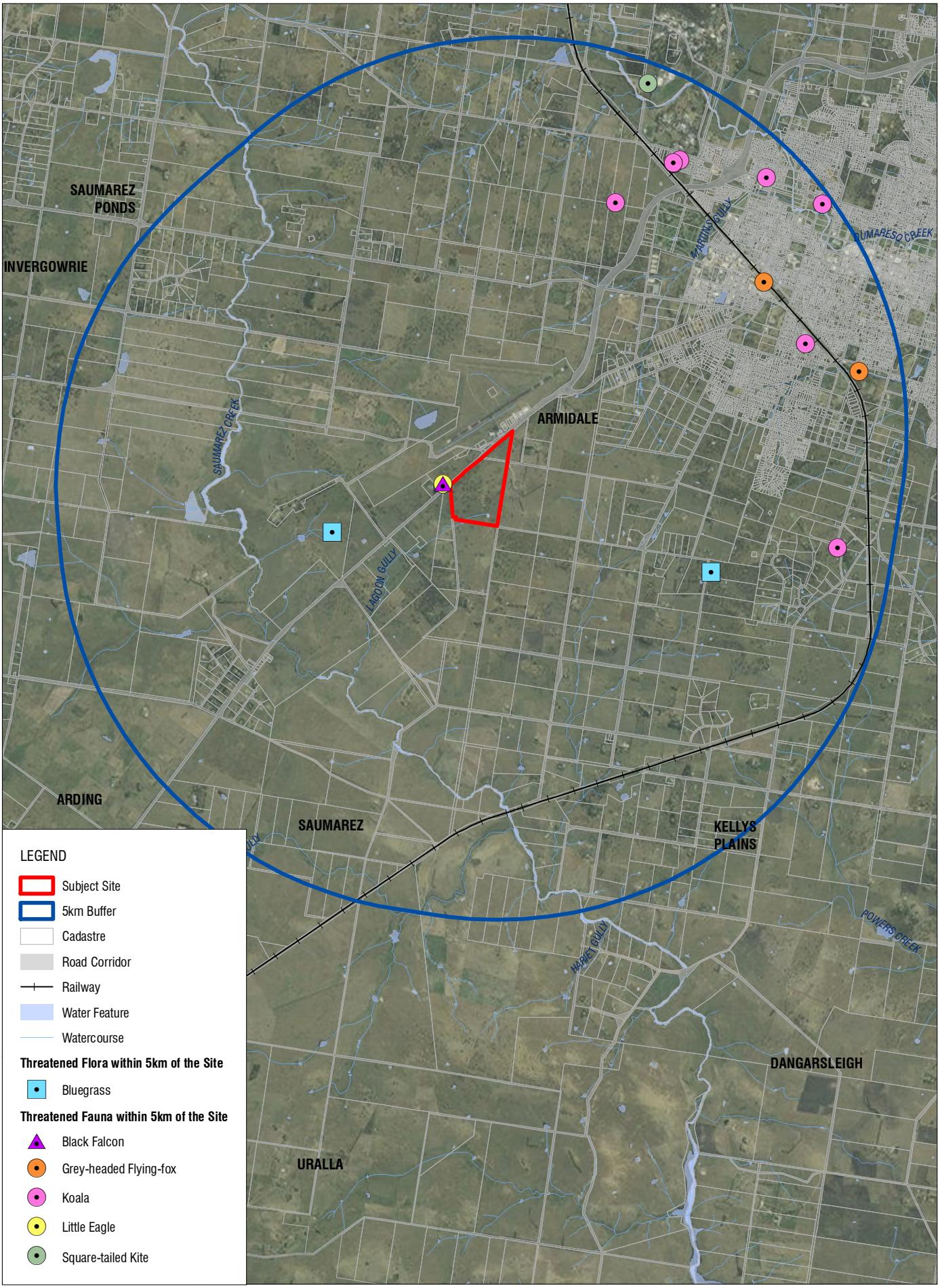
Rezoning - Kia-ora Road, Armidale

Vegetation Types Within the Site

FIGURE 4



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Rezoning - Kia-ora Road, Armidale

Previous Records of Threatened Species (NSW Wildlife Atlas data)

FIGURE 5

global environmental solutions

Lot 14 DP 5188, Lot 1 DP 1195163 and Lot 1 DP 1173995 Kia-Ora Road, Armidale

Proposed Rezoning

Existing Biodiversity Report

Appendix A
Site Photographs

18 June 2015

Appendix A Photographs taken of the subject site on the 03 June 2015.

Photo 1 The predominantly exotic grassland with scattered Manna Gums in the northwestern portion of the subject site. Note – exotic Thistle and regrowth eucalypts.

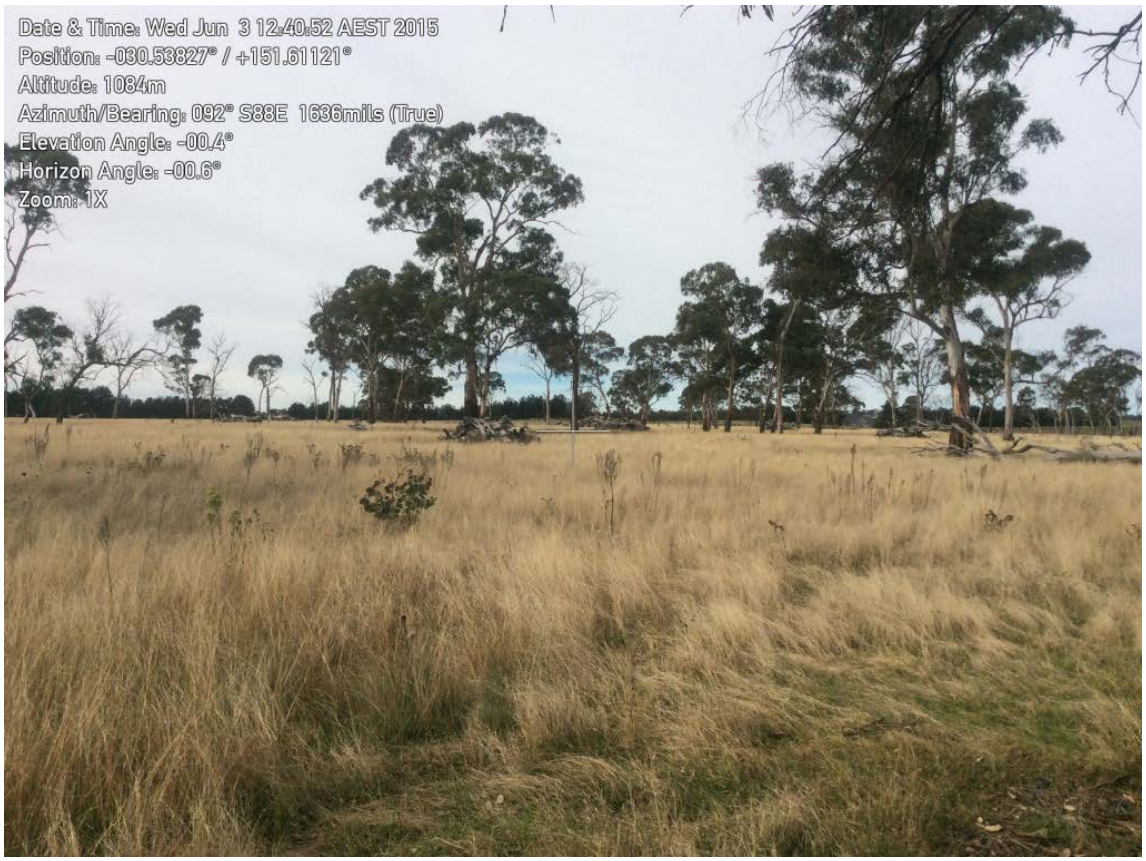

Photo 2 The predominantly exotic grassland with scattered Manna Gums in the northwestern portion of the subject site. Note – exotic Thistle and regrowth eucalypts.

Appendix A Photographs taken of the subject site on the 03 June 2015.

Photo 3 Near the northwest corner of the subject site facing southwest along the interface of the northern boundary of the site and the New England Highway.

Photo 4 Near the northwest corner of the subject site facing northeast along the interface of the northern boundary of the site and the New England Highway.

Appendix A Photographs taken of the subject site on the 03 June 2015.

Photo 5 Near the northwest corner of the subject site facing north along the interface of the western boundary of the site and Kia Ora Road.

Photo 6 Near the northwest corner of the subject site facing south along the interface of the western boundary of the site and Kia Ora Road.

Appendix A Photographs taken of the subject site on the 03 June 2015.

Photo 7 Flora quadrat undertaken just north of the larger dam in the southeastern corner of the subject site.

Photo 8 Facing east along the southern boundary showing scattered logs and rocks providing low quality habitat for ground based fauna. Note – no formed creek.

Appendix A Photographs taken of the subject site on the 03 June 2015.

Photo 9 A dead stag in the northwestern corner of the subject site. Note scattered Manna Gum and exotic grassland with Sweet Briar weed.

Photo 10 Facing south over the southern site boundary showing a small dam along the mapped Lagoon Gully watercourse. Note - heavily weed infested.

Appendix A Photographs taken of the subject site on the 03 June 2015.

Photo 11 A patch of regrowth native canopy species in the northwestern potion of the subject site.

global environmental solutions

Lot 14 DP 5188, Lot 1 DP 1195163 and Lot 1 DP 1173995
Kia-Ora Road, Armidale

Proposed Rezoning

Existing Biodiversity Report

Appendix B
Flora Species List

18 June 2015

NOTES

- Collected by Jeremy Pepper of SLR Ecology.
- The floristic data was collected on the 03 June 2015.
- Unknown specimens were sampled and identified using the online PlantNET database (Botanic Gardens Trust 2015), as well as the following field books:
  - *Field Guide to the Native Plants of Sydney* (Robinson 2003)
  - *Weeds of the South-east, An Identification Guide for Australia* (Richardson & Shepherd 2007)
- Nomenclature (*ie* species names and common names) used in this Appendix is sourced from PlantNET (BGT 2015).

KEY

Symbol	Description
*	Exotic species
*N	Noxious species listed under the NSW *Noxious Weeds Act 1993* (Armidale Dumaresq LGA)
Frequency	
c	Species recorded at a common frequency across the subject site
m	Species recorded at a moderately-common frequency across the subject site
u	Species recorded at an uncommon frequency across the subject site

Status	Species name	Common name	Frequency
	Apiaceae		
	Centella asiatica	Indian Pennywort	u
*	*Foeniculum vulgare*	Fennel	m
	Asteraceae		
*	*Bidens pilosa*	Cobblers Peg	m
*	*Cirsium vulgare*	Spear Thistle	c
*	*Conyza bonariensis*	Flaxleaf Fleabane	c
*	*Conyza canadensis* var. *canadensis*	Canadian Fleabane	c
*	*Hypochaeris radicata*	Catsear	m
*N	*Senecio madagascariensis*	Fireweed	u
*	*Sonchus oleraceus*	Common Sowthistle	u
*	*Taraxacum officinale*	Dandelion	m
	Xerochrysum bracteatum	Common Everlasting	u
	Brassicaceae		
*	*Capsella bursa-pastoris*	Shepherd's Purse	u
	Caryophyllaceae		
*	*Cerastium glomeratum*	Mouse-ear Chickweed	u
	Chenopodiaceae		
	Atriplex semibaccata	Creeping Saltbush	u
	Einadia nutans subsp. *nutans*	Climbing Saltbush	u
	Einadia trigonos subsp. *stellulata*	Fishweed	u
	Clusiaceae		
*	*Hypericum perforatum*	St. John's Wort	u

Status	Species name	Common name	Frequency
	Convolvulaceae		
	Dichondra repens	Kidney Weed	m
	Cyperaceae		
	Juncus (?) *usitatus*		m
	Fabaceae - Faboideae		
	Glycine clandestina	-	u
*	*Lotus subbiflorus*	Hairy Birds-foot Trefoil	u
*	*Medicago polymorpha*	Burr Medic	m
*	*Trifolium repens*	White Clover	u
*	*Vicia sativa* subsp. *sativa*	Common Vetch	m
	Fabaceae - Mimosoideae		
	Acacia (?) *filicifolia*	Fern-leaved Wattle	u
	Goodeniaceae		
	Goodenia hederacea subsp. *hederacea*	Ivy Goodenia	u
	Lamiaceae		
*	*Stachys arvensis*	Stagger Weed	u
*	*Marrubium vulgare*	White Horehound	m
	Mentha diemenica	Slender Mint	c
	Linaceae		
*	*Linum trigynum*	French Flax	u
	Lomandraceae		
	Lomandra filiformis subsp. *coriacea*	-	u
	Malvaceae		
*	*Modiola caroliniana*	Red-flowered Mallow	u
*	*Sida rhombifolia*	Paddy's Lucerne	c
	Myrsinaceae		
*	*Anagallis arvensis*	Scarlet Pimpernel	u
	Myrtaceae		
	Eucalyptus viminalis	Manna Gum	c
	Eucalyptus (?) *pauciflora*	Snow Gum	u
	Eucalyptus melliodora	Yellow Box	u
	Oxalidaceae		
*	*Oxalis bowiei*	-	u
	Plantaginaceae		
*	*Plantago lanceolata*	Lamb's Tongue	c
*	*Veronica persica*	Creeping Speedwell	u
	Poaceae		
	Aristida ramosa	Purple Wiregrass	m
*	*Avena barbata*	Bearded Oats	m
	Bothriochloa (?) *decipiens*	Redleg Grass	u
*	*Briza subaristata*	-	u
*	*Chloris gayana*	Rhodes Grass	m
	Chloris ventricosa	Plump Windmill Grass	u
	Cynodon dactylon	Couch	c
	Dichelachne micrantha	Shorthair Plumegrass	u
*	*Ehrharta erecta*	Panic Veldt Grass	m
	Eragrostis brownii	Brown's Lovegrass	u
	Eragrostis (?) *leptostachya*	Paddock Lovegrass	c

Status	Species name	Common name	Frequency
	Poaceae cont'd…		
*	*Eragrostis curvula*	African Lovegrass	m
*	*Lolium perenne*	Perennial Ryegrass	m
	Microlaena stipoides	Weeping Grass	u
*	*Paspalum dilatatum*	Paspalum	m
*	*Pennisetum clandestinum*	Kikuyu	c
*	*Phalaris aquatica*	Phalaris	c
*	*Poa annua*	Winter Grass	u
*	*Setaria parviflora*	Pigeon Grass	c
*	*Sporobolus fertilis*	Giant Parramatta Grass	c
	Themeda australis	Kangaroo Grass	u
	Polygonaceae		
	Persicaria decipiens	Slender Knotweed	u
*	*Rumex crispus*	Curled Dock	u
	Rosaceae		
*N	*Rosa rubiginosa*	Sweet Briar	
*N	*Rubus fruticosus* spp. agg.	Blackberry	c
	Rubiaceae		
	Asperula conferta	Common Woodruff	u
*	*Galium aparine*	Cleavers	m
	Scrophulariaceae		
*	*Verbascum thapsus* subsp. *thapsus*	Great Mullein	u
	Solanaceae		
*	*Solanum chenopodioides*	White-tip Nightshade	u
*	*Solanum pseudocapsicum*	Madeira Winter	u
*	*Solanum nigrum*	Blackberry Nightshade	u
	Verbenaceae		
*	*Verbena bonariensis*	Purpletop	c
*	*Verbena rigida*	-	m
	Total native **Total exotic**	26 46	

global environmental solutions

Lot 14 DP 5188, Lot 1 DP 1195163 and Lot 1 DP 1173995
Kia-Ora Road, Armidale

Proposed Rezoning

Existing Biodiversity Report

Appendix C
Fauna Species List

18 June 2015

Appendix C Fauna Species List surveyed from the subject site and surrounds at Armidale

KEY	
Symbol	**Description**
S	Sighted
H	Heard calling
D	Droppings observed
F	Feed trees observed

Status	Species name	Common name
AVES		
	Accipitridae	
S	*Elanus axillaris*	Black-shouldered Kite
	Artamidae	
S	*Cracticus torquatus*	Grey Butcherbird
S	*Gymnorhina tibicen*	Magpie
	Cacatuidae	
S	*Eolophus roseicapilla*	Galah
	Dicruridae	
S	*Grallina cyanoleuca*	Magpie-lark
	Falcolnidae	
S	*Falco cenchroides*	Nankeen Kestrel
	Halcyonidae	
S	*Dacelo novaeguineae*	Kookaburra
	Hirundinidae	
S	*Hirundo neoxena*	Welcome Swallow
	Meliphagidae	
H	*Philemon citreogularis*	Little Friarbird
S	*Manorina melanocephala*	Noisy Miner
	Psittacidae	
S	*Platycercus eximius*	Eastern Rosella
MAMMALS		
	Macropodidae	
D	*Macropus giganteus*	Eastern Grey Kangaroo
	Leporidae	
S	*Lepus curpaeums*	Rabbit

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Kia-Ora Road, Armidale

Proposed Rezoning

Existing Biodiversity Report

Appendix D
OEH Wildlife Atlas Search

18 June 2015

KEY	
Status	The "*threatened species*" listing in the *Threatened Species Conservation Act 1995*
V	Species listed as "*vulnerable*"
E1	Species listed as "*endangered*"
E2	Species is part of an "*endangered population*"
E4A	Species listed as "*critically endangered*"
Records	The number of records of the relevant "*threatened species*" listed in the search area
Relevance	The potential relevance that the "*threatened species*" might have to the subject site.
H	Considered by SLR Ecology to have a "*high*" potential relevance to the subject site
M	Considered by SLR Ecology to have a "*moderate*" potential relevance to the site
L	Considered by SLR Ecology to have a "*low*" potential relevance to the subject site
N	Considered by SLR Ecology to have "*no*" potential relevance to the subject site

NOTES

The table below is based on data obtained from the recently reformed *Atlas of NSW Wildlife* website http://www.bionet.nsw.gov.au/, and the following notes accompany this dataset:

- Data from the BioNet Atlas of NSW Wildlife website, which holds records from a number of custodians. The data are only indicative and cannot be considered a comprehensive inventory, and may contain errors and omissions.
- Species listed under the Sensitive Species Data Policy may have their locations denatured (^ rounded to 0.1°; ^^ rounded to 0.01°).
- Copyright the State of NSW through the Office of Environment and Heritage.
- Search criteria: Licensed Report of all Valid Records of Threatened (listed on TSC Act 1995) Entities in selected area [North: -30.45 West: 151.51 East: 151.72 South: -30.63] returned a total of 415 records of 29 species.
- Report generated on 26/05/2015 5:12 PM

Status	Scientific Name	Common Name	Records	Relevance
	PLANTS			
	Brassicaceae			
E1	*Lepidium hyssopifolium*	Aromatic Peppercress	1	N
	Myrtaceae			
V	*Eucalyptus nicholii*	Narrow-leaved Black Peppermint	1	L-N
V	*Eucalyptus rubida* subsp. *barbigerorum*	Blackbutt Candlebark	2	L-N
	Poaceae			
V	*Dichanthium setosum*	Bluegrass	4	L
	Santalaceae			
V	*Thesium australe*	Austral Toadflax	3	N
	AMPHIBIA			
	Hylidae			
E4A	*Litoria castanea*	Yellow-spotted Tree frog	1	N
	AVES			
	Anseranatidae			
V	*Anseranas semipalmata*	Magpie Goose	1	N
	Ciconiidae			
E1	*Ephippiorhynchus asiaticus*	Black-necked Stork	3	N
	Accipitridae			
V	*Circus assimilis*	Spotted Harrier	2	L-N
V	*Hieraaetus morphnoides*	Little Eagle	8	L
V	*Lophoictinia isura*	Square-tailed Kite	3	L

Status	Scientific Name	Common Name	Records	Relevance
	Falconidae			
V	*Falco subniger*	Black Falcon	3	L
	Psittacidae			
E1	*Lathamus discolor*	Swift Parrot	1	L-N
	Strigidae			
V	*Ninox strenua*	Powerful Owl	1	L-N
	Tytonidae			
V	*Tyto novaehollandiae*	Masked Owl	21	L-N
	Climacteridae			
V	*Climacteris picumnus victoriae*	Brown Treecreeper	95	L-N
	Acanthizidae			
V	*Chthonicola sagittata*	Speckled Warbler	123	L-N
	Meliphagidae			
E4A	*Anthochaera phrygia*	Regent Honeyeater	5	L-N
V	*Grantiella picta*	Painted Honeyeater	1	L-N
	Petroicidae			
V	*Melanodryas cucullata cucullata*	Hooded Robin	7	N
V	*Petroica boodang*	Scarlet Robin	45	N
	Estrildidae			
V	*Stagonopleura guttata*	Diamond Firetail	30	N
	MAMMALS			
	Dasyuridae			
V	*Dasyurus maculatus*	Spotted-tailed Quoll	3	N
	Phascolarctidae			
V	*Phascolarctos cinereus*	Koala	44	L
	Petauridae			
V	*Petaurus norfolcensis*	Squirrel Glider	1	N
	Pteropodidae			
V	*Pteropus poliocephalus*	Grey-headed Flying-fox	2	L
	Emballonuridae			
V	*Saccolaimus flaviventris*	Yellow-bellied Sheathtail-bat	1	L-N
	Vespertilionidae			
V	*Falsistrellus tasmaniensis*	Eastern False Pipistrelle	2	L-N
V	*Miniopterus schreibersii oceanensis*	Eastern Bentwing-bat	1	L-N