PLANNING PROPOSAL
PROPOSED REZONING OF LOT 12 IN DP1131006, LORKING STREET, PARKES

PREPARED FOR
KARINA WHITE AND DUANE SULLIVAN

APRIL 2014

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AMENDMENT TO THE

PARKES LOCAL ENVIRONMENTAL PLAN 2012

PREPARED FOR:

KARINA WHITE AND DUANE SULLIVAN

APRIL 2014

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Report Title:	*Planning Proposal*
Project:	*Proposed Rezoning of Lot 12 in DP 1131006 at Lorking Street, Parkes*
Client:	*Karina White and Duane Sullivan*
Report Ref.:	*212257_PP_001C.docx*
Status:	*Final*
Issued:	*9 April 2014*

Geolyse Pty Ltd and the authors responsible for the preparation and compilation of this report declare that we do not have, nor expect to have a beneficial interest in the study area of this project and will not benefit from any of the recommendations outlined in this report.

The preparation of this report has been in accordance with the project brief provided by the client and has relied upon the information, data and results provided or collected from the sources and under the conditions outlined in the report.

All maps, plans and cadastral information contained within this report are prepared for the exclusive use of Karina White and Duane Sullivan to accompany this report for the land described herein and are not to be used for any other purpose or by any other person or entity. No reliance should be placed on the information contained in this report for any purposes apart from those stated therein.

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Document Control

Version	Date	Status	Author	Reviewed	Approved
A	16/11/2013	Draft for client review	KVH/DWW	DWW	DWW
B	06/03/2014	Final	KVH/DWW	DWW	DWW
C	09/04/2014	Final-revised	DWW	DWW	DWW

TABLE OF CONTENTS

TABLES

DRAWINGS

Drawing 04A_TP01 – Title Sheet, Drawing List and Site Locality
Drawing 04A_TP02 – Subject site plan
Drawing 04A_TP03 – Aerial photograph
Drawing 04A_TP04 – Existing zoning
Drawing 04A_TP05 – Proposed zoning
Drawing 04A_TP06 – Proposed lot layout

Drawing 05A_E01 - Title Sheet, Drawing List and Site Locality
Drawing 05A_E02 – Concept stormwater reticulation plan
Drawing 05A_E03 – Concept sewer reticulation plan
Drawing 05A_E04 – Concept water reticulation plan

APPENDICES

APPENDIX A
Ecological Assessment

APPENDIX B
AHIMS Search Result

APPENDIX C
Proposed LEP Map Amendments

APPENDIX D
Stage 1 Contamination Assessment

Executive Summary

Geolyse Pty Ltd has been engaged by the applicants (Ms Karina White and Mr Duane Sullivan) to prepare a Planning Proposal to amend the *Parkes Local Environmental Plan 2012*. The Planning Proposal relates to land located at Lot 12 in DP 1131006, Lorking Street Parkes.

The site has a total area of approximately 10.4 hectares and is located on the north-eastern periphery of the town of Parkes. The land is currently vacant and predominantly zoned as RU1 – Primary Production, with a small portion of the lot zoned R1 – General Residential in the south of the lot. The parcel of land adjoins existing urban residential development on Barton Street to the south and Danilenko Street to the east.

The planning proposal seeks to rezone the RU1 portion of the land to R1 – General Residential and amend the minimum lot size from 400 hectares to 600m². This would align with the existing residential development to the south and east and would enable the land to be subdivided for residential purposes.

The land is identified within the *Parkes Land Use Strategy 2012* as being suitable for future residential use, subject to adequate reporting to confirm that any impacts can be appropriately mitigated.

ABBREVIATIONS

Abbreviation	Full Name
AHD	Australian Height Datum
AHIMS	Aboriginal Heritage Information Management System
AGL	Australian Gas Light Company
CASA	Civil Aviation Safety Authority
DECCW	Department of Environment, Climate Change and Water
DoP	NSW Department of Planning
DUAP	Department of Urban Affairs and Planning
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPA	Environmental Protection Authority
ILUA	Indigenous Land Use Agreements
ISEPP	State Environmental Planning Policy (Infrastructure) 2007
LEP	Local Environmental Plan
LGA	Local Government Authority
LUS	Parkes Land Use Strategy 2012
NPW Act	National Parks and Wildlife Act 1974
OEH	Office of Environment and Heritage
PP	Planning Proposal
RMS	Roads and Maritime Services
SEPP	State Environmental Planning Policy
SEPP44	State Environmental Planning Policy 44 – Koala Habitat Protection
SEPP55	State Environmental Planning Policy 55 – Remediation of Land
SHR	State Heritage Register
RMS	Roads and Maritime Services
RTA	Roads and Traffic Authority (now RMS)
Rural Lands SEPP	State Environmental Planning Policy (Rural Lands) 2008

Background

INTRODUCTION

This is a Planning Proposal (PP) prepared under Section 55 of the *Environmental Planning and Assessment Act 1979*, in relation to a proposed amendment to the *Parkes Local Environmental Plan 2012*. It will be assessed by Parkes Shire Council, the NSW Department of Planning and Infrastructure, and (depending on the Gateway determination) used for public participation on the proposed LEP amendment.

SCOPE OF REPORT

This PP has been prepared in accordance with the NSW Department of Planning's (DoP) advisory documents *'A Guide to Preparing Local Environmental Plans'* and *'A Guide to Preparing Planning Proposals'*. The latter document requires the PP to be provided in five (5) parts, those being;

- *Part 1* – A statement of the objectives or intended outcomes of the proposed LEP;
- *Part 2* – An explanation of the provisions that are to be included in the proposed LEP;
- *Part 3* – The justification for those objectives, outcomes, and provisions and the process for their implementation*;*
- *Part 4* – Identification of the specific amendments proposed to the LEP and mapping;
- *Part 5* – Details of the community consultation that is to be undertaken.

Part 5 would be confirmed following a Gateway Determination of this Planning Proposal by the NSW Department of Planning.

SITE DESCRIPTION AND LOCATION

The land the subject of this PP is described as Lot 12 in DP 1131006 at Lorking Street Parkes. It covers a total area of 10.4 hectares and is located on the north-eastern outskirts of Parkes.

The land is currently zoned RU1 – Primary Production under the *Parkes Local Environmental Plan 2012* (LEP) with a minimum lot size of 400 hectares, however it has been identified as future residential land by the *Parkes Shire Council Land Use Strategy 2012* (LUS).

It is bordered to the north by rural residential development, to the south by urban residential development fronting Barton Street, to the west by Lorking Street, and to the east by Danilenko Street.

Figure 1 provides an aerial view of the subject site.

Figure 1: **Subject Site** **(Source: Six Maps)**

TOPOGRAPHY AND SOILS

King (1998) identifies the site as being within the Parkes Soils Landscape. This soil landscape is characterised by narrow crests and gently inclined sideslopes with slope gradients between 2-5% (King 1998).

In relation to urban land uses, the Parkes Soil Landscape has been identified as having:

> *Topsoils are unsuitable for structural earthworks. Subsoils are more suitable and some sub soils tested on this landscape have earthwork category ratings of B, C and D* (King 1998b).

The above mapping is undertaken at a broad scale. Existing residential development on the adjacent parcel of land illustrates structural earthworks can be undertaken. Soil testing would be undertaken at built form stage to determine slab types, however there is no indication that the site would be prohibitive to the proposed residential land use.

FLORA AND FAUNA

An Ecological Assessment of the subject site was undertaken for the proposed rezoning and is attached at **Appendix A**.

The report makes the following conclusions:

> *11. It is considered that conducting an assessment for significance of project impacts on biodiversity (Seven Part Tests) under s5A of the EP&A Act is not warranted owing to the highly disturbed nature of the study area and the lack of suitable habitat for any naturally occurring threatened biodiversity on the site, as follows;*
>
> - *The study area has been completely cleared of its original native vegetation.*
> - *The ground cover is in 'low' condition being comprised almost entirely of introduced species.*

- *Intensive farming of the area for over 150 years has eliminated almost all of the original native flora species. Only a few grazing-tolerant native herb and grass species now occur there.*
- *No threatened flora species, including the Silky Swainson-pea, was found on the study area and suitable habitat no longer exists for any threatened flora species.*
- *No threatened fauna species were found on the study area and suitable habitat to support breeding populations of threatened fauna species is absent.*
- *The study area has a low chance of occasionally being utilised as foraging habitat by wide ranging threatened birds of prey (Spotted Harrier and Little Eagle) and by wintering Flame Robins. However, it is considered unlikely such species would utilise the area owing to its poor habitat quality and proximity to human habitation.*
- *No threatened ecological communities occur on the study area.*
- *One planted specimen of the threatened Wallangarra White Gum occurs on the study area. This species is widely planted through south eastern Australia as an ornamental tree. The removal of a single tree would have no impact on the conservation of wild populations of the species and, given the widespread nature of its ornamental plantings, would have no significant impact on the overall survival of the species.*

12. It is concluded that there are no biodiversity constraints to subdivision of the study area for residential housing.

On the basis of the above assessment, it is determined that the site is suitable for use for residential development purposes.

HERITAGE

INDIGENOUS HERITAGE

In NSW the principle laws which deal with Aboriginal cultural heritage are the following:

- *National Parks and Wildlife Act 1974 (NPW Act)* now under the auspices of the Office of Environment and Heritage;
- *Environmental Planning and Assessment Act 1979 (EP&A Act*); and
- The *NSW Native Title Act 1994.*

Section 86 of the NPW Act sets out a number of offences about 'harm' or desecration to an Aboriginal object. Aboriginal places or objects that are recognized as having high cultural value are listed on the State Heritage Register (SHR) along with historical archaeological, landscape and built items.

The Office of Environment and Heritage Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (2010) recommend the following activities as part of a property assessment:

- Search the Aboriginal Heritage Information Management System (AHIMS) for previously identified sites and places located within the property or within a nominated buffer zone to the subject property;
- Assess the landscape in line with the NSW Guidelines that identify landscapes with potential to contain Aboriginal objects (NSW DECCW 2010);
- Consult the State Heritage Register database, which also lists Aboriginal places or objects that are recognized as having high cultural value; and
- Consult the National Native Title Tribunal to identify any relevant groups and claims.

A review of the Office of Environment and Heritage (OEH) Aboriginal Heritage Information Management System (AHIMS) with a buffer of 50 metres confirms that there are no known instances or sites of Aboriginal significance on or near the site – refer **Appendix B**.

The Office of Environment and Heritage also maintain the NSW Atlas of Aboriginal Places. A search was undertaken for the Parkes Local Government Area (LGA) however no results were returned.

The SHR was searched for Aboriginal places or objects. In the Parkes LGA, no Aboriginal places or objects were revealed.

A search of the National Native Title database, Native TitleVision, was undertaken for native title land applications, determinations or Indigenous Land Use Agreements (ILUAs) relevant to the subject property. The database and mapping provided showed there is no registered National Native Title claim for the project area.

Landscape Assessment

Aboriginal objects would be likely to occur on land that has not been 'disturbed' by layers of development which includes construction of roads, trails and tracks and that is also located:

- within 200 metres of waters; (where 'Waters' means the whole or any part of: any river, stream, lake, lagoon, swamp, wetlands, natural watercourse, tidal waters);
- within a sand dune system;
- on a ridge top, a ridge line or a headland;
- within 200 metres below or above a cliff face; and/or
- within 20 metres of, or in a, cave, rock shelter or a cave mouth. (NSW DECCW Due Diligence Code of Practice, 2010,12).

The subject property, Lots 12 in DP 1131006, is a 10.4 hectare predominantly primary production zoned site located on the north eastern edge of the town of Parkes, with frontages to Barton, Danilenko and Lorking Streets.

The landscape of the site is generally flat with historical use for cropping and grazing. The site is dominated by grassland/forbland and trees and planted shrubs. The majority of the site (65%) consists of introduced flora species, representative of the sites historical grazing and cropping use. The site is located mid-slope with gentle slope ranging from 0 – 10%; aspect is predominantly sought-east.

The planning proposal would result in the rezoning of the site for residential purposes, to enable the future residential development of the site. This would include development of roads, installation of services and development of houses.

There are no waterways within the site however a dam is located on the adjacent site to the north-west. It appears that the site contains an overland flow path for waters from the north-west.

The subject property is not located within 200 metres of waters, a sand dune system, ridge top, headland, cliff face, cave or rock shelter.

Conclusion

The NPW Act provides that a person who exercises due diligence in determining that their actions would not harm Aboriginal objects has a defence against prosecution for the strict liability offence if they later unknowingly harm an object without a permit. The Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (2010) guidelines note that:

- if there are no relevant confirmed site records or other associated landscape feature information on AHIMS; and / or
- there are no other sources of information of which a person is already aware; and / or
- there are no landscape features that are likely to indicate presence of Aboriginal objects.

then - works can proceed with caution.

Given the lack of indicators of Aboriginal cultural heritage, it is concluded that works can proceed with caution. If any objects are found which are suspected of being Aboriginal in origin, then, in line with the NSW legislation work must cease. The project supervisor is to then contact the Environment Protection

and Regulation Group of the Office of Environment and Heritage for advice on how to proceed. The phone number of Western Region OEH, located in Dubbo is (02) 6883-5330.

NON-INDIGENOUS HERITAGE

Parkes was originally founded in 1853 as the settlement Currajong, named for the abundance of kurrajong trees in the local area by the settlers, but was then known as Bushman's (from the local mine named Bushman's Lead) (Library.parkes.nsw.gov.au, 2013).

In August 1873, Henry Parkes (later Sir Henry) visited the area and in December 1873 the town was officially renamed Parkes in his honour (Library.parkes.nsw.gov.au, 2013). (Sir Henry Parkes is recognised in Australia as having played an instrumental role in Australia becoming a unified and federated country.) In March 1885, Parkes was proclaimed a town.

Registered Historic Items

The State Heritage database is maintained by the NSW Heritage Office and lists all items that have been identified as of heritage value on Regional Environmental Plans and Local Environmental Plans throughout NSW.

The State Heritage Register lists those places which are of State Significance which have been listed by the NSW Heritage Office under the NSW Heritage Act. In contrast the NSW State Heritage Inventory contains items considered by Local Councils and State Government Agencies to be of heritage value.

1. NSW Heritage Register

Fourteen items in the local and broader Parkes Region have been given state significance through listing under the *NSW Heritage Branch.* Two of these items were listed under the NSW Heritage Act and the remaining twelve have been listed by Local Government and State Government. A review of these items confirms that no listed items are located on or in the vicinity of the subject site.

2. Parkes LEP 2012

Schedule 5 of the LEP lists those items considered of significance at the local, state and national level. A review of these items confirms that no listed items are located on or in the vicinity of the subject site.

On the basis of the above, no further assessment of non-indigenous heritage matters is deemed necessary.

Notwithstanding this assessment, if, during the course of clearing work, significant European cultural heritage material is uncovered work should cease in that area immediately. The NSW Heritage Branch should be notified and works only recommence when an appropriate and approved management strategy instigated.

BUSHFIRE

The subject site is not bushfire prone in accordance with Parkes Shire Council's Bushfire Prone Land Maps. As such the provisions contained within the *Planning for Bushfire Protection Guidelines 2006* are not applicable to the subject site.

FLOODING

The subject site is located some 1.5km from the nearest watercourse, being Goobang Creek. The subject site is not known to be affected by mainstream flooding.

CONTAMINATION

Envirowest Pty Ltd have undertaken a Desktop Preliminary Contamination Investigation (refer **Appendix D**) which involved a confirmation of previous land uses to have been undertaken and walk over of the site.

Whilst the site is used for agricultural purposes, Envirowest Consulting confirm that no pesticides or other potentially contaminative chemicals are known to have been sprayed on the land on a regular basis. No other contaminative land uses are known to have been undertaken on the subject site.

The site walkover did not reveal any surface contamination of the soil located on the site.

STORMWATER & DRAINAGE

The site generally drains to the south/south-east into a table drain along Danilenko Street. There is a natural drainage line traversing the site from northwest to south east however this is not marked on any topographic maps. Surface water generally enters the table drain along Danilenko Street via this drainage line. The proposed subdivision lot layout (refer **Drawing TP06)** includes a 10 metre wide drainage reserve, into which surface water from the subdivision would be directed.

DEVELOPMENT INTENT

EXISTING FACILITIES

The subject land consists of vacant grassland used for cropping and grazing purposes. No dwellings or other form of development are constructed on the site. The land is relatively flat with an overall slope of between 0 - 10%.

Due to its relatively small size, however, the cropping and grazing of the site is not of a standard significant enough to produce a primary income. The owners of the property instead agist the site grazing purposes.

The site benefits from two road frontages; with frontages onto Lorking Street and Danilenko Street, together with an access to Barton Street to the south.

PROPOSED FACILITIES

Drawing TP06 provides a concept subdivision development layout for the subject site. Following the rezoning and amendments to the minimum lot size, the applicants would undertake a residential subdivision, yielding approximately 90 lots, ranging in size between 700m² and 1300m².

As per **Drawings E02-E04** each of the lots would be individually serviced by water, sewer, and stormwater mains in addition to the provision of electricity and telecommunications to each lot.

Road access to the development would be shared between Lorking, Danilenko, and Barton Streets to disperse the additional vehicle traffic across all three roads.

Detailed subdivision, servicing, and road access layout would be provided at development assessment stage should Council and the NSW Department of Planning agree to the Planning Proposal.

REZONING REQUIREMENT

Under the provisions of the existing LEP, the subject site is predominantly located within Zone RU1 – Primary Production (Land Zoning Map LZN_005D) and contains a minimum lot size of 400 hectares (Lot Size Map LSZ_005D), with a small portion in the south of the lot zoned R1 – General Residential and contains minimum lot size 600 m².

These existing mapping features provide for the use of the site for broadacre agricultural purposes only, and do not provide for the residential subdivision of the subject site. As such, in order to achieve the above proposed outcome, amendments to the Zoning and Lot Size Mapping are required in order to allow such a development to be assessed by Council.

UTILITIES

Existing sewer, water, and stormwater mains are located within the road reserve of Barton Street to the south and within Lorking Street to the west.

In accordance with **Drawings E02-E04**, these existing services would be extended to service each of the proposed allotments.

There are also overhead powerlines and telecommunications facilities located in close proximity to the site. These facilities would be extended to service each of the allotments.

TRAFFIC

In accordance with the Roads and Maritime Services' (formally Roads and Traffic Authority) *Guide to Traffic Generating Developments 2002*, development for the purpose of a 'Dwelling House' would generate 9.0 daily vehicle trips per dwelling, including 0.85 trips in weekday peak hour periods.

As a total of 90 residential lots (assuming one (1) dwelling per allotment) are proposed to be established on the subject site, the overall development would result in approximately 810 vehicle trips per day on the local road network, and 76.5 trips during weekday peak hour periods.

The impact of these additional vehicle trips on the local road network would be off-by the following factors;

- In accordance with the *Guide to Traffic Generating Developments Policy 2002*, 25% of the above vehicle trips are expected to be confined to within the subdivision only (i.e. such as local social visits, trips to local parks, etc) and would not impact upon the wider road network; and
- Parkes is serviced by 'Western Road Liners' bus services. In accordance with the bus route map, Bus Route 551 travels past the site via Barton Street to the south. This service travels past the site three (3) times per day, in addition to a school service which travels past in the morning and afternoon on a daily basis. These services offer an alternative route to the central business district/education facilities and combine to reduce the number of vehicle trips to and from the site.

Note: All residential lots would be located within 400 metres walking distance to the nominated bus routes.

DEVELOPMENT CONSTRAINTS

TRAFFIC

The site has frontage to three local roads and no frontages to classified roads. The *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP) identifies at clause 104 and Schedule 3 those developments that require referral to the Roads and Maritime Services. The relevant triggers are reproduced below for the subdivision of land.

Table 1.1 – Traffic Generating Developments to be referred to the RTA

Purposes of Development	Size or capacity – site with access to any road	Size or capacity – site with access to a classified road or to a road that connects within 90 metres to a classified road
Subdivision	200 or more allotments where the subdivision includes the opening of a public road	50 or more allotments

Source: State Environmental Planning Policy (Infrastructure) 2007

The subject site has an overall area of approximately 10.5 hectares. A concept lot layout plan has been prepared showing an indicative lot yield of approximately 90 lots. Three new roads would be created as a result of the proposed subdivision but would not have direct access, or access within 90 metres, of a classified road. The closest classified road is Renshaw-McGirr Drive, access to which is located approximately 620 metres to the south.

On the basis that the development contains less than 200 lots and has no access to a classified road, the development is not considered to represent traffic generating development that requires referral to the RTA.

Part 1 – Objectives or Intended Outcomes

GENERAL

The objective is to rezone a small portion of RU1 Primary Production zoned land for residential purposes in accordance with the Parkes Land Use Strategy, with the view of undertaking a residential subdivision.

Part 2 – Explanation of Provisions

GENERAL

The proposed outcome would be achieved through the amendment of Land Zoning Map LZN_005D and Lot Sizing Map LSZ_005D of the LEP by rezoning a parcel of land zoned as RU1 – Primary Production to R1 – General Residential, as shown in **Appendix C**.

The objectives of the R1 zone are:

- *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;*
- *To provide attractive, affordable, well located and market-responsive residential land;*
- *To ensure that any non-residential lad uses permitted within the zone are compatible with the amenity of the area; and*
- *To ensure that housing densities are broadly concentrated in locations accessible to public transport, employment, services and facilities.*

The location of the site will ensure that the above objectives are achieved. There are no site attributes or constraints that would inhibit compliance with the above objectives.

The amendment would result in necessary changes to the mapping that accompanies the LEP – these changes are discussed further in Part 4 in this proposal.

In addition to the amendment to the LEP Land Use Zoning Map LZN_005D, the corresponding Lot Size Maps would also require amendments. The subject site currently has a minimum lot size of 400 hectares, as reflective of the current RU1 – Primary Production zoning of the land. **Appendix C** depicts the proposed amendment to the relevant LEP maps (LZN_005D and LSZ_005D).

Part 3 - Justification

NEED FOR THE PLANNING PROPOSAL

1. Is the planning proposal a result of any strategic study or report?

The Planning Proposal reflects the provisions of the *Parkes Shire Council Land Use Strategy 2012* which identifies the land as being suitable for future residential development. The Parkes Land Use Strategy was developed following consultation with the local community to develop a community vision. The Strategy is identified as having a significant role in bringing forward the community vision.

As part of the Land Use Strategy, a series of maps were developed to indicate the potential location of urban and rural residential expansion areas. *Figure 4: Mapping of Key Spatial Actions for Residential Development in Parkes Township* provides a map of the urban residential expansion areas for Parkes, this is reproduced in this PP as **Figure 2**.

The map breaks the land down into three (3) separate categories, those being; 'Existing Residential', 'Future Residential Investigation Areas', and 'Proposed Residential Areas'. The subject site is identified on this map as being a 'Proposed Residential Area' – refer **Figure 2**.

The proposed rezoning of the site for residential purposes would therefore follow the vision developed by Parkes Shire Council and the local community for urban residential expansion.

2. Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

The lodging of a Planning Proposal to rezone the land and lower the minimum lot size represents the best method of achieving the desired outcome. Due to the site's location within Zone RU1 Primary production with a minimum lot size of 400 hectares, it is not currently permissible to subdivide the land for development for general residential purposes.

The applicant intends to lodge a Development Application for a residential subdivision (in collaboration with Council to establish the most appropriate development outcome) following gazettal of the amended LEP.

RELATIONSHIP TO STRATEGIC PLANNING FRAMEWORK

3. Is the planning proposal consistent with the objectives and actions of the applicable regional or sub-regional strategy?

There are currently no Regional or Sub-Regional Planning Strategies which apply to the Parkes Shire.

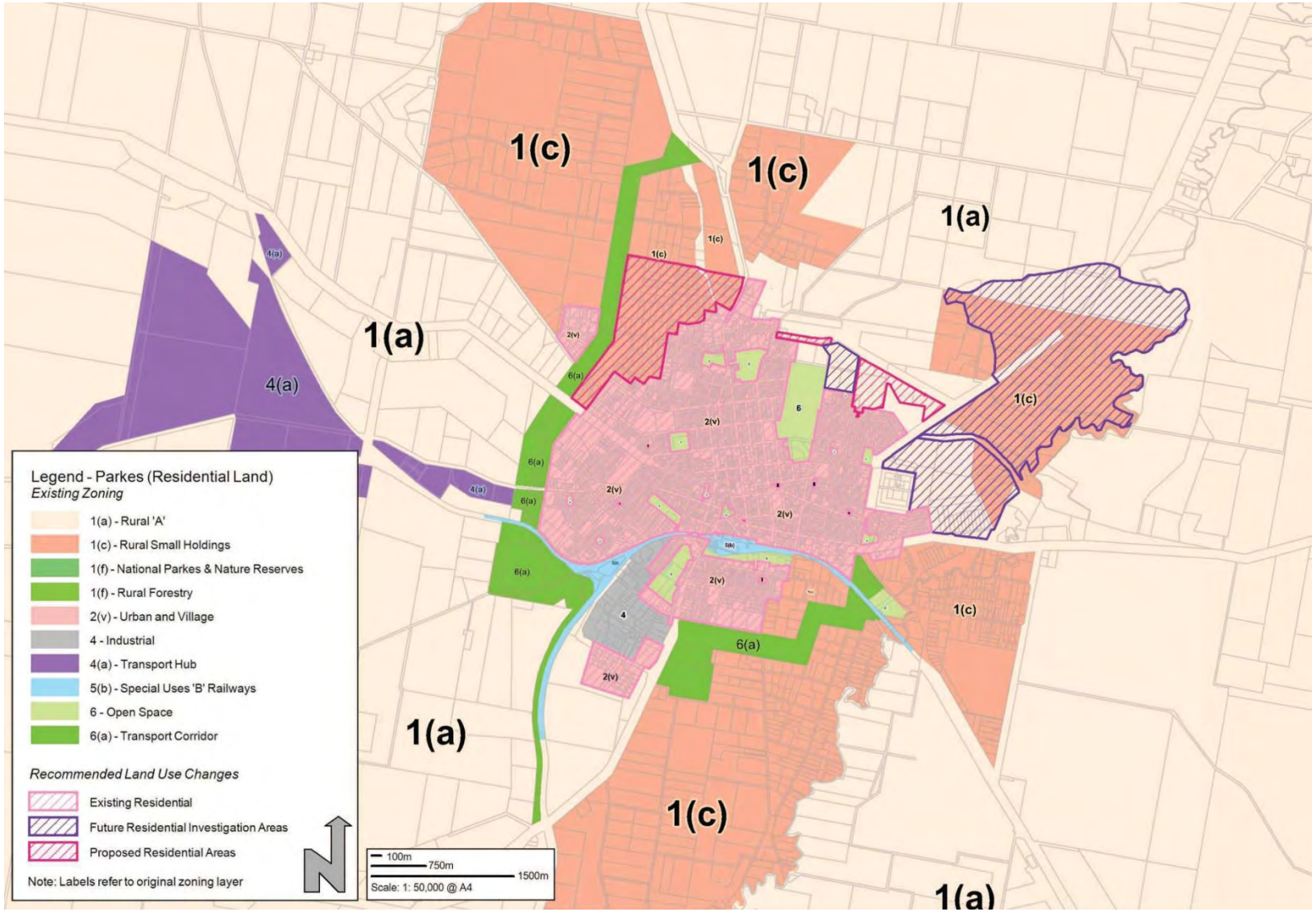
1(c)
1(c)
1(a)
1(a)
4(a)
1(c)
1(c)
1(a)
1(c)
1(c)
6(a)
1(a)
1(c)
1(a)
Legend - Parkes (Residential Land)
Existing Zoning
1(a) - Rural 'A'
1(c) - Rural Small Holdings
1(f) - National Parkes & Nature Reserves
1(f) - Rural Forestry
2(v) - Urban and Village
4 - Industrial
4(a) - Transport Hub
5(b) - Special Uses 'B' Railways
6 - Open Space
6(a) - Transport Corridor
Recommended Land Use Changes
Existing Residential
Future Residential Investigation Areas
Proposed Residential Areas
Note: Labels refer to original zoning layer
100m
750m
1500m
Scale: 1: 50,000 @ A4

Figure 2: Mapping of key spatial actions for residential development in Parkes Township (Source: Figure 4, PSC Land Use Strategy, 2012)

4. Is the planning proposal consistent with Council's local strategy or other local strategic plan?

Parkes Shire Council Land Use Strategy 2012

The LUS was developed in order to provide the necessary framework for the long term and sustainable planning of the Parkes Local Government Area. The Strategy was designed to guide the review of the now superseded *Parkes Local Environmental Plan 1990* and the development of the LEP, with the implementation of the Strategy being one of the key desired outcomes.

The Strategy identifies that a distinct lack of vacant residential land in desirable locations has in the past been a disincentive for settling in the Parkes Township. The objective of the Strategy from a residential perspective provides focus on the provision of residential land stock in attractive and serviceable locations that are free of constraints.

Figure 4: Mapping of Key Spatial Actions for Residential Development in Parkes Township, reproduced as **Figure 2** in this PP, provides a map indicating the location where land stock that meets the criteria are located. The subject site is identified on **Figure 2** as being one of these locations.

The purpose of the Planning Proposal to rezone the land for residential purposes is therefore consistent with the above Strategy.

5. Is the planning proposal consistent with applicable State Environmental Planning Policies?

State Environmental Planning Policy No. 44 – Koala Habitat Protection

State Environmental Planning Policy 44 - Koala Habitat Protection (SEPP44) aims to:

> *...encourage the proper conservation and management of areas of natural vegetation that provide habitat for Koalas, to ensure permanent free-living populations over their present range and to reverse the current trend of population decline...*

This policy applies to all LGAs within the known state wide distribution of the Koala, including the Parkes LGA. SEPP 44 defines 'potential koala habitat' as vegetation that incorporates a minimum of 15 percent of tree species (listed in Schedule 2 of SEPP 44) in the 'upper or lower strata of the tree component'.

The subject site is formed predominantly of grassland, dominated by introduced flora species and sparse native vegetation (less than 35%). The development of a residential subdivision on the subject site would require removal of trees, the Ecological Assessment (refer **Appendix A**) details the impacts on potential koala habitat.

The Ecological Assessment found that:

> *The flora survey detected no koala food trees listed under Schedule 2 of SEPP 44. Also, there is no evidence of a breeding koala population. Consequently, the study area is not core koala habitat and a SEPP 44 Plan of Management is not required.*

No further assessment of koala habitat is required under SEPP 44.

State Environmental Planning Policy No. 55 – Remediation of Land

State Environmental Planning Policy 55 – Remediation of Lands (SEPP55) aims to:

> *...promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment...*

This policy applies to the whole of the State, including the Parkes LGA. SEPP55 defines 'contaminated land' as per the definition in Part 5 of the *Contaminated Land Management Act 1997 No 140* as the presence in, on or under the land of a substance a concentration above the concentration at which the substance is normally present in, on, or under (respectively) land in

the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment.

In accordance with DUAP & the EPA's (1998) *Managing Land Contamination Planning Guidelines*, a Stage 1 – Preliminary Investigation has been undertaken for the subject site. The study is contained in **Appendix D** and concludes that the land is suitable for the proposed land use.

State Environmental Planning Policy (Rural Lands) 2008

In accordance with Clause 4 of Ministerial Direction 1.5 – Rural Lands below, where a rezoning effects land located within a rural or environmental protection zone, the Planning Proposal must be consistent with the Clause 7 – Rural Planning Principles contained in the SEPP (Rural Lands) 2008.

Below is a summary of the proposal's compliance with the Rural Planning Principles;

(a) The promotion and protection of opportunities for current and potential productive and sustainable economic activities in rural areas;

The portion of land proposed for rezoning is located within RU1 – Primary Production. It is located immediately north of a residential part of Parkes, and is not intended for rural production or economic activities such as agriculture or grazing.

(b) Recognition of the importance of rural lands and agriculture and the changing nature of agriculture and of trends, demands and issues in agriculture in the area, region or State;

The land is currently zoned RU1 – Primary Production under the LEP with a minimum lot size of 400 hectares, however it has been identified as future residential land by the *Parkes Shire Council Land Use Strategy 2012* (LUS). This is a reflection of the changing nature of the agriculture and residential trends and requirements in the area.

(c) Recognition of the significance of rural land uses to the State and rural communities, including the social and economic benefits of rural land use and development;

Given the small size of the site, its low level of viability for primary production use and that is has been identified via the Parkes LUS as being suitable for a residential land use; it is considered that the loss of this primary production land is acceptable.

(d) In planning for rural lands, to balance the social, economic and environmental interests of the community;

Parkes demonstrates a good diversification of activities that contribute to the local economy, with agriculture significantly contributing to the local economy (mainly livestock and grain); however agriculture is a smaller component of the Parkes economy than many other regional areas of NSW and Australia.

It has been recognised that Parkes economy is influence heavily by mining (Northparkes Mine) and industrial activities including the National Logistics Hub (transport, warehousing and manufacturing). This PP aims to develop provisions for increases in population and housing requirements to support the growing industries, at the expense of the availability of rural zoned land.

(e) The identification and protection of natural resources, having regard to maintaining biodiversity, the protection of native vegetation, the importance of water resources and avoiding constrained land,

No ecologically endangered communities or species have been observed on the subject site. The overland flows traversing the site from northwest to southeast will be maintained by diverting into a 10 metre wide drainage reserve.

(f) The provision of opportunities for rural lifestyle, settlement and housing that contribute to the social and economic welfare of rural communities,

As identified in the *Parkes Shire Council Land Use Strategy 2012* the land is identified as future residential land. The rezoning of this land enables increased provisions for settlement and housing, thereby contributing to the social and economic welfare of Parkes as a rural community.

(g) The consideration of impacts on services and infrastructure and appropriate location when providing for rural housing,

Existing sewer, water, and stormwater mains are located within the road reserve of Barton Street to the south and within Lorking Street to the west.

Reference is made to **Drawings E02-E04** which provides a concept servicing layout for the proposed subdivision. Each of the lots would be individually serviced by water, sewer, and stormwater in addition to the provision of electricity and telecommunications to each lot.

Road access to the development would be shared between Lorking, Danilenko, and Barton Streets to disperse the additional vehicle traffic across all three roads.

(h) Ensuring consistency with any applicable regional strategy of the Department of Planning or any applicable local strategy endorsed by the Director-General.

Compliance with all applicable regional and local planning strategies can be achieved. Details as to how the Planning Proposal can comply with such strategies are detailed throughout **Part 3** of this report.

On the basis of the above, the proposal is considered to be broadly compatible with the rural planning principles contained within the Rural Lands SEPP.

6. *Is the planning proposal consistent with the applicable Ministerial Directions (s.117 directions)?*

Direction 1.2 – Rural Zones

This direction applies when a relevant planning authority prepares a Planning Proposal that will affect land within an existing or proposed rural zone. The objective of the direction is to protect the agricultural production value of rural land.

A planning proposal must not rezone land from a rural zone to a residential, business, industrial, village or tourist zone unless the relevant planning authority can satisfy the Director-General of the Department of Planning that the provisions of the planning proposal that are inconsistent are:

- justified by a strategy which:
  - gives consideration to the objectives of this direction,
  - identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites), and
  - is approved by the Director-General of the Department of Planning, or
- justified by a study prepared in support of the planning proposal which gives consideration to the objectives of this direction, or (c) in accordance with the relevant Regional Strategy or Sub-Regional Strategy prepared by the Department of Planning which gives consideration to the objective of this direction, or
- is of minor significance.

The proposal demonstrates that whilst it would result in the loss of rural land, the site is a strategically positioned location for the expansion of the Parkes urban area via its identification in the Parkes LUS 2012 and there is a demonstrated demand for expansion in this sector of the town. The site is positioned to ensure it does not cumulatively impact upon other land with agricultural production potential.

Direction 1.3 – Mining, Petroleum and Extractive Industries

This direction applies when a relevant planning authority prepares a planning proposal that would have the effect of:

(b) restricting the potential development of resources of coal, other minerals, petroleum or extractive materials which are of State or regional significance by permitting a land use that is likely to be incompatible with such development.

The site is not known to contain any resources that are of state or regional significance.

Direction 1.5 – Rural Lands

This direction applies when a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed rural or environment protection zone. The objectives of the direction are to:

(a) protect the agricultural production value of rural land,

(b) facilitate the orderly and economic development of rural lands for rural and related purposes.

A planning proposal must not be inconsistent with the Rural Planning Principles listed in *State Environmental Planning Policy (Rural Lands) 2008* unless it can satisfy the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) that the provisions of the planning proposal that are inconsistent are:

- justified by a strategy which:
  - gives consideration to the objectives of this direction,
  - identifies the land which is the subject of the planning proposal (if the planning proposal relates to a particular site or sites, and
  - is approved by the Director-General of the Department of Planning and is in force, or
- is of minor significance.

The PP is broadly consistent with the Rural Planning Principles listed in the Rural Lands SEPP on the basis that the proposal would provide for needed expansion of the Parkes urban area in an orderly and logical manner, limiting impact on other agricultural land. It is understood that this PP would not conflict with the future planning of the area.

Direction 2.3 – Heritage Conservation

Ministerial Direction 2.3 is applicable to a Planning Proposal when an item of local heritage significance is located on the site.

"A planning proposal must contain provisions that facilitate the conservation of:

(a) items, places, buildings, works, relics, moveable objects or precincts of environmental heritage significance to an area, in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item, area, object or place, identified in a study of the environmental heritage of the area,

(b) Aboriginal objects or Aboriginal places that are protected under the National Parks and Wildlife Act 1974, and

(c) Aboriginal areas, Aboriginal objects, Aboriginal places or landscapes identified by an Aboriginal heritage survey prepared by or on behalf of an Aboriginal Land Council, Aboriginal body or public authority and provided to the relevant planning authority, which identifies the area, object, place or landscape as being of heritage significance to Aboriginal culture and people".

Neither the LEP nor the State Heritage Register identifies the site as containing any items of local or state heritage significance.

Direction 3.1 – Residential Zones

This direction applies when a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed residential zone. The objectives of the direction are to:

(a) to encourage a variety and choice of housing types to provide for existing and future housing needs,

(b) to make efficient use of existing infrastructure and services and ensure that new housing has appropriate access to infrastructure and services, and

(c) to minimise the impact of residential development on the environment and resource lands.

Where this direction applies:

- A PP must include provisions that encourage the provision of housing that will:
  - broaden the choice of building types and locations available in the housing market, and
  - make more efficient use of existing infrastructure and services, and
  - reduce the consumption of land for housing and associated urban development on the urban fringe, and
  - be of good design.
  - A PP must, in relation to land to which this direction applies:
  - contain a requirement that residential development is not permitted until land is adequately serviced (or arrangements satisfactory to the council, or other appropriate authority, have been made to service it), and
  - not contain provisions which will reduce the permissible residential density of land.

The PP is consistent with these requirements as outlined throughout this report.

Direction 3.4 – Integrating Land Use and Transport

This direction applies when a relevant planning authority prepares a planning proposal that will create, alter or remove a zone or a provision relating to urban land, including land zoned for residential, business, industrial, village or tourist purposes.

The objective of this direction is

to ensure that urban structures, building forms, land use locations, development designs, subdivision and street layouts achieve the following planning objectives:

(a) improving access to housing, jobs and services by walking, cycling and public transport, and

(b) increasing the choice of available transport and reducing dependence on cars, and

(c) reducing travel demand including the number of trips generated by development and the distances travelled, especially by car, and

(d) supporting the efficient and viable operation of public transport services, and

(e) providing for the efficient movement of freight.

A planning proposal must locate zones for urban purposes and include provisions that give effect to and are consistent with the aims, objectives and principles of:

- *Improving Transport Choice – Guidelines for planning and development* (DUAP 2001), and
- *The Right Place for Business and Services – Planning Policy* (DUAP 2001).

The PP is consistent with the principles within the above two (2) documents and the objectives of the direction.

Direction 6.1 – Approval and Referral Requirements

Ministerial Direction 6.1 – Approval and Referral Requirements applies to all Planning Proposals forwarded for Gateway Determination by a local authority.

To be compliant with Direction 6.1, a Planning Proposal must be consistent with the following provisions;

"A planning proposal must:

(a) Minimise the inclusion of provisions that require the concurrence, consultation or referral of development applications to a Minister or public authority, and

(b) Not contain provisions requiring concurrence, consultation or referral of a Minister or public authority unless the relevant planning authority has obtained the approval of:

- *The appropriate Minister or public authority, and*
- *The Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General), prior to undertaking community consultation in satisfaction of section 57 of the Act, and*

(a) Not identify development as designated development unless the relevant planning authority:

- *Can satisfy the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) that the class of development is likely to have a significant impact on the environment, and*
- *Has obtained the approval of the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) prior to undertaking community consultation in satisfaction of section 57 of the Act".*

The proposed rezoning and subdivision does not include provisions that would trigger a need for concurrence, consultation, or referral to the State Government.

Direction 6.2 – Reserving Land for Public Purposes

This direction applies when a relevant planning authority prepares a planning proposal. The objectives of this direction are:

(a) to facilitate the provision of public services and facilities by reserving land for public purposes, and

(b) to facilitate the removal of reservations of land for public purposes where the land is no longer required for acquisition.

When this direction is applicable, the following applies:

(4) A planning proposal must not create, alter or reduce existing zonings or reservations of land for public purposes without the approval of the relevant public authority and the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General).

(5) When a Minister or public authority requests a relevant planning authority to reserve land for a public purpose in a planning proposal and the land would be required to be acquired under Division 3 of Part 2 of the Land Acquisition (Just Terms Compensation) Act 1991, the relevant planning authority must:

(a) reserve the land in accordance with the request, and

(b) include the land in a zone appropriate to its intended future use or a zone advised by the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General), and

(c) identify the relevant acquiring authority for the land.

(6) When a Minister or public authority requests a relevant planning authority to include provisions in a planning proposal relating to the use of any land reserved for a public purpose before that land is acquired, the relevant planning authority must:

(a) include the requested provisions, or

(b) take such other action as advised by the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) with respect to the use of the land before it is acquired.

(7) When a Minister or public authority requests a relevant planning authority to include provisions in a planning proposal to rezone and/or remove a reservation of any land that is reserved for public purposes because the land is no longer designated by that public authority for acquisition, the relevant planning authority must rezone and/or remove the relevant reservation in accordance with the request.

As per **Drawing TP05**, the site is to be zoned to R1 – General Residential. This is consistent with the zoning of land to the south-east.

Direction 6.3 – Site Specific Provisions

Ministerial Direction 6.3 – Site Specific Provisions applies to all Planning Proposals forwarded for Gateway Determination by a local authority.

To be compliant with Direction 6.3, a Planning Proposal must be consistent with the following provisions;

"(a) A planning proposal that will amend another environmental planning instrument in order to allow a particular development proposal to be carried out must either:

- *Allow that land use to be carried out in the zone the land is situated on, or*
- *Rezone the site to an existing zone already applying in the environmental planning instrument that allows that land use without imposing any development standards or requirements in addition to those already contained in that zone, or*
- *Allow that land use on the relevant land without imposing any development standards or requirements in addition to those already contained in the principal environmental planning instrument being amended.*

(b) A planning proposal must not contain or refer to drawings that show details of the development proposal".

The parcel of land is currently zoned partly within R1 – General Residential, where the subdivision is permissible with consent, and partly within RU1 – Primary Production, where the minimum permissible lot size is 400 hectare. The rezoning of the RU1 – Primary Production would facilitate the objectives of the *Parkes Shire Council Land Use Strategy 2012* allowing this parcel of land to be developed for residential purposes.

The Planning Proposal does not propose to create any additional development standards in addition to those currently within the principal environmental planning instrument.

ENVIRONMENTAL, SOCIAL AND ECONOMIC IMPACTS

7. Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?

Unlikely, as per the ecological assessment, refer **Appendix A**.

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

No other likely environmental impacts, providing mitigation measures/recommendations are adhered to during any future construction.

9. How has the planning proposal adequately addressed any social and economic effects?

There are no known items or places of European or aboriginal cultural heritage on or in the vicinity of the site. Therefore it is not envisaged that this planning proposal will have any adverse impacts on such items.

The planning proposal would provide a supply of residential land on the north eastern side of Parkes which is in short supply. Thus, it is likely to result in downward pressure on land prices in this area of the town.

Further, during construction the development would provide for employment opportunities for local construction contractors and other consultants, which would in turn stimulate the local economy.

A Net Community Benefit assessment has been completed and as contained with **Table 3.1**; this assessment confirms that no adverse economic impacts are anticipated.

Table 3.1 – Net Community Benefit Test

EVALUATION CRITERIA	COMMUNITY COSTS AND BENEFITS			
	BASE CASE – CURRENT SITUATION	PLANNING PROPOSAL	QUALITATIVE COMMUNITY BENEFIT PER CRITERIA	QUANTITATIVE COMMUNITY BENEFIT PER CRITERIA
Will the LEP be compatible with agreed State and regional strategic direction for development in the area (eg land release, strategic corridors)?	There are no State or regional strategic plans or directions that address Parkes. Council's adopted Land Use Strategy was adopted by Council in 2012. The strategy identifies the subject land being suitable for general residential land use. The Parkes Land Use Strategy has identified the subject site as a 'proposed residential area'. The proposed rezoning of the site for residential purposes would therefore follow the vision developed by Parkes Shire Council and the local community for urban residential expansion. **Figure 2** identifies the subject land as appropriate for general residential use.	The LEP seeks to rezone the subject land from RU1 – Primary Production to R1 – General Residential	The qualitative benefits of the proposal are: • The creation of additional residential land ensures adequate residential land supply for long term needs • The increased supply of available residential land, improves the viability of the town	No external cost to the community. Increased investment will be a benefit.
Is the LEP located in a global/regional city, strategic centre or corridor nominated within the Metropolitan Strategy or another regional/sub-regional strategy? Is the LEP likely to create a precedent or create or change the expectations of the landowner or other landholders?	Parkes is a regional hub, but is not identified in any Regional/Subregional study	The proposed LEP amendment applies to a 10.4 hectare portion of land that has been identified as being a logical and suitable expansion of urban area of Parkes. The land is physically bounded by Lorking Street to the west, urban development to the south, rural development to the north, and Danilenko Street to the east and these barriers minimise possible spread effects.	It would be difficult to establish a precedent from support for the LEP based on the characteristics of the proposal and the subject land. It is unlikely that expectations from other landowners, or the community at large, would be influenced by the LEP, due to its unique nature.	No external cost to the community

Table 3.1 – Net Community Benefit Test

EVALUATION CRITERIA	COMMUNITY COSTS AND BENEFITS			
	BASE CASE – CURRENT SITUATION	**PLANNING PROPOSAL**	**QUALITATIVE COMMUNITY BENEFIT PER CRITERIA**	**QUANTITATIVE COMMUNITY BENEFIT PER CRITERIA**
Have the cumulative effects of other spot rezoning proposals in the locality been considered? What was the outcome of these considerations?	Parkes Shire Council released its comprehensive LEP in 2012. There are other proposed residential areas and future residential investigation areas that could cumulatively establish a pattern of change that requires consideration.	The proposed LEP has been prepared to address the owners development intensions and in response to the provisions of the Parkes LUS 2012.	No external cost to the community	No external cost to the community
Will the LEP facilitate a permanent employment generating activity or result in a loss of employment lands?	Employment lands are commonly defined as industrial or similar purposes areas. The land is currently zoned RU1 – Primary Production and is therefore not considered employment lands. The proposal seeks to provide additional residential land at the expense of rural primary production land. The planning proposal will no create a loss of employment lands.	The LEP seeks to provide additional residential lands. The LEP does not seek to remove any employment generating land uses form the land use table.	No external cost to the community	No external cost to the community
Will the LEP impact upon the supply of residential land and therefore housing supply and affordability?	The land is currently zoned RU1 and dwellings are permitted within the zone subject to the minimum lot size map, which identifies a minimum of 400 hectares in this area. The land is formed of one lot, with a size of less than 400 hectares and therefore no dwellings are currently permissible in the subject area. The proposed zone is R1 – General Residential with minimum lot size 600 square metres within which residential accommodation is permitted with consent. In terms of housing provision there is a positive change.	The planning proposal would increase the housing provision, with a conceptual subdivision layout providing approximatly 90 lots for development.	Facilitating investment in construction or up to 90 residential dwellings as a result of the subdivision would, in turn, facilitate employment in the construction sector.	No external cost to the community

Table 3.1 – Net Community Benefit Test

EVALUATION CRITERIA	COMMUNITY COSTS AND BENEFITS			
	BASE CASE – CURRENT SITUATION	PLANNING PROPOSAL	QUALITATIVE COMMUNITY BENEFIT PER CRITERIA	QUANTITATIVE COMMUNITY BENEFIT PER CRITERIA
Is the existing public infrastructure (roads, rail, utilities) capable of servicing the proposed site? Is there good pedestrian and cycling access? Is public transport currently available or is there infrastructure capacity to support future public transport?	Parkes Shire Council is the utilities authority and the area is served by sewer, water and power. A bus service is provided on Barton Street to the south of the site. This service travels past the site three (3) times per day, in addition to a school service which travels past in the morning and afternoon on a daily basis	Cost of service provision would be borne by the developer. The development of the land would be staged to ensure a logical and cost effective provision of services.	An improved resource of residential land would improve the viability of the town.	No external cost to the community
Will the proposal result in changes to the car distances travelled by customers, employees and suppliers? If so, what are the likely impacts in terms of greenhouse gas emissions, operating costs and road safety?	The range of uses allowed by the current zone generates minimal car based travel demand.	The LEP would increase the range of uses permissible within the area.	By developing the area as a logical extension of the existing urban area of Parkes the likely increases to car distances travelled are considered negligible.	No external cost to the community
Are there significant Government investments in infrastructure or services in the area whose patronage will be affected by the proposal? If so, what is the expected impact?	Lorking Street and Danilenko Street bound the property to the west and east respectively.	The PP seeks to provide additional infrastructure, including additional road access to Barton Street, Lorking Street and Danilenko Street, which would give rise to increased traffic usage on the highway.	The increased provision of housing will benefit the town.	No external cost to the community
Will the proposal impact on land that the Government has identified a need to protect (eg land with high biodiversity values) or have other environmental impacts? Is the land constrained by environmental factors such as flooding?	An ecological assessment of the land was conducted in November 2013. The land is not unduly constrained by environmental factors.	The ecological assessment concludes that the land is suitable for the proposed use.	No external community benefits.	No external cost to the community
Will the LEP be compatible/ complementary with surrounding land uses? What is the impact on amenity in the location and wider community? Will the public domain improve?	The land is bounded to the north, east and west by rural land currently zoned RU1 – Primary Production, and bounded to the south by existing urban development.	The LEP proposes a logical extension of the urban zone in a northerly direction. The natural edge effects created by Lorking Street to the west and Danilenko Street to the east ensure that the development would not 'creep' outside of the subject site.	Improved supply of accessible residential land.	No external cost to the community

Table 3.1 – Net Community Benefit Test

EVALUATION CRITERIA	COMMUNITY COSTS AND BENEFITS			
	BASE CASE – CURRENT SITUATION	**PLANNING PROPOSAL**	**QUALITATIVE COMMUNITY BENEFIT PER CRITERIA**	**QUANTITATIVE COMMUNITY BENEFIT PER CRITERIA**
Will the proposal increase choice and competition by increasing the number of retail and commercial premises operating in the area?	No current commercial or retail land use.	The PP would not increase retail or commercial function through a greater supply of general residential land.	No external cost to the community	No external cost to the community
If a stand-alone proposal and not a centre, does the proposal have the potential to develop into a centre in the future?	Not relevant to this Planning Proposal.			No external cost to the community
What are the public interest reasons for preparing the draft plan? What are the implications of not proceeding at that time?	Residential development is not currently permissible in the zone.	Industry will be permissible via a change to the land use zone.	Public Interest is best served by increasing supply of residential land as per the recommendations of the *Land Use Strategy* within the township before demand becomes problematic.	Potential external cost to community if LEP amendment does not proceed due to potential loss of residential opportunities noted above.
		Net Community Benefit =	**Positive**	**Positive**

STATE AND COMMONWEALTH INTERESTS

10. Is there adequate public infrastructure for the planning proposal?

Reference is made to **Drawings E02-E04,** which provide a concept servicing layout for the proposed subdivision. Each of the lots would be individually serviced by water, sewer, and stormwater mains in addition to the provision of electricity and telecommunications to each lot.

Road access to the development would be shared between Lorking, Danilenko, and Barton Streets to disperse the additional vehicle traffic across all three roads.

11. What are the views of State and Commonwealth public authorities consulted in accordance with the gateway determination?

The relevant State and Commonwealth public authorities would be consulted following the outcome of the gateway determination. Council would be responsible for carrying out this consultation in accordance with section 57 of the EP&A Act. Consultation would be undertaken with the following agencies:

- NSW Roads and Traffic Authority (RTA)
- NSW Office of Environment and Heritage
- NSW Department of Health
- NSW Department of Education and Training
- NSW Industry and Investment
- CSIRO (as operators of the Parkes Observatory)
- Civil Aviation Safety Authority (CASA)
- Telstra
- Country Energy
- AGL

Part 4 – Mapping

GENERAL

As noted in Part 2, amendments are proposed to the *Parkes Local Environment Plan 2012* Land Use Zoning Map LZN_005D, and the corresponding Lot Size Map LSZ_005D. **Appendix C** provides details of required amendments to LEP mapping.

Part 5 - Community Consultation

TYPE OF COMMUNITY CONSULTATION REQUIRED

Section 5.5.2 of 'A Guide to Preparing Local Environmental Plans' identifies two different exhibition periods for community consultation;

- Low Impact Proposals – 14 days; and
- All other Planning Proposals (including any proposal to reclassify land) – 28 days.

The Guide describes Low Impact Proposals as having the following attributes;

- *A 'low' impact planning proposal is a planning proposal that, in the opinion of the person making the gateway determination, is;*
    - *Consistent with the pattern of surrounding land use zones and/or land uses;*

The proposed rezoning of part of the parcel of land to R1 – General Residential would be in accordance with zoning on the neighbouring allotments to the south, effectively allowing an extension of the Parkes residential area to the north. The rezoning is consistent with the general development pattern for Parkes and accords with the provisions of the Parkes LUS 2012.

- *Consistent with the strategic planning framework;*

Responses have been provided detailing the proposal's compliance with local and regional planning strategies, SEPPs, and ministerial directions. The development accords with the provisions of the Parkes LUS 2012.

- *Presents no issues with regard to infrastructure servicing;*

A extensive augmentation of existing services would be required to convert the area from a rural undeveloped area to a residential subdivision, however services are accessible in the area and are understood to have sufficient capacity for connection for the proposed development.

- *Not a principle LEP; and*

The Planning Proposal is not for a principle LEP.

- *Does not reclassify public land.*

The Planning Proposal does not seek to reclassify public land.

In accordance with the responses to the above points, the Planning Proposal is considered to be of low impact. It is therefore considered that a community consultation period of 14 days is applicable to the proposal in this instance.

References

King, D.P. 1998, *Soil Landscapes of the Forbes 1:250,000 Sheet,* NSW Department of Land and Water Conservation, Sydney.

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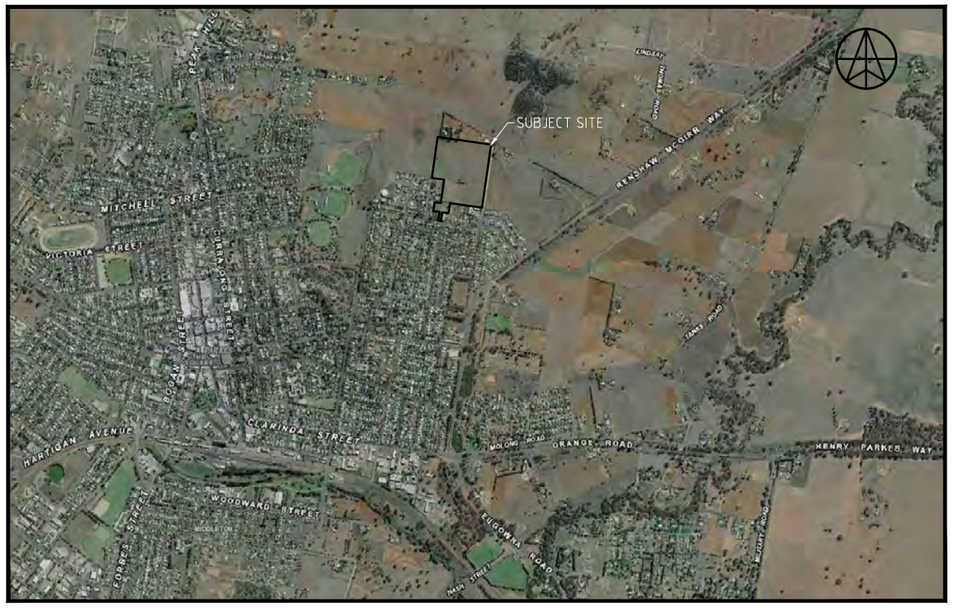
Roads and Traffic Authority (RTA), 2002, Guide to Traffic Generating Developments. Transport Planning Section – RTA, Sydney.

Drawings

PLANNING PROPOSAL
DANILENKO & LORKING STREET, PARKES
KARINA WHITE

SCHEDULE OF DRAWINGS			
SHEET	TITLE	REV.	DATE
04B_TP01	TITLE SHEET, DRAWING LIST, AND SITE LOCALITY	A	04/04/2014
04B_TP02	SUBJECT SITE PLAN	A	04/04/2014
04B_TP03	AERIAL PHOTOGRAPH	A	04/04/2014
04B_TP04	EXISTING ZONING	A	04/04/2014
04B_TP05	PROPOSED ZONING	A	04/04/2014
04B_TP06	PROPOSED LOT LAYOUT	A	04/04/2014



SITE LOCALITY

NOT TO SCALE

GEOLYSE
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www.geolyse.com
154 PEISLEY STREET
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ORANGE, NSW 2800
Ph. (02) 6393 5000
Fx. (02) 6393 5050

No	DATE	DRAFTING CHECK	APPROVED BY	DETAILS
A	02/10/13	MY	DW	ISSUED TO CLIENT
B	04/04/14	ZD	DW	CHANGE OF ZONING

PROJECT
PLANNING PROPOSAL FOR REZONING OF LAND

FILE REFERENCE: 212257_04B_TP01-TP06.dwg

APPROVAL AUTHORITY
PARKES SHIRE COUNCIL

CLIENT
KARINA WHITE

DRAWING
TITLE SHEET, DRAWING LIST, AND SITE LOCALITY

PROJECT NUMBER: 212257 DRAWING NUMBER: 04B_TP01 REV. B

SOURCE: SIX MAPS

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Fx. (02) 6393 5050

No	DATE	DRAFTING CHECK	APPROVED BY	DETAILS
A	02/10/13	MY	DW	ISSUED TO CLIENT
B	04/04/14	ZD	DW	CHANGE OF ZONING

PROJECT

PLANNING PROPOSAL FOR
REZONING OF LAND

FILE REFERENCE: 212257_04B_TP01-TP06.dwg

APPROVAL AUTHORITY

PARKES SHIRE COUNCIL

CLIENT

KARINA WHITE

DRAWING

SUBJECT SITE PLAN

PROJECT NUMBER: 212257
DRAWING NUMBER: 04B_TP02
REV. B

SOURCE: INTERNAL

LEGEND:

SUBJECT SITE BOUNDARY

SCALE 1:1500(A1)

0 10 20 40 60 80 100

0 10 20 40 60 80 100

SCALE 1:3000(A3)

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No	DATE	DRAFTING CHECK	APPROVED BY	DETAILS
A	02/10/13	MY	DW	ISSUED TO CLIENT
B	04/04/14	ZD	DW	CHANGE OF ZONING

PROJECT

PLANNING PROPOSAL FOR
REZONING OF LAND

FILE REFERENCE: 212257_04B_TP01-TP06.dwg

APPROVAL AUTHORITY

PARKES SHIRE COUNCIL

CLIENT

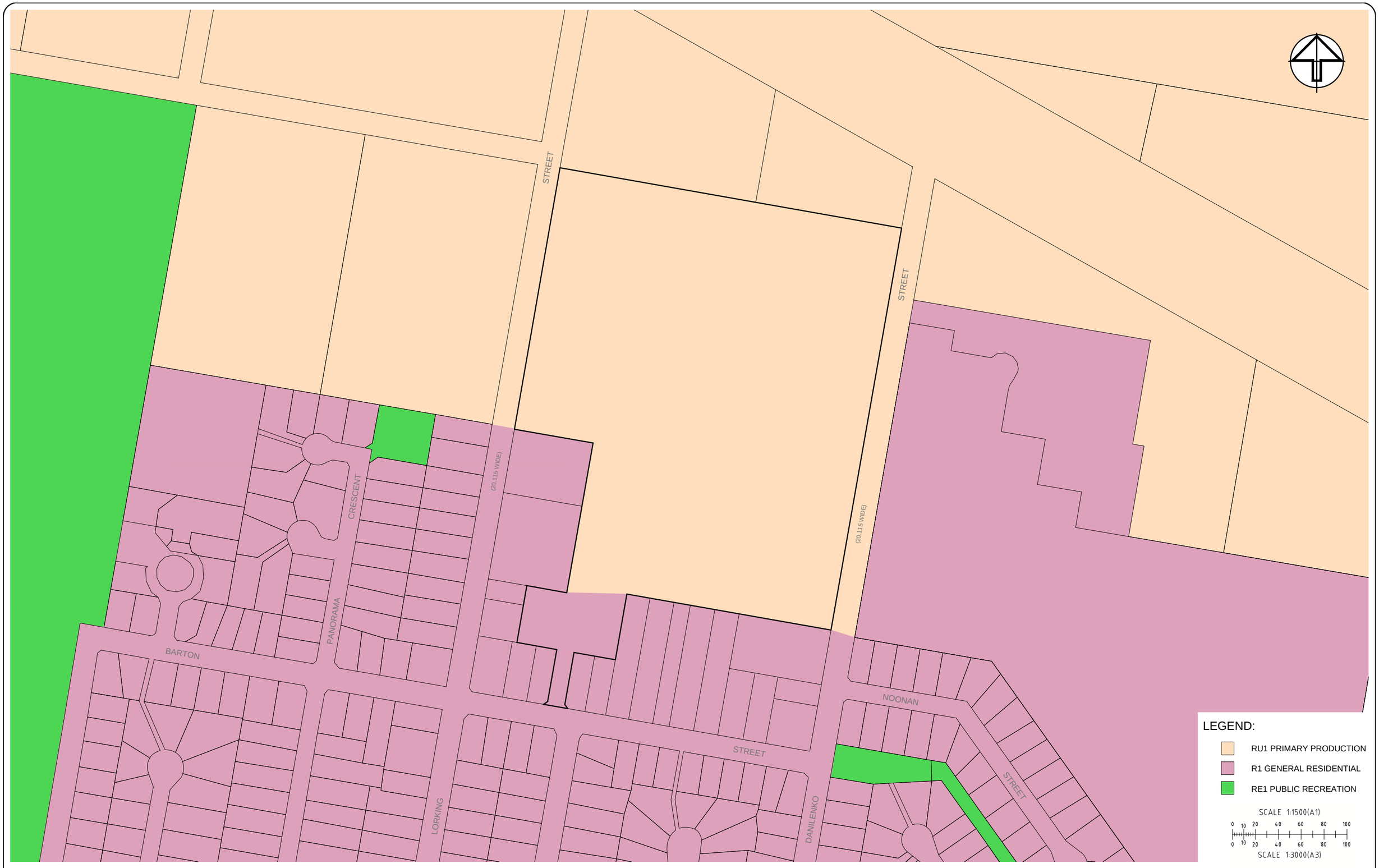
KARINA WHITE

DRAWING

SUBJECT SITE PLAN

PROJECT NUMBER: 212257 DRAWING NUMBER: 04B_TP03 REV. B

SOURCE: SIX MAPS



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No	DATE	DRAFTING CHECK	APPROVED BY	DETAILS
A	02/10/13	MY	DW	ISSUED TO CLIENT
B	04/04/14	ZD	DW	CHANGE OF ZONING

PROJECT
PLANNING PROPOSAL FOR REZONING OF LAND
FILE REFERENCE: 212257_04B_TP01-TP06.dwg

APPROVAL AUTHORITY
PARKES SHIRE COUNCIL

CLIENT
KARINA WHITE

DRAWING
EXISTING ZONING

PROJECT NUMBER: 212257
DRAWING NUMBER: 04B_TP04
REV. B

SOURCE: PARKES LOCAL ENVIRONMENTAL PLAN 2012

LEGEND:

R1 GENERAL RESIDENTIAL

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0 10 20 40 60 80 100

SCALE 1:3000(A3)

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B	04/04/14	ZD	DW	CHANGE OF ZONING

PROJECT

PLANNING PROPOSAL FOR REZONING OF LAND

FILE REFERENCE: 212257_04B_TP01-TP06.dwg

APPROVAL AUTHORITY

PARKES SHIRE COUNCIL

CLIENT

KARINA WHITE

DRAWING

PROPOSED ZONING

PROJECT NUMBER: 212257 | DRAWING NUMBER: 04B_TP05 | REV. B

SOURCE: SIX MAPS

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No	DATE	DRAFTING CHECK	APPROVED BY	DETAILS
A	02/10/13	MY	DW	ISSUED TO CLIENT
B	04/04/14	ZD	DW	CHANGE OF ZONING

PROJECT

PLANNING PROPOSAL FOR
REZONING OF LAND

FILE REFERENCE: 212257_04B_TP01-TP06.dwg

APPROVAL AUTHORITY

PARKES SHIRE COUNCIL

CLIENT

KARINA WHITE

DRAWING

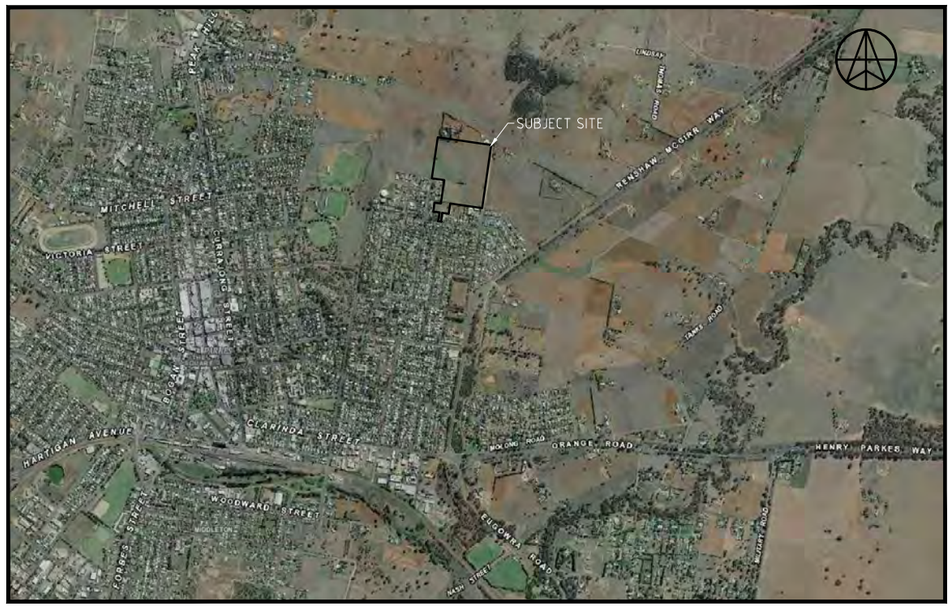
PROPOSED LOT LAYOUT

PROJECT NUMBER: 212257
DRAWING NUMBER: 04B_TP06
REV. B

SOURCE: INTERNAL

PROPOSED SUBDIVISION
LOT 12 DP1131006
DANILENKO & LORKING STREET, PARKES
KARINA WHITE
ENGINEERING SERVICING STRATEGY PLANS

SCHEDULE OF DRAWINGS			
SHEET	TITLE	REV.	DATE
05A_E01	TITLE SHEET, DRAWING LIST, AND SITE LOCALITY	A	08/10/2013
05A_E02	CONCEPT STORMWATER RETICULATION PLAN	A	08/10/2013
05A_E03	CONCEPT SEWER RETICULATION PLAN	A	08/10/2013
05A_E04	CONCEPT WATER RETICULATION PLAN	A	08/10/2013



SITE LOCALITY
NOT TO SCALE

No	DATE	DRAFTING CHECK	PM CHECK	DETAILS
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CHECKED/APPROVED	NAME	DATE
APPROVED	AW	08/10/13
SURVEY	GEOLYSE	AUGUST 2013
DESIGNER	AW/MY	08/10/13
DRAFTING	MY	08/10/13

APPROVAL AUTHORITY
PARKES SHIRE COUNCIL

CLIENT
KARINA WHITE

PROJECT
PROPOSED SUBDIVISION
LOT 12 DP1131006

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DRAWING: TITLE SHEET, DRAWING LIST, AND SITE LOCALITY

PERMANENT MARK: -	RL: -	DATUM: A.H.D.
PROJECT NUMBER: 212257	DRAWING SHEET: 05A_E01	ORIGINAL: A1
AUTOCAD FILE: 212257_05A_E01-E04.dwg	12D/CIVILCAD FILE: -	REVISION: A
STATUS: FOR REVIEW	SHEET E01 OF E04	

No	DATE	DRAFTING CHECK	PM CHECK	DETAILS
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CHECKED/APPROVED	NAME	DATE
APPROVED	AW	08/10/13
SURVEY	GEOLYSE	AUGUST 2013
DESIGNER	AW/MY	08/10/13
DRAFTING	MY	08/10/13

APPROVAL AUTHORITY

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DRAWING
CONCEPT STORMWATER RETICULATION PLAN

PERMANENT MARK: -	RL: -	DATUM: A.H.D.	
PROJECT NUMBER: 212257	DRAWING SHEET: 05A_E02	ORIGINAL A1	
AUTOCAD FILE: 212257_05A_E01-E04.dwg	12D/CIVILCAD FILE: -	REVISION A	
STATUS: FOR REVIEW	SHEET E02 OF E04		

SEWER NOTES:

1. ALL SEWER MAINS SHALL BE CLASS SNB RRJ UPVC PIPE MAX. 3m LENGTHS OR RRJ VC PIPE.
2. CONSTRUCTION OF SEWER MAINS & MANHOLES SHALL BE CARRIED OUT IN ACCORDANCE WITH PARKES SHIRE COUNCIL STANDARDS.
3. MANHOLES TO BE CONSTRUCTED TO PUBLIC WORKS STANDARD DRAWINGS ST.500B & ST.501A.
4. DEAD ENDS & JUNCTIONS TO BE SEALED WITH 150mm DIAMETER RRJ SPIGOT ACCESS COUPLING WITH SCREWED CAP or RRJ VC PLUGS & CLIPS.
5. RISERS & SIDELINES TO BE CONSTRUCTED TO PUBLIC WORKS STANDARD DRAWING ST.503D.
6. MANHOLES SHALL BE LOCATED AT CHANGES OF GRADE, DEFLECTION & LINE INTERSECTIONS & AT ALL DEAD ENDS EXCEEDING 30m IN LENGTH.
7. MAXIMUM SPACING OF MANHOLES SHALL BE:

PIPE SIZE (mm)	MANHOLE SPACING (m)
150	80
225	100
300	120
>375	150

SCALE 1:750(A1)

0 15 30 45 60 75

SCALE 1:1500(A3)

0 15 30 45 60 75

No	DATE	DRAFTING CHECK	PM CHECK	DETAILS
A	08/10/13	MY	AW	ISSUED TO CLIENT

CHECKED/APPROVED	NAME	DATE
APPROVED	AW	08/10/13
SURVEY	GEOLYSE	AUGUST 2013
DESIGNER	AW/MY	08/10/13
DRAFTING	MY	08/10/13

APPROVAL AUTHORITY

PARKES SHIRE COUNCIL

CLIENT: KARINA WHITE

PROJECT: PROPOSED SUBDIVISION LOT 12 DP1131006

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DRAWING: CONCEPT SEWER RETICULATION PLAN

PERMANENT MARK: - | RL: - | DATUM: A.H.D.

PROJECT NUMBER: 212257 | DRAWING SHEET: 05A_E03 | ORIGINAL: A1

AUTOCAD FILE: 212257_05A_E01-E04.dwg | 12D/CIVILCAD FILE: - | REVISION: A

STATUS: FOR REVIEW | SHEET E03 OF E04

No	DATE	DRAFTING CHECK	PM CHECK	DETAILS
A	08/10/13	MY	AW	ISSUED TO CLIENT

CHECKED/APPROVED	NAME	DATE
APPROVED	AW	08/10/13
SURVEY	GEOLYSE	AUGUST 2013
DESIGNER	AW/MY	08/10/13
DRAFTING	MY	08/10/13

APPROVAL AUTHORITY

PARKES SHIRE COUNCIL

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PROJECT

PROPOSED SUBDIVISION
LOT 12 DP1131006

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DRAWING

CONCEPT WATER RETICULATION PLAN

PERMANENT MARK: -	RL: -	DATUM: A.H.D.
PROJECT NUMBER: 212257	DRAWING SHEET: 05A_E04	ORIGINAL A1
AUTOCAD FILE: 212257_05A_E01-E04.dwg	12D/CIVILCAD FILE: -	REVISION: A
STATUS: FOR REVIEW	SHEET E04 OF E04	

Appendix A

ECOLOGICAL ASSESSMENT

PROPOSED SUBDIVISION BETWEEN LORKING AND DANILENKO STREETS, PARKES, NSW

BIODIVERSITY ASSESSMENT

Prepared for
Karina White & Duane Sullivan

by Colin C. Bower PhD

November 2013

FloraSearch

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF PLATES

LIST OF APPENDICES

SUMMARY AND CONCLUSION

SURVEY FINDINGS

1. A flora and fauna survey was conducted on 29 October 2013 on approximately 10.5 ha of farmland proposed to be rezoned for residential use in the block bounded by Barton, Lorking and Danilenko Streets, Parkes.

2. The flora survey comprised five ground cover transects and a threatened species search across the whole study area. The fauna assessment involved opportunistic observations of birds, mammals, reptiles and frogs, searches for fauna tracks and traces and an appraisal of habitat quality.

3. Two vegetation types were identified on the study area and are described:
    - Exotic grassland/forbland
    - Tree and shrub plantings

4. The survey recorded a total of 70 flora species, of which 24 (34.3%) are native and 46 (65.7%) are introduced. A complete list of flora species and ratings of their abundance are given in Appendix A.

5. The main plant families represented are the Poaceae (Grasses) (20 species), Asteraceae (Daisies) (11 species) and the Faboideae (Pea flowers) (7 species).

6. Only one remnant native tree that is likely to have been part of, or descended from, the original vegetation on the study area remains, a large White Cypress Pine. It is not possible to say with certainty what the original vegetation communities were on the study area.

7. The transects showed that the ground cover flora is in 'low' condition, with an average cover by exotic species of 87.6 percent.

8. Six common native bird species, one introduced bird species and one introduced mammal species were recorded by the survey

9. One threatened flora species, the Wallangarra White Gum (*Eucalyptus scoparia*), occurs in a shelterbelt planting in the centre of the study area. This species is listed as Endangered under the NSW *Threatened Species Conservation Act 1995*, and as Vulnerable under the Commonwealth *Environment Protection and Biodiversity Conservation Act*, *1999*.

10. No threatened fauna species or ecological communities were identified on the study area by the survey.

CONCLUSIONS

11. It is considered that conducting an assessment for significance of project impacts on biodiversity (Seven Part Tests) under s5A of the EP&A Act is not warranted owing to the highly disturbed nature of the study area and the lack of suitable habitat for any naturally occurring threatened biodiversity on the site, as follows;

    - The study area has been completely cleared of its original native vegetation.
    - The ground cover is in 'low' condition being comprised almost entirely of introduced species.
    - Intensive farming of the area for over 150 years has eliminated almost all of the original native flora species. Only a few grazing-tolerant native herb and grass species now occur there.

- No threatened flora species, including the Silky Swainson-pea, was found on the study area and suitable habitat no longer exists for any threatened flora species.
- No threatened fauna species were found on the study area and suitable habitat to support breeding populations of threatened fauna species is absent.
- The study area has a low chance of occasionally being utilised as foraging habitat by wide-ranging threatened birds of prey (Spotted Harrier and Little Eagle) and by wintering Flame Robins. However, it is considered unlikely such species would utilise the area owing to its poor habitat quality and proximity to human habitation.
- No threatened ecological communities occur on the study area.
- One planted specimen of the threatened Wallangarra White Gum occurs on the study area. This species is widely planted through south eastern Australia as an ornamental tree. The removal of a single tree would have no impact on the conservation of wild populations of the species and, given the widespread nature of its ornamental plantings, would have no significant impact on the overall survival of the species.

12. It is concluded that there are no biodiversity constraints to subdivision of the study area for residential housing.

INTRODUCTION

FloraSearch was commissioned by Karina White and Duane Sullivan to conduct a biodiversity survey and impact assessment for the site of a proposed subdivision north of Barton Street and between Lorking and Danilenko Streets, Parkes (Figure 1). This report presents field survey data obtained on the project site, and subjects it to an assessment of impact under Section 5a of the NSW *Environment Planning and Assessment Act 1979* (EP&A Act).

The objectives of the surveys and report are to:

- Determine the threatened species, populations, ecological communities and critical habitat, listed under the NSW *Threatened Species Conservation Act, 1995* (TSC Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act*, *1999* (EPBC Act) that may potentially occur on the study area from a review of relevant databases and previous literature.

- Document the flora and fauna on the study area.

- Conduct searches for extant threatened flora and fauna species, populations, ecological communities and critical habitats, and identification of potential habitats for them, if any.

- Map the distribution of vegetation types identified by the survey and the locations of any threatened biodiversity.

- Provide lists of flora and fauna species observed on the study area.

- Assess the likely impacts of development on threatened flora, populations, ecological communities and critical habitat, if any occur or have potential to occur on the study area, in accordance with Section 5a of the EP&A Act and the *Threatened Species Assessment Guidelines* (DECC, 2007).

STUDY AREA

The study area is on the northern outskirts of Parkes, NSW. It is an irregularly shaped block fronting Lorking and Danilenko Streets with an access laneway running north from Barton Street (Figure 1). The block comprises six small grazing paddocks totalling approximately 10.5 ha. The study area is bounded by two large residential blocks in the north and smaller residential blocks of various sizes in the south, where there is also a bus company depot.

The study area is currently used for grazing sheep.

TOPOGRAPHY AND DRAINAGE

The study area is relatively flat with a drainage line running diagonally across the block from the centre of the Lorking Street boundary to the south western corner on Danilenko Street. The terrain slopes gently on either side of the drainage line. The highest elevations on the study area are 358 m AHD in the north eastern corner and in the south western corner of the southernmost paddock. The lowest elevation of 344 m AHD is on the drainage line in the south western corner adjacent to Danilenko Street. There are no permanent watercourses on the study area.

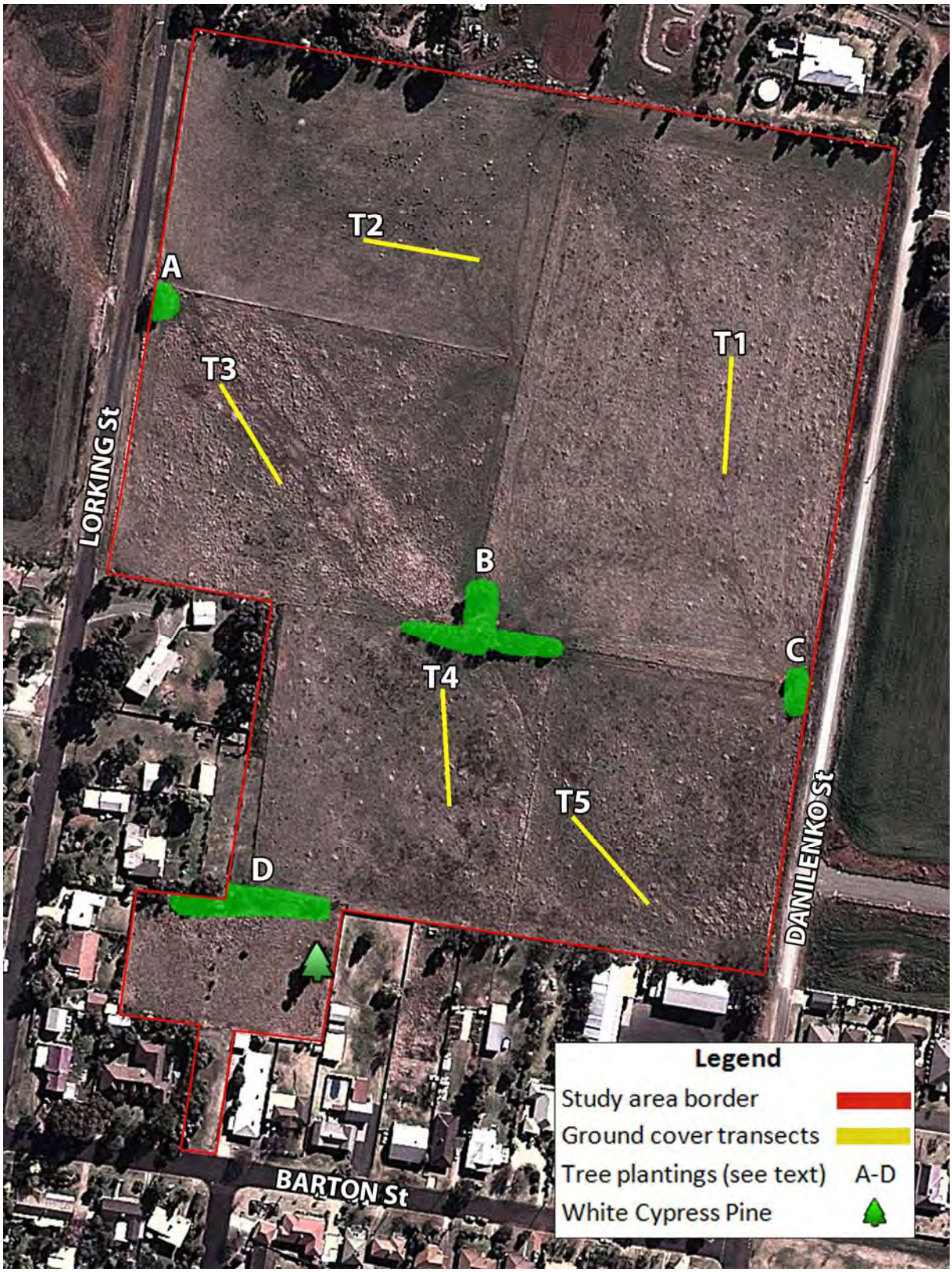

Figure 1. The Study Area showing the locations of sample transects, tree plantings and a remnant White Cypress Pine.
[Image: Google Earth®]

GEOLOGY AND SOILS

The study area is underlain by the Ordovician age sedimentary Cotton Formation which is dominated by well-bedded laminated siltstones and chert with minor sandstone (Sherwin 2000). The Cotton Formation gives rise in part to the Parkes Soil Landscape (King 1998), whose soil types include Red Earths on upper slopes, Red Podzolic Soils and Non-calcic Brown Soils on lower slopes with Brown Solodic Soils along drainage lines.

BOTANICAL AND BIOGEOGRAPHICAL REGIONS

The study area lies in the centre north of the South Western Slopes Bioregion (Thackway and Cresswell, 1995) and in the centre of the Central Western Slopes Botanical Division (Anderson, 1961).

CLIMATE

The climate of the study area is subhumid with hot summers and no dry season (Sahukar *et al*. 2003). The nearest official long-running meteorological station at a similar altitude to the study area is the Macarthur Street, Parkes, Bureau of Meteorology (BOM) Station 065026 (324 m AHD), which ran from 1889 to 2012. The mean daily maximum temperatures vary from 14.0 degrees Celsius (°C) in July to 32.3°C in January (BOM, 2013). The corresponding mean daily minimum temperatures vary from 4.0°C in July to 17.9°C in January (BOM, 2013). Frosts may be common in winter. Average annual rainfall is 587.5 mm and is spread fairly evenly through the year with slight summer dominance (BOM, 2013). The lowest rainfall tends to occur in April with an average of 41.4 mm (BOM, 2013). The highest average rainfall is in January (57.6 mm), followed by December (53.0 mm) (BOM, 2013).

PREVIOUS FLORA AND FAUNA STUDIES

Previous vegetation and fauna studies around the Parkes region include:

- A comprehensive popular compilation of the flora and fauna of Parkes Shire was published by the Parkes Naturalist Group (Schrader, 1987) for the Bicentennial in 1988.

- Sivertsen and Metcalfe (1995) surveyed the natural vegetation of the Cargelligo 1:250 000 Map Sheet which includes the Parkes area. They concluded that 84 percent of the original native vegetation had been cleared on the map sheet and that the remainder was in danger of being substantially lost or degraded through further clearing, grazing and fragmentation.

- A CSIRO Division of Wildlife and Ecology study of the native vegetation of the central Lachlan River catchment (Austin *et al*. 2000) used predictive modelling to determine the pre-European vegetation distribution and estimated the amounts of each vegetation type that had been lost since white settlement. Among its conclusions this study found that nine vegetation alliances had less than 10 percent of their original vegetation remaining, much of the remaining vegetation is in poor condition, and some communities, such as Box-Gum Woodlands, have less than one percent of their original area remaining in good condition.

- The NSW Department of Environment and Conservation (2006) used existing data sources to map the extant vegetation of the Lachlan Valley and to reconstruct the original vegetation distribution for the Lachlan Catchment Management Authority (CMA) area. It was estimated that around 40 percent of the Lachlan CMA is currently vegetated to some degree and 60 percent has been cleared. There are an estimated eight vegetation types with less than 1,000 ha of their reconstructed extent remaining, 24 with less than 30 percent remaining, 16 with between 30 and 70 percent remaining, and 18 with more than 70 percent of their reconstructed extent existing today (DEC, 2006).

THREATENED FLORA AND FAUNA

Lists of threatened species, populations, ecological communities and critical habitat that are known, or have potential to occur on the study area were derived by consulting the following sources. The following databases were searched within a 20 × 20 km square centred on the study area (accessed October 2013);

- BioNet website incorporating searches of the databases of the Atlas of NSW Wildlife, Royal Botanic Gardens and Domain Trust, Forests NSW and the Australian Museum (BioNet 2013).
- Commonwealth Protected Matters Search Tool (SEWPaC 2013a)
- Schedules of the TSC Act and the EPBC Act.
- Preliminary and Final Determinations of the NSW Scientific Committee (2013).

Endangered Ecological Communities

Two endangered ecological communities listed in the schedules of the NSW *Threatened Species Conservation Act 1995*, are considered to have potential to occur on the study area (Table 1), viz:

- *White Box Yellow Box Blakely's Red Gum Woodland Endangered Ecological Community.* [The community is also listed under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* as the *White Box-Yellow Box-Blakely's Red Gum grassy woodlands and derived native grasslands Critically Endangered Ecological Community*.]

- *Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions Endangered Ecological Community*. [The community is also listed under the Commonwealth EPBC Act as the *Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of Eastern Australia Endangered Ecological Community*.]

Table 1. Threatened Plant Communities Returned by Database Searches of the Region Around the Study Area

Community name		Conservation Status		Known Distribution	Potential Habitats	Likelihood of Occurrence
TSC Act[1]	EPBC Act[2]	TSC Act[1]	EPBC Act[2]			
Fuzzy Box on alluvials of the South West Slopes, Darling Riverine Plains and the Brigalow Belt South Bioregions	-	E	-	Mainly in the Dubbo-Narromine-Parkes-Forbes area (OEH, 2013a).	Occurs on brown loam or clay, alluvial or colluvial soils on prior streams and abandoned channels or slight depressions on undulating plains or flats of the western slopes. It also occurs on colluvial soils on lower slopes and valley flats (OEH, 2013a).	Nil (Study area is not located on or near alluvial soil types)
Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions (Inland Grey Box Woodland)	Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of Eastern Australia (equivalent to Inland Grey Box Woodland)	E	E	Lower western slopes and plains from the Victorian border to Queensland (OEH, 2013a). At a Commonwealth level it also occurs in Victoria and South Australia (SEWPaC, 2013b).	Inland Grey Box Woodland occurs on fertile soils of the western slopes and plains of NSW (OEH, 2013a). It often occurs on productive soils derived from alluvial or colluvial materials but may occur on a range of other substrates (SEWPaC, 2013b).	High (Study area is within the known distribution of the community)
Mallee and Mallee-Broombush dominated woodland and shrubland, lacking Triodia, in the NSW South Western Slopes Bioregion	-	E	-	A region of less than 4000 km^2 bounded by Lake Cowal - Temora - Ardlethan – Ungarie within the local government areas of Bland and Temora (OEH, 2013a).	Three forms of the community occupy a wide range of soil types and topography from plains to rocky hills on a variety of substrates (OEH, 2013a).	Nil (This community is not known to occur close to the study area)
Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray Darling Depression, Riverina and NSW South western Slopes Bioregions	Weeping Myall Woodlands	E	E	Scattered across the eastern parts of the alluvial plains of the Murray-Darling river system (OEH, 2013a) on the NSW western slopes and plains.	Occurs on red-brown earths and heavy textured grey and brown alluvial soils (OEH, 2013a) that become waterlogged in winter.	Nil (The study area soils are colluvial rather than alluvial)
White Box, Yellow Box, Blakely's Red Gum Woodland (Box-Gum Woodland)	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grasslands (equivalent to Box-Gum Woodland)	E	CE	Occurs mainly on the tablelands and western slopes of NSW (OEH, 2013a).	Generally occurs on fertile lower parts of the landscape where resources such as water and nutrients are abundant.	High (The study area is within the known distribution of this community)

[1] Threatened Ecological Community status under NSW *TSC Act* (current to October 2013).

[2] Threatened Ecological Community status under Commonwealth *EPBC Act* (current to October 2013).

E – Endangered; CE - Critically Endangered.

Threatened Flora Species

Database searches returned seven threatened flora species known or considered likely to occur in the region around the study area (Table 2). The distribution and habitats of each species was determined from the PlantNet website (Royal Botanic Gardens and Domain Trust Sydney 2013), NSW Office of Environment and Heritage (OEH) Threatened Species Profiles (OEH 2013a), Commonwealth Department of Sustainability Environment Water Population and Communities (SEWPaC) listing and conservation advices (SEWPaC 2013) and specialist publications. The habitats and/or substrate requirements of six of the species are absent from the study area (Table 2). Accordingly, they are not considered further here. One species is considered likely to have formerly occurred on the study area based on its known distribution and habitats, the Silky Swainson-pea, *Swainsona sericea*. This species was specifically targeted during the survey conducted for this study.

Endangered Flora Populations

Twenty five plant populations are listed as endangered under the NSW *Threatened Species Conservation Act 1995*, as at October 2013 (OEH, 2013a). None are applicable to the study area.

Critical Flora Habitat

No Critical Habitat for flora has been declared on or near the study area under the TSC Act (OEH, 2013b) or the EPBC Act (SEWPaC, 2013c).

Table 2. Threatened Plant Species that may Potentially Occur on the Study Area

Family Name	Scientific Name	Status		Habitat	Distribution	Likelihood of Occurrence
		TSC Act[1]	EPBC Act[2]			
Apocynaceae	*Tylophora linearis*	V	E	Grows in dry scrub and open forest. Recorded from low-altitude sedimentary flats in dry woodlands of *Eucalyptus fibrosa, Eucalyptus sideroxylon, Eucalyptus albens, Callitris endlicheri, Callitris glaucophylla* and *Allocasuarina luehmannii* (OEH, 2013a). On coarse-grained sediments.	Distributed to the north east of the study area from the Pilliga Scrub to Peak Hill and Dubbo.	Nil (Known communities and soils absent from study area)
Fabaceae	*Swainsona murrayana*	V	V	Occurs on flat inland floodplains and depressions on clay-based soils, ranging from grey, red and brown cracking clays to red-brown earths and loams (OEH, 2013a).	Occurs principally on the NSW South West Plains (PlantNet, 2013). There is one record south west of Forbes beside the Newell Highway and several in the West Wyalong-Quandialla area. There are no records close to Parkes.	Nil (Habitat absent from study area)
	Swainsona sericea	V	-	Found in in a wide range of habitats including Box-Gum Woodlands and cypress-pines *Callitris* spp. (OEH 2013a).	Recorded from the Northern Tablelands to the Southern Tablelands and further inland on the slopes and plains (OEH 2013a).	Moderate (Is likely to have formerly occurred on the study area.)
Poaceae	*Austrostipa metatoris*		V	Grows in sandy areas of the Murray Valley; habitats include sandhills, sandridges, undulating plains and flat open mallee country, with red to red-brown clay-loam to sandy-loam soils.	Most records occur in the Murray Valley. Also occurs in central NSW including Lake Cargelligo, east of Goolgowi, Condobolin and south west of Nymagee.	Nil (Soils and habitats absent from the study area.)
	Austrostipa wakoolica	E	E	Grows on floodplains of the Murray River tributaries, in open woodland on grey, silty clay or sandy loam soils; habitats include the edges of a lignum swamp; creek banks in grey, silty clay; open Cypress Pine forest on low sandy range; and a low, rocky rise (OEH 2013a).	Confined to the floodplains of the Murray River tributaries of central-western and south-western NSW. Not known close to Parkes; occurs in the Marsden to West Wyalong area south west of Forbes.	Nil (Main habitats and substrates are absent from the study area.)
	Bothriochloa biloba	-	V	Grows in cleared eucalypt forests and relict grassland, on heavier-textured soils such as brown or black clays (SEWPaC, 2013b).	Lobed Blue-grass is known from the Darling Downs district in Queensland, south along the western slopes of the Great Dividing Range to Dubbo, Merriwa and the Upper Hunter Valley in NSW (SEWPaC, 2013b).	Nil (Heavy clay soils are absent on the study area.).
Rutaceae	*Philotheca ericifolia*	-	V	Habitats include heath, open woodland, dry sandy creek beds, and rocky ridge and cliff tops (SEWPaC, 2013b). Tends to occur on coarse-grained sediments.	Occurs from the upper Hunter Valley and Pilliga to the Peak Hill, Dubbo and West Wyalong districts of NSW.	Nil (lack of suitable soils and habitat)

[1] Threatened species status under the NSW *TSC Act,* (current to October 2013).

[2] Threatened species status under the Commonwealth *EPBC Act*, (current to October 2013).

E - Endangered; V - Vulnerable.

Threatened Fauna Species

The database searches returned 39 threatened fauna species with potential to occur on the study area based on observational records in the surrounding region (Table 3). Threatened fauna species known to occur in the region included two fish, one reptile, 29 birds and seven mammals.

The literature on each of these species was consulted to determine whether their habitat requirements are matched by the resources on the study area. For most species important habitat factors essential to their survival are missing from the study area (Table 3). Accordingly, it is considered that 26 species have a nil likelihood of occurring on the study area owing to a lack of essential resources. Three wide ranging predatory, nomadic or migratory species are considered to have a low potential to occur. They are species whose breeding requirements are lacking on the study area, although at times they may be able to forage there for food. These are the Spotted Harrier, the Little Eagle (*Hieraaetus morphnoides*) and the Flame Robin (*Petroica phoenicea*).

The 3 threatened fauna species identified in Table 3 as having some potential to utilise the study area were targeted in field surveys of the site. The potential impacts on the 3 species of developing the study area are considered below in the impact assessment section of this report.

Endangered Fauna Populations

Twenty animal populations are listed as endangered under the NSW *Threatened Species Conservation Act 1995*, as at October 2013 (OEH, 2013a). None are applicable to the study area.

Critical Fauna Habitat

No Critical Habitat for flora has been declared on or near the study area under the TSC Act (OEH, 2013b) or the EPBC Act (SEWPaC, 2013c).

Table 3. Threatened Fauna Species Returned by Database Searches of the Surrounding Region

Class	Family Name	Scientific Name	Common Name	Conservation Status		Likelihood to be on Study Area	Justification
				TSC Act[1]	EPBC Act[2]		
Actinopterygii (ray-finned fishes)[3]	Percichthyidae	*Maccullochella macquariensis*	Trout Cod	E	E	Nil	The two fish species listed here only occur in large permanent rivers with deep waterholes (SEWPaC, 2013b). Such habitat does not occur on the study area.
		Maccullochella peelii	Murray Cod	-	V	Nil	
Reptilia (reptiles)	Pygopodidae	*Aprasia parapulchella*	Pink-tailed Legless Lizard	V	V	Nil	The Pink-tailed Legless Lizard inhabits sloping, open woodland areas with predominantly native grassy ground layers, particularly those dominated by Kangaroo Grass (*Themeda australis*). Sites are typically well-drained, with rocky outcrops or scattered, partially-buried rocks (OEH, 2013a). Similar habitat does not occur on the study area.
Aves (birds)	Megapodiidae	*Leipoa ocellata*	Mallee Fowl	E	V	Nil	Mallee Fowl are found in semi-arid to arid shrublands and low woodlands, especially those dominated by mallee and/or acacias. A sandy substrate and abundance of leaf litter are required for breeding (Benshemesh, 2007). Suitable habitat is absent from the study area and surrounds.
	Anatidae	*Stictonetta naevosa*	Freckled Duck	V	-	Nil	The Freckled Duck breeds in large temporary swamps created by floods in the Bulloo and Lake Eyre basins and the Murray-Darling system, particularly along the Paroo and Lachlan Rivers, and other rivers within the Riverina. It prefers permanent freshwater swamps and creeks with heavy growth of Cumbungi, Lignum or Tea-tree. During drier times it moves from ephemeral breeding swamps to more permanent waters such as lakes, reservoirs, farm dams and sewage ponds. Known to occur sporadically at the Parkes Sewage Farm. Suitable habitat is absent from the study area.
	Ardeidae	*Botaurus poiciloptilus*	Australasian Bittern		E	Nil	Australasian Bitterns are widespread but uncommon over south-eastern Australia. In NSW they may be found over most of the state except for the far north-west. They favour permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes (*Typha* spp.) and spikerushes (*Eleocharis* spp.). Suitable habitat is absent from the study area.
	Accipitridae	*Circus assimilis*	Spotted Harrier	V	-	Low	The Spotted Harrier occurs in grassy open woodland including *Acacia* and mallee remnants, inland riparian woodland, grassland and shrub steppe. It is found most commonly in native grassland, but also occurs in agricultural land, foraging over open habitats (OEH, 2013a). It may potentially forage over the grazing paddocks on the study area.
		Hieraaetus morphnoides	Little Eagle	V	-	Low	Little Eagle occurs throughout NSW and soars over open country looking for prey (Blakers *et al*., 1984). There are several records in the region around Parkes in BioNet (2013). It is likely to hunt over the grazing paddocks on the study area.

Class	Family Name	Scientific Name	Common Name	Conservation Status		Likelihood to be on Study Area	Justification
				TSC Act[1]	EPBC Act[2]		
Aves (birds) cont.	Falconidae	*Falco hypoleucos*	Grey Falcon	E		Nil	The Grey Falcon is sparsely distributed in NSW, chiefly throughout the Murray-Darling Basin (OEH 2013a). Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands. Usually nests high in a living eucalypt near water or a watercourse. There are two historic records in the Parkes area (BioNet 2013). Suitable nesting habitat is absent from the study area.
		Falco subniger	Black Falcon	V	-	Nil	Black Falcons occur primarily along inland watercourses and forage for bird prey in eucalypt woodland (Blakers *et al*. 1984). There is one record near Parkes. A low potential exists for this species to forage in wooded parts of the study area.
	Burhinidae	*Burhinus grallarius*	Bush Stone-curlew	E	-	Nil	Inhabits open forests and woodlands with a sparse grassy ground layer and fallen timber (OEH 2013a). Suitable habitat is absent from the study area.
	Rostratulidae	*Rostratula australis*	Australian Painted Snipe	E	E	Nil	Prefers fringes of swamps, dams and nearby marshy areas where there is a cover of grasses, lignum, low scrub or open timber (OEH 2013a). Suitable habitat is absent from the study area.
	Scolopacidae	*Calidris ferruginea*	Curlew Sandpiper	E	-	Nil	The Curlew Sandpiper is a migratory species distributed around most of the coastline of Australia, and sometimes in freshwater wetlands in the Murray-Darling Basin. It generally occupies littoral and estuarine habitats such as intertidal mudflats. It also occurs in non-tidal swamps, lakes and lagoons on the coast and sometimes the inland. There are records for the Parkes Sewage Farm. There is no habitat for this species on the study area.
		Limosa limosa	Black-tailed Godwit	V	-	Nil	The Black-tailed Godwit is a migratory wading bird that mainly occurs on the coast, usually in sheltered bays, estuaries and lagoons with large intertidal mudflats and/or sandflats (OEH 2013a). Further inland, it can be found on mudflats, in water less than 10 cm deep, around muddy lakes and swamps. It has been recorded at the Parkes Sewage Farm (BioNet 2013). Suitable habitat is absent from the study area.
	Psittacidae	*Glossopsitta pusilla*	Little Lorikeet	V	-	Nil	The Little Lorikeet is a nomadic nectar feeding species that is regularly recorded in bushland around Parkes (BioNet, 2013). It can be expected to occur on the study area when eucalypts are in flower.
		Lathamus discolor	Swift Parrot	E	E	Nil	The Swift Parrot is a migratory species that breeds in Tasmania and winters on the mainland, where it feeds on flowering eucalypts (OEH, 2013a). There are multiple records in bushland areas south east of Parkes (BioNet, 2013), probably related to feeding on Mugga Ironbarks. It may potentially feed on flowering White Box trees on the study area.

Class	Family Name	Scientific Name	Common Name	Conservation Status		Likelihood to be on Study Area	Justification
				TSC Act[1]	EPBC Act[2]		
Aves (birds) cont.	Psittacidae cont.	*Polytelis swainsonii*	Superb Parrot	V	V	Nil	The Superb Parrot occurs in tall woodlands and forests west of the Tablelands (Blakers *et al*., 1984). There are multiple records of the species close to Parkes. There are old growth eucalypt trees with hollow limbs on the study area that may potentially provide nesting habitat for this species.
		Neophema pulchella	Turquoise Parrot	V	-	Nil	Lives on the edges of relatively undisturbed eucalypt woodland adjoining clearings, timbered ridges and creeks in farmland. There are no records in BioNet (2013) close to Parkes, although a population is known in Back Yamma State Forest, south of Parkes. Suitable habitat is absent from the study area.
	Strigidae	*Ninox connivens*	Barking Owl	V	-	Nil	The Barking Owl occurs in eucalypt woodland and is widespread in eastern NSW. It is known to occur in the region around Parkes (BioNet, 2013). Requires very large foraging areas (2000+ ha) and large trees for roosting and nesting (OEH, 2013a). The study area lacks breeding or foraging habitat.
	Climacteridae	*Climacteris picumnus victoriae*	Brown Treecreeper (eastern subspecies)	V	-	Nil	The Brown Treecreeper is widespread in bushland remnants with old growth trees around Parkes (BioNet, 2013). It inhabits grassy woodlands with rough-barked trees at close to natural densities, sparse shrub cover and fallen timber on the ground (OEH, 2013a). Suitable habitat does not occur on the study area.
	Acanthizidae	*Pyrrholaemusl sagittata*	Speckled Warbler	V	-	Nil	A sedentary species of natural relatively undisturbed open woodland on rocky ridges or in gullies (OEH, 2013a). Recorded sparsely but widely in the surrounding region in larger blocks of remnant woodland, including on the outskirts of Parkes (BioNet, 2013). Suitable habitat is lacking on the study area.
	Meliphagidae	*Certhionyx variegatus*	Pied Honeyeater	V	-	Nil	A nomadic species of the arid zone, inhabiting wattle shrub, primarily Mulga, mallee, spinifex and eucalypt woodlands, usually when shrubs are flowering; feeds on nectar, predominantly from various species of emu-bushes, mistletoes and other shrubs; also eats saltbush fruit, berries, seed, flowers and insects. Suitable resources are absent from the study area for this species.
		Anthochaera phrygia	Regent Honeyeater	E	E	Nil	A nomadic nectar-dependent species found in flowering eucalypts (OEH, 2013a), which has been recorded rarely in the region to the south of the study area (Back Yamma State Forest) (BioNet, 2013). Suitable habitat is absent from the study area.
		Ephianura albifrons	White-fronted Chat	V	-	Nil	There is one record for the White-fronted Chat in the Parkes area at the sewage works (BioNet, 2013). The preferred habitat is wet grasslands or marshes (OEH, 2013a), of which there are none on the study area.

Class	Family Name	Scientific Name	Common Name	Conservation Status		Likelihood to be on Study Area	Justification
				TSC Act[1]	EPBC Act[2]		
Aves (birds) cont.	Meliphagidae cont.	*Melithreptus gularis*	Black-chinned Honeyeater	V	-	Nil	The Black-chinned Honeyeater is occasionally observed in bushland areas to the south (Back Yamma State Forest) and south east of Parkes (Cookamidgera State Forest) (BioNet, 2013). It requires relatively large feeding areas and tends to occur mainly in larger bushland remnants (OEH, 2013a). Suitable mature woodland habitat is absent from the study area.
	Pomatostomidae	*Pomatostomus temporalis temporalis*	Grey-crowned Babbler (eastern subspecies)	V	-	Nil	The Grey-crowned Babbler is relatively common in the Parkes region (BioNet, 2013). It prefers open Box-Gum Woodlands on the slopes, and Box-Cypress-pine and open Box Woodlands on alluvial plains, all with dense low trees below the canopy (OEH, 2013a). Suitable habitat does not occur on the study area.
	Neosittidae	*Daphoenositta chrysoptera*	Varied Sittella	V	-	Nil	The Varied Sitella is a bird of woodlands and open forests, usually with rough-barked eucalypts (OEH, 2013a). Sporadically recorded in the Parkes region (BioNet, 2013), but confined to remnant woodlands with mature trees. Habitat is absent from the study area.
	Pachycephalidae	*Pachycephala inornata*	Gilbert's Whistler	V	-	Nil	The Gilbert's Whistler occurs in a range of habitats, though the shared feature appears to be a dense shrub layer. It is widely recorded in mallee shrublands, but also occurs in box-ironbark woodlands, Cypress Pine and Belah woodlands and River Red Gum forests. The nearest known population to Parkes is in Back Yamma State Forest (BioNet 2013). Suitable habitat is absent from the study area.
	Petroicidae	*Melanodryas cucullata*	Hooded Robin	V	-	Nil	The Hooded Robin occurs sparingly in the Parkes region (BioNet, 2013). It favours open eucalypt woodlands with saplings, shrubs and native grasses (OEH, 2013a). It has been recorded from State Forests west and south of Parkes. Suitable habitat is absent on the study area.
		Petroica boodang	Scarlet Robin	V	-	Nil	The Scarlet Robin inhabits dry eucalypt forests and woodlands with an open grassy understorey, having few shrubs, but abundant logs and fallen timber (OEH 2013a). It breeds on ridges, hills and foothills of the western slopes, the Great Dividing Range and eastern coastal regions. Although primarily a resident in forests and woodlands, some adults and young birds disperse in autumn and winter to more open habitats; such as open grassy woodlands, grasslands or grazed paddocks with scattered trees.There is one record of this species in the Parkes region (Back Yamma State Forest) (BioNet 2013). Breeding habitat is absent on the study area, but it may be utilised occasionally by dispersing individuals.
		Petroica phoenicea	Flame Robin	V	-	Low	Breeds in tall moist eucalypt forests and woodlands in upland areas (OEH 2013a). In winter, many birds move to the inland slopes and plains to drier more open habitats in the lowlands, where it utilises dry forests, open woodlands, pastures and native grasslands, with or without scattered trees. There are multiple records of the Flame Robin in the Parkes region (BioNet 2013). Although it would not be able to breed on the study area, it may visit occasionally in winter to forage.

Class	Family Name	Scientific Name	Common Name	Conservation Status		Likelihood to be on Study Area	Justification
				TSC Act[1]	EPBC Act[2]		
Aves (birds) cont.	Estrildidae	*Stagonopleura guttata*	Diamond Firetail	V	-	Nil	Widespread in open forest and woodland mostly on the inland side of the Great Dividing Range in eastern NSW (Blakers *et al*., 1984). Recorded regularly in open native woodland or semi-cleared land around Parkes (BioNet, 2013). It has limited potential to occur on the study area owing to its highly cleared condition and lack of native ground cover diversity.
Mammalia (mammals)	Dasyuridae	*Dasyurus maculatus*	Spotted-tailed Quoll	V	E	Nil	There are no records of the Spotted-tailed Quoll close to Parkes, although there is one record from 2004 in the Cookamidgera area (BioNet 2013). Individual animals require hollow-bearing trees, fallen logs, small caves, rock crevices, boulder fields and rocky-cliff faces as den sites (OEH, 2013a). Den resources are lacking on the study area.
	Phascolarctidae	*Phascolarctos cinereus*	Koala	V	V	Nil	Koalas are widespread in eastern NSW and have been recorded sparingly in the region south of Parkes (BioNet, 2013). White Box which occurs on the study area is a preferred food tree of the Koala west of the Great Dividing Range. Koalas require large mature trees in which to roost and feed and suitable trees are present on the study area. Although the study could potentially support Koalas, no population is known to occur in the vicinity.
	Macropodidae	*Petrogale penicillata*	Brush-tailed Rock Wallaby	E	V	Nil	Inhabits rocky areas in sclerophyll forest, usually slopes that receive direct sunlight for most of the day and with caves, crevices or jumbled boulders to provide shelter (Maynes and Sharman, 1983). No such habitat occurs on the study area.
	Muridae	*Pseudomys novaehollandiae*	New Holland Mouse	-	V	Nil	Across the species' range the New Holland Mouse is known to inhabit open heathlands, open woodlands with a heathland understorey, and vegetated sand dunes (SEWPaC 2013b). Such habitats are absent from the study area.
	Vespertilionidae	*Chalinolobus picatus*	Little Pied Bat	V	V	Nil	There are three records of the Little Pied Bat to the north and south of Parkes (BioNet, 2013). It occurs in dry open forest, open woodland, mulga woodlands, chenopod shrublands, cypress pine forest, and mallee and Bimbil box woodlands. It roosts in caves, rock outcrops, mine shafts, tunnels, tree hollows and buildings (OEH, 2013a). There is potential for it to nest or roost on the study area in old growth trees with hollows, and it may potentially forage among the remnant trees.
		Nyctophilus corbeni	South-eastern Long-eared Bat	V	V	Nil	The South-eastern Long-eared Bat inhabits large areas of remnant bushland and is absent from cleared farming country. It requires trees with hollows or strips of shedding bark for roosting (OEH, 2013a). There are no records of the species close to Parkes, the nearest records being in the Hervey Range to the north east and the Nangar Range to the south east (BioNet, 2013). It is unlikely to occur on the study area.

[1] NSW *Threatened Species Conservation Act, 1995.*

[2] Commonwealth *Environment Protection and Biodiversity Conservation Act*, *1999.*

[3] NSW *Fisheries Management Act 1994.*

E Endangered; CE Critically Endangered; V Vulnerable.

METHODS

The methods used in this survey and assessment are considered appropriate to the highly disturbed nature of the site. They are adapted from *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities* (DEC, 2004), the *BioMetric Terrestrial Biodiversity Assessment Tool* (Gibbons *et al*., (2005), *Threatened species assessment guidelines: the assessment of significance* (DECC, 2007) and updates on the Office of Environment and Heritage website (OEH, 2013c).

SURVEY TIMING AND CONDITIONS

The field survey was conducted over one day; 29 October 2013. There had been well above average rainfall in March, although April and early May were dry (Table 4). Record rainfall fell in June 2013 and July was also well above average, such that extensive germination and growth of ground cover flora species was present in October.

Table 4. Rainfall (mm) recorded at Parkes Airport in 2013 (Bureau of Meteorology Station No. 065068)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
2013	19.4	15.2	81.6	1.6	34.0	176.4	71.8	17.0	43.8	11.2
Long Term Mean	61.8	66.1	49.6	30.4	48.8	53.3	49.3	45.3	43.6	52.0

FLORA SAMPLING

Owing to the lack of remnant native vegetation on the study area, it was not necessary to conduct formal flora quadrat sampling.

Vegetation communities

All remnant trees on the study area were identified to species in order to determine the original native vegetation communities that formerly occurred there. This approach is feasible because native forest and woodland communities are defined and named by the dominant trees in the uppermost vegetation stratum.

Ground cover transects

All of the study area is cleared land. The flora was documented through 50 m transects to determine quantitatively whether the ground cover is in ‘good’ or ‘low’ condition as defined by the BioMetric methodology (Gibbons *et al*. 1995). Ground vegetation is considered to be in ‘low’ condition if more than 50 percent of cover comprises introduced species, or in ‘good’ condition if more than 50 percent of cover is native species.

Ground cover condition was determined by sampling five transects. At one metre intervals on each transect, the vegetation below the tape was determined and recorded as predominantly native or introduced. The percentage of native versus introduced cover was calculated from this data for each transect.

In addition, a complete list of the plant species present in an area of 50 × 2 m (1 m on either side of the tape) was recorded for each transect (Appendix A). Each species was given a rating for its relative abundance on the following scale;

Code	Descriptor
a	abundant
c	common
o	occasional
u	uncommon
r	rare

Species Listing

All observed plant species were recorded, whether identified on formal sample sites or not. Species recorded opportunistically are listed separately in Attachment A. Where plants could not be quickly identified in the field, a sample was taken back to the laboratory for identification using a binocular microscope and flora keys. The principal reference was the PlantNet website (RBGDT, 2013), which is used as the primary basis for nomenclature in this report. However, updated taxonomy is used for some groups that have been revised recently.

Targeted Searches for Threatened Flora Species

Targeted searching for the Silky Swainson-pea, a threatened flora species that is likely to have once occurred on the study area (Table 2) was conducted by walking throughout the study area.

FAUNA SAMPLING

Owing to the lack of habitat for most native fauna species, particularly threatened fauna species, no formal sampling for fauna was considered necessary. Rather, records were made of any native or other fauna observed while moving around the site to document the flora. All bird species seen or heard during the survey were identified. Signs of fauna activity were noted if present including such indications as scats, scratches, diggings, tracks etc.

RESULTS AND DISCUSSION

FLORA

Flora Species

A complete list of the plant species identified on the study area is given in Appendix A. A total of 70 species was recorded, of which 24 (34.3%) are native and 46 (65.7%) are introduced. The main plant families represented are the Poaceae (Grasses) (20 species), Asteraceae (Daisies) (11 species) and Faboideae (Pea flowers) (7 species).

Vegetation Communities

Pre-European Vegetation

Only one tree that is likely to have been present, or descended from, the original vegetation on the study area remains, a large White Cypress Pine (*Callitris glaucophylla*). It occurs in the southernmost small paddock (Figure 1). The original eucalyptus woodland is likely to have been dominated by White Box (*Eucalyptus albens*) and / or Inland Grey Box (*Eucalyptus moluccana*), but there are no remnants of these trees on or near the study area.

The original native vegetation on the study area would have been part of the Western Slopes Grassy Woodlands vegetation class of Keith (2004), which in turn comprises many discrete vegetation communities. The remnant eucalypt trees elsewhere in the Parkes district indicate

that of the western slopes vegetation communities defined by Benson (2008), the closest fit for the study area is likely to have been the '*White Box - White Cypress Pine - Inland Grey Box woodland on the western slopes of NSW*' vegetation community.

Current study area vegetation

The former natural vegetation of the study area has been eliminated by past land management. The current vegetation can be classified into two broad types (Figure 1):

1. Exotic grassland/forbland
2. Tree and shrub plantings

These vegetation types are described below.

Exotic Grassland/Forbland

The whole of the study area has been cleared historically of its tree and shrub cover and has likely been used for grazing livestock for over a century and a half. The grasslands are generally dominated by introduced grasses and forbs (see section on vegetation condition), although small areas retain a dominant cover of native grasses.

There are few native species in the ground cover and most are very uncommon (Appendix A). The most common are Curly Windmill Grass (*Enteropogon acicularis*), Ringed Wallaby Grass (*Rytidosperma caespitosum*), Sprawling Bluebell (*Wahlenbergia gracilis*) and Blue Storksbill (*Erodium crinitum*).

This vegetation type supports many introduced herbaceous species and grasses. The dominant introduced grass species are Bearded Oats (*Avena barbata*), Soft Brome (*Bromus hordeaceus*), Barley Grass (*Hordeum leporinum*), Wimmera Ryegrass (*Lolium rigidum*) and Rat's Tail Fescue (*Vulpia myuros*).

The dominant introduced forbs are Saffron Thistle (*Carthamus lanatus*), Skeleton Weed (*Chondrilla juncea*), Spear Thistle (*Cirsium vulgare*), Smooth Catsear (*Hypochaeris glabra*), Four-leaved Allseed (*Polycarpon tetraphyllum*), Hop Clover (*Trifolium campestre*), Clustered Clover (*Trifolium glomeratum*) and White Clover (*Trifolium repens*).

Tree and Shrub Plantings

Four small plantings of native and exotic trees and shrubs are present on the study area (Figure 1, Plate 1). The composition of each planting is given in Table 5.

Table 5. Species of Trees and Shrubs Planted on the Study Area

Scientific Name	Common Name	Planting (as per Figure 1)			
		A	B	C	D
Acacia baileyana	Cootamundra Wattle				✓
Brachychiton populneus	Kurrajong			✓	
Casuarina cunninghamiana	River Oak	✓			
Cupressus sp.	An ornamental pine			✓	
Eucalyptus scoparia	Wallangarra White Gum		✓		
Melaleuca armillaris	Cream Paperbark		✓		✓
Melia azederach	White Cedar			✓	✓
Salix matsudana 'Tortuosa'	Tortured Willow	✓	✓		

Plate 1. Tree planting B in centre of study area.

Vegetation Condition

The condition of the vegetation on the study area was assessed with five ground cover transects adapted from the BioMetric methodology (Gibbons *et al*., 2005). The ground cover transects were placed in each of the larger paddocks (Figure 1). The results are given in Table 6.

Table 6. Ground Cover Composition (percent)

Transect No.	Bare ground	Native grasses	Native shrubs	Native forbs	Exotic plants
1	0	0	0	0	100
2	10	10	0	0	80
3	0	2	0	0	98
4	6	2	0	20	74
5	2	2	0	10	86
Total	18	16	0	30	438
Mean	3.6	3.2	0	6.0	87.6

The ground cover transects showed an almost complete dominance by exotic plants (Table 6, Plates 2 to 5). Average exotic plant cover was 88 percent and varied from 74 to 100 percent. Native grass cover averaged only 3.2 percent and ranged from zero to 10 percent. Native forb cover was also very low, averaging only 6 percent, and ranging from zero to 20 percent. No native ground cover shrubs were present.

The high dominance by exotic plants indicates the paddocks are highly degraded from their original state and are now in ‘low’ condition with respect to native ground cover.

Plate 2. Ground cover transect 1

Plate 4. Ground cover transect 3

Plate 3. Ground cover transect 2

Plate 5. Ground cover transect 4

Threatened Flora Species

One threatened flora species, the Wallangarra White Gum (*Eucalyptus scoparia*) that is listed as Endangered under the TSC Act and Vulnerable under the EPBC Act was found. One planted specimen occurs in the centre of the study area in Planting B (Figure 1, Table 5, Plate 1).

Threatened Ecological Communities

No remnants of any threatened ecological communities occur on the study area.

FAUNA

Habitat Resources

The site supports one broad habitat type; exotic grassland/forbland with occasional planted trees. The grassland does not support any hollow bearing trees or large tracts of woodland for hollow-nesting and woodland-dependent species.

Where present, the planted tree and shrub species provide shelter, roosting and possibly nesting habitat for a limited range of native bird species. The planted *Eucalyptus* and *Melaleuca* species may provide limited seasonal nectar resources for birds such as honeyeaters and lorikeets, as well as for insects which in turn may provide food for insectivorous birds. The groundcover species of grasses may provide seed resources for granivorous fauna species.

The lack of fallen timber and rock means habitat is lacking for small ground-dwelling mammals and reptiles.

Birds

Low numbers of bird species were recorded on the study area owing to the paucity of suitable habitat. Only six native species, Crested Pigeon (*Ocyphaps lophotes*), Australian Magpie (*Gymnorhina tibicen*), Noisy Miner (*Manorina melanocephala*), Welcome Swallow (*Hirundo neoxena*, Richard's Pipit (*Anthus australis*) and Yellow-rumped Thornbill (*Acanthiza chrysorrhoea*), and one introduced species, the Common Starling (*Sturnus vulgaris*), were observed on the study area. All are common species that are adapted to farmland with scattered trees or small woodlots. Except for Richard's Pipit, which is partially migratory, all of the observed birds can be considered year round residents of the study area and its surrounds.

Mammals, Reptiles and Frogs

The habitats on the study area are considered highly unlikely to support a diversity of native mammals, reptiles or frogs. Only one mammal species was observed during the survey, the domestic sheep (*Ovis aries*). No reptiles or frogs were observed.

Threatened Fauna Species

No threatened fauna species were detected on the study area by the survey:

SEPP 44 Koala Habitat Assessment

The flora survey detected no koala food trees listed under Schedule 2 of SEPP 44. Also, there is no evidence of a breeding koala population. Consequently, the study area is not core koala habitat and a SEPP 44 Plan of Management is not required.

POTENTIAL IMPACTS ON BIODIVERSITY

Subdivision of the study area for housing is considered highly unlikely to have a significant impact on biodiversity for the following reasons;

- The study area has been completely cleared of its original native vegetation.
- The ground cover is in 'low' condition being comprised almost entirely of introduced species.
- Intensive farming of the area for over 150 years has eliminated almost all of the original native flora species. Only a few grazing-tolerant native herb and grass species now occur there.
- No threatened flora species, including the Silky Swainson-pea, was found on the study area and suitable habitat no longer exists for any threatened flora species.
- No threatened fauna species were found on the study area and suitable habitat to support breeding populations of threatened fauna species is absent.
- The study area has a low chance of occasionally being utilised as foraging habitat by wide-ranging threatened birds of prey (Spotted Harrier and Little Eagle) and by wintering Flame Robins. However, it is considered unlikely such species would utilise the area owing to its poor habitat quality and proximity to human habitation.
- No threatened ecological communities occur on the study area.
- One planted specimen of the threatened Wallangarra White Gum occurs on the study area. This species is widely planted throughout south eastern Australia as an ornamental tree. However, the removal of this tree would have no impact on the conservation of wild populations of the species and given the widespread nature of ornamental plantings would have no significant impact on the overall survival of the species.

IMPACT ASSESSMENT

For the reasons outlined in the previous section, it is considered that a formal assessment of the impact of the proposed subdivision on biodiversity under section 5a of the NSW EP&A Act is not warranted.

EPBC ACT

No matters requiring referral to the Commonwealth Department of Sustainability, Environment, Water, Population and Communities relating to Commonwealth listed threatened species and ecological communities, migratory species or wetlands of international importance, were revealed by this study.

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APPENDIX A

FLORA SPECIES LIST

LEGEND:

Letter codes in Transect columns are:

a – abundant

c – common

o – occasional

u – uncommon

r – rare

Opportunistic observations are recorded in the first column (Opp.)

Presence of a species is recorded with a dot in samples not rated for abundance (●).

Introduced species are preceded by an asterisk (*).

Planted species are preceded by a cross (†)

Appendix A
Flora Species and their Relative Abundance on Five Ground Cover Transects

Scientific Name	Common Name	Transect					
		T1	T2	T3	T4	T5	Opp.
CLASS CONIFEROPSIDA							
Cupressaceae							
Callitris glaucophylla	White Cypress Pine						●
†**Cupressus* sp.	Ornamental Pine						●
CLASS MAGNOLIOPSIDA							
SUBCLASS MAGNOLIIDAE							
Asteraceae							
**Arctotheca calendula*	Capeweed		c				
**Carthamus lanatus*	Saffron Thistle	o	a	o	c	a	
**Centaurea melitensis*	Maltese Cockspur				r		
**Chondrilla juncea*	Skeleton Weed	o	o		c		
**Cirsium vulgare*	Spear Thistle	o	u	c	u		
**Hypochaeris glabra*	Smooth Catsear	o	u	u	c	c	
**Silybum marianum*	Variegated Thistle				r		●
**Sonchus oleraceus*	Common Sowthistle	u		u	o	u	
Vittadinia cuneata var. *cuneata*	Fuzzweed	u					
Vittadinia gracilis	Woolly New Holland Daisy	u			u		
**Xanthium spinosum*	Bathurst Burr						●
Boraginaceae							
**Echium plantagineum*	Paterson's Curse		r	●	o	o	
Brassicaceae							
**Capsella bursa-pastoris*	Shepherd's Purse	o	r				
**Rapistrum rugosum*	Turnip Weed						●
**Sisymbrium erysimoides*	Smooth Mustard						●
Campanulaceae							
Wahlenbergia communis	Tufted Bluebell				u		
Wahlenbergia gracilis	Sprawling Bluebell				o	c	
Casuarinaceae							
†*Casuarina cunninghamiana*	River Oak						●
Caryophyllaceae							
**Petrorhagia nanteuilii*		u		r			
**Polycarpon tetraphyllum*	Four-leaved Allseed	r	c	u	u		
Crassulaceae							
Crassula sieberiana	Australian Stonecrop				r		
Fabaceae: Faboideae							
**Medicago polymorpha*	Burr Medic		r	o			
**Trifolium angustifolium*	Narrow-leaved Clover			r			
**Trifolium arvense*	Haresfoot Clover	c			o		
**Trifolium campestre*	Hop Clover	u	c	a		a	

Scientific Name	Common Name	Transect					
		T1	T2	T3	T4	T5	Opp.
**Trifolium glomeratum*	Clustered Clover	a	a	c	a	o	
**Trifolium repens*	White Clover	u		o	o	a	
**Trifolium tomentosum*	Woolly Clover			o			
Fabaceae: Mimosoideae							
†*Acacia baileyana*	Cootamundra Wattle						●
Geraniaceae							
**Erodium cicutarium*	Common Storksbill		r				
Erodium crinitum	Blue Storksbill	u	u		c		
Lamiaceae							
**Marrubium vulgare*	White Horehound	r			r		
**Salvia verbenaca*	Vervain	u	u		u		
Malvaceae							
**Malva parviflora*	Small-flowered Mallow				r		●
Meliaceae							
†*Melia azedarach* var *australasica*	White Cedar						●
Myrtaceae							
†*Eucalyptus scoparia*	Wallangarra White Gum						●
†*Melaleuca armillaris*subsp. *armillaris*	Cream Paperbark						●
Papaveraceae							
**Papaver hybridum*	Rough Poppy	r	r		r		
Plantaginaceae							
**Plantago lanceolata*	Lamb's Tongues			o			
Polygonaceae							
**Polygonum aviculare*	Wireweed						●
Rumex brownii	Swamp Dock				r		
**Rumex crispus*	Curled Dock					r	●
Salicaceae							
†**Salix matsudana* 'Tortuosa'	Tortured Willow						●
Solanaceae							
**Lycium ferocissimum*	African Boxthorn						●
Sterculiaceae							
†*Brachychiton populneus*	Kurrajong						●
SUBCLASS LILIIDAE							
Cyperaceae							
Carex inversa				r			
Iridaceae							
**Romulea rosea*	Onion Grass			u			
Juncaceae							
Juncus flavidus				u		u	
Poaceae							
Aristida behriana	Bunch Wiregrass				r	u	
Aristida personata	Purple Wire-grass						●

Scientific Name	Common Name	Transect					
		T1	T2	T3	T4	T5	Opp.
Austrostipa nodosa		r					
**Avena barbata*	Bearded Oats	a	c		c	c	
**Avena fatua*	Wild Oats		o	u			
**Bromus catharticus*	Prairie Grass			r			●
**Bromus diandrus*	Great Brome	c					
**Bromus hordeaceus*	Soft Brome	a	c	a	c	o	
Chloris truncata	Windmill Grass		u	u			
Enteropogon acicularis		u			o	u	
**Eragrostis curvula*	African Lovegrass			u			●
**Hordeum leporinum*	Barley Grass	o	a	o	a	c	
**Lolium rigidum*	Wimmera Ryegrass	o	c	c	o	a	
**Pennisetum clandestinum*	Kikuyu Grass			c			
**Phalaris minor*	Lesser Canary Grass						●
Rytidosperma bipartitum	Wallaby Grass					u	
Rytidosperma caespitosum	Ringed Wallaby Grass	o	u		c		
Rytidosperma carphoides	Short Wallaby Grass					c	
**Vulpia bromoides*	Squirrel Tail Fescue	c					
**Vulpia myuros*	Rat's Tail Fescue			u	c	c	
No. Native Species	24						
No. Introduced Species	46						
Total Species	70						

Appendix B

AHIMS SEARCH RESULT

AHIMS Web Services (AWS)
Search Result

Your Ref Number :

Client Service ID : 111490

Kate Heynes

154 Peisley St

Orange New South Wales 2800

Attention: Kate Heynes

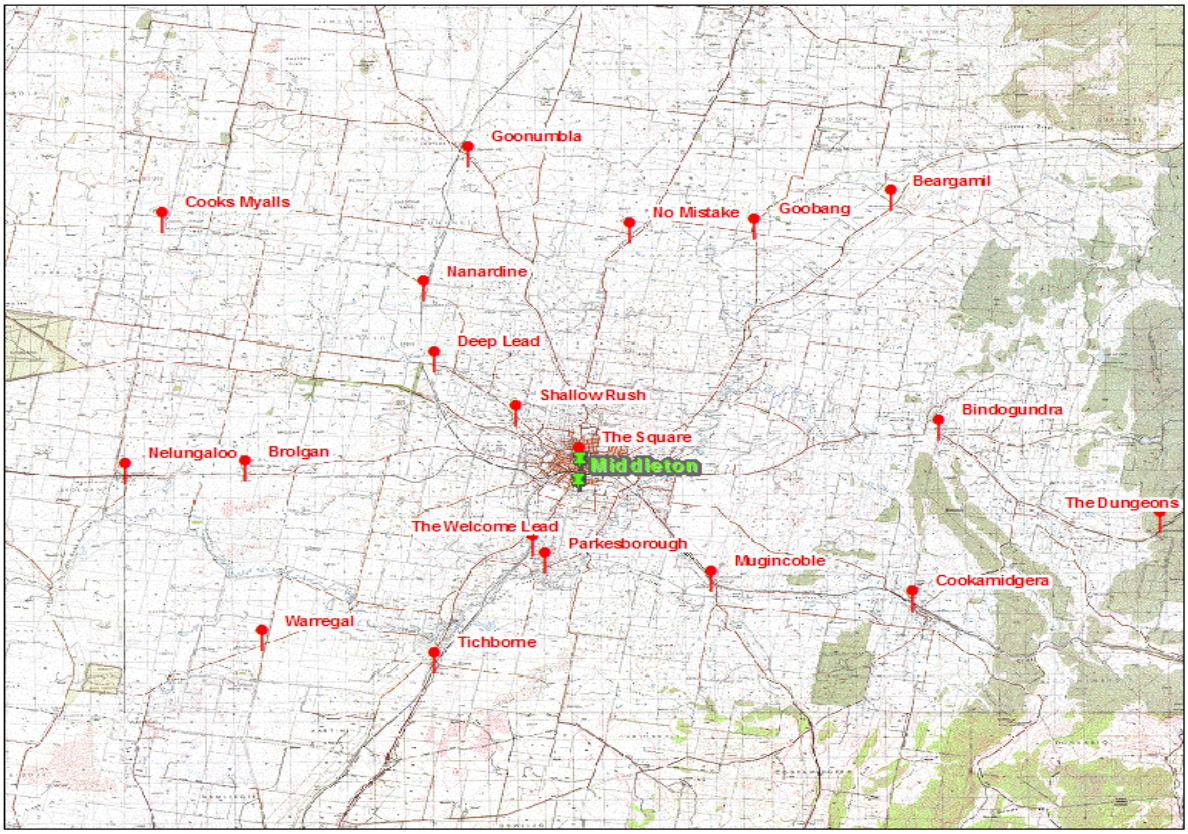
Email: kate.heynes@gmail.com

Date: 12 September 2013

Dear Sir or Madam:

AHIMS Web Service search for the following area at Datum :GDA, Zone : 55, Eastings : 590000 - 630000, Northings : 6315000 - 6355000 with a Buffer of 0 meters, conducted by Kate Heynes on 12 September 2013.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

69	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date .Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

PO BOX 1967 Hurstville NSW 2220
43 Bridge Street HURSTVILLE NSW 2220
Tel: (02)9585 6345 (02)9585 6471 Fax: (02)9585 6094

ABN 30 841 387 271
Email: ahims@environment.nsw.gov.au
Web: www.environment.nsw.gov.au

Appendix C

PROPOSED LEP MAP AMENDMENTS

Parkes Local Environmental Plan 2012

Lot Size Map - Sheet LSZ_005D

Minimum Lot Size (sq m)

G	450
M	600
U	1,500
W	4,000
Y	1 ha
Z	4 ha
AF	400 ha

Cadastre

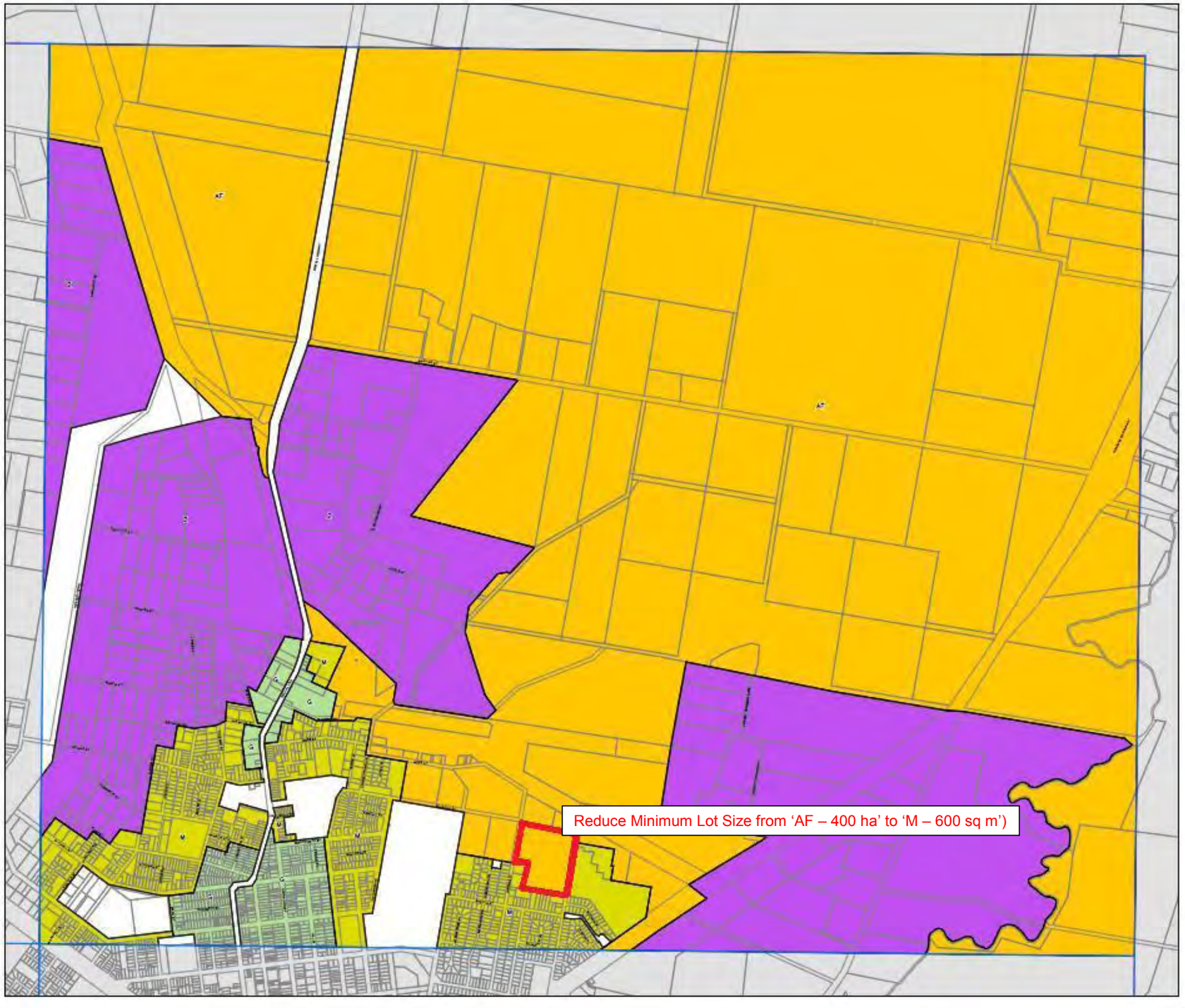
Cadastre 03/07/11 © Land & Property Information (LPI)

N

Projection: GDA 1994
MGA Zone 55

Scale 1:20,000 @ A3

Map identification number: 8200_COM_LSZ_005D_020_20120723



Parkes Local Environmental Plan 2012

Land Zoning Map - Sheet LZN_005D

Zoning

- RU1 Primary Production
- RU3 Forestry
- RU5 Village
- R1 General Residential
- R5 Large Lot Residential
- B2 Local Centre
- B4 Mixed Use
- IN1 General Industrial
- SP1 Special Activities
- SP2 Infrastructure
- RE1 Public Recreation
- RE2 Private Recreation
- E1 National Parks and Nature Reserves

Cadastre

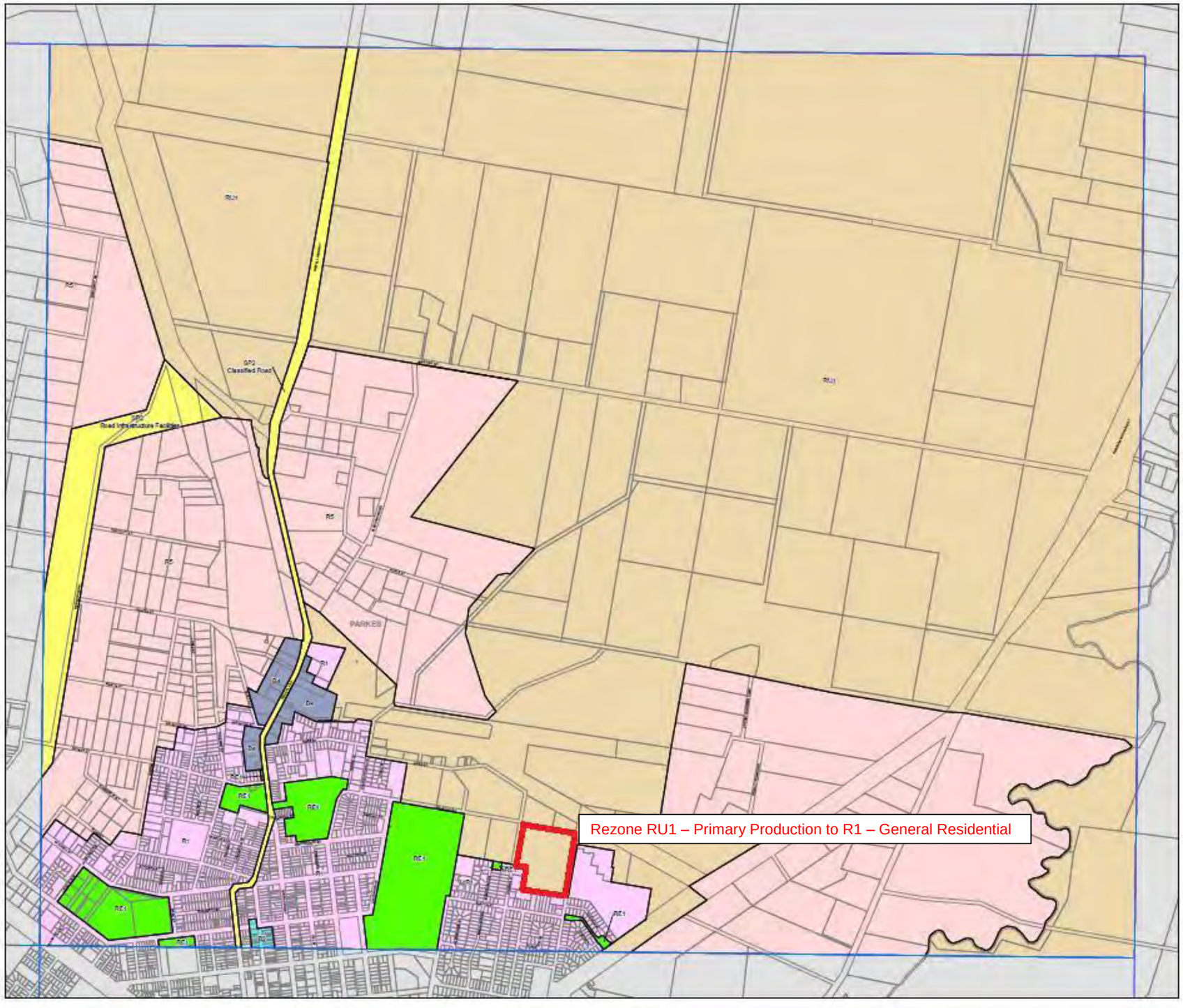
- Cadastre 03/07/11 © Land & Property Information (LPI)

N

Projection: GDA 1994 MGA Zone 55

Scale: 1:20,000 @ A3

Map identification number: 6200_COM_LZN_005D_020_20121026



Appendix D

STAGE 1 CONTAMINATION ASSESSMENT

Preliminary contamination assessment

Lot 12 DP1131006 Webb Street, Parkes NSW

Ref: R13468c
Date: 17 October 2013

Envirowest Consulting *Pty Ltd* ABN 18 103 955 246
• 9 Cameron Place, PO Box 8158, Orange NSW 2800 • Tel (02) 6361 4954 •
• Fax (02) 6360 3960 • Email admin@envirowest.net.au • Web www.envirowest.net.au •

Environmental
Geotechnical
Asbestos
Services

Prepared by:	Envirowest Consulting Pty Ltd 9 Cameron Place Orange NSW 2800
Client:	Geolyse Pty Ltd PO Box 1963 Orange NSW 2800
Assessor:	Leah Desborough BNatRes (Hons) Environmental Scientist
Authorising Officer:	Greg Madafiglio PhD Senior Environmental Scientist
Interested authorities:	Parkes Shire Council
Report number:	R13468c
Date:	17 October 2013

Executive summary

Background

A change in land-use is proposed for Lot 12 DP1131006 Webb Street, Parkes NSW. Land-use will change from rural to residential. Potential exists for contaminating activities to have been undertaken on the site which may impact on suitability for the proposed land-use. The site is bounded by Danilkenko Street to the east, Barton Street to the south and Lorking Street to the west.

An investigation is required to determine potential for contamination from past activities.

Objectives

A preliminary site investigation was conducted in accordance with the contaminated land management planning guidelines State Environmental Planning Policy No. 55 (SEPP 55) to determine the potential for soil contamination of Lot 12 DP1131006 Webb Street, Parkes NSW.

Investigation and conclusions

The site is located on the north eastern fringes of Parkes and has an area of approximately 10 hectares. Danilenko Street is located along the eastern boundary, Barton Street along the southern boundary and Lorking Street along the western boundary.

The site is farmland with a current land-use of stock grazing. Small amounts of cropping for stock fodder production have occurred in the past.

A small holding pen used for stock loading and unloading was located in the central section of the site. No contaminating activities are expected to be associated with the holding pen.

The contamination status of the site was assessed from a site inspection and desktop study. No soil samples were collected for laboratory analysis.

No contaminating activities were identified on the site. No fill, staining or evidence of contaminating activities were observed on the site. The site is expected to be suitable for residential land-use. A soil sampling program is required to confirm findings.

Recommendations

Additional investigations including a soil sampling program is recommended to confirm the contamination status of the site.

Location	Potential contaminants sources	Area	No of sampling locations	Pattern	Depth	Contaminants of concern
General site	Agriculture, pesticides	10ha	28	Systematic within each paddock	Surface (0-0.1m)	Arsenic, cadmium, chromium, copper, lead, nickel, zinc, organochlorine pesticides (OCP)

If other areas of contamination are identified then additional sampling and analysis may be required. The additional investigations should be undertaken in accordance with the contaminated land management planning guidelines State Environmental Planning Policy No. 55 (SEPP 55) by an appropriately qualified environmental scientist.

Contents

1. Introduction

A change in land-use is proposed for Lot 12 DP1131006 Webb Street, Parkes NSW. Land-use will change from rural to residential. Potential exists for contaminating activities to have been undertaken on the site which may impact on suitability for the proposed land-use. The site is bounded by Danilkenko Street to the east, Barton Street to the south and Lorking Street to the west.

A site inspection, desktop study and a review of the available history were undertaken of the site to determine sources of potential contamination. No soil samples were collected.

2. Scope of work

Envirowest Consulting Pty Ltd was commissioned by Geolyse Pty Ltd to undertake a preliminary contamination investigation of Lot 12 DP1131006 Webb Street, Parkes NSW. The objective was to identify past potentially contaminating activities, identify potential contamination types, provide a preliminary assessment of site contamination and assess the need for further investigation or suitability for the residential land-use. The scope did not include soil sampling.

3. Site identification

Address	Lot 12 DP1131006 Webb Street Parkes NSW
Owner(s)	c/- Geolyse Pty Ltd
Deposited plans	Lot 12 DP1131006
Australian Map Grid	55H E611070m N6333900m
Locality map	Figure 1
Aerial photograph	Figure 2
Photograph(s)	Figure 3
Area	Approximately 10 hectares

4. Site history

4.1 Zoning

The southern section of the site is zoned R1 General Residential and the northern section RU1 Primary Production under the Parkes Local Environmental Plan 2012.

4.2 Land-use

The current land-use of the site is stock grazing. This appears to have also been the historical land-use. The historical land-use included cropping.

Land to the west and south had been developed for residential land-use. Land to the east was undergoing residential development.

No horticultural crops have been produced over the site.

4.3 Summary of council records

No information regarding contamination issues identified in Parkes Shire Council records. The site is not identified as contaminated land and no documents relating to contamination were found.

4.4 Sources of information

Topographic map of area (Parkes 1:50,000 CMA of NSW) 1980
NSW OEH records of public notices under the CLM Act 1997
Aerial photograph 1955, 1965, 1973, 1983, 1993, 2004, 2009, 2010, 2012
Historical parish maps 1940 and 1941
LTO charting map 1958
Regional charting map 1972
Lands Department title records
Site inspection on 27 September 2013 by Andrew Ruming

4.5 Chronological list of site uses

4.5.1 Historical parish maps

A review of the 1940 and 1941 historical parish maps indicated the site comprised 4 lots noted as Lot 354, 355, 356 and 357. The lots were owned by WA Lorking (lots 354 and 357), TS McDade and E Best (Lot 355) and SE Close (Lot 356). Barton Street is located to the south and Lorking Street to the West.

4.5.2 LTO charting map

A review of the 1958 LTO charting map indicated residential lots were located off-site to the south.

4.5.3 Regional charting map

A review of the 1972 regional charting map indicated the site comprised 4 lots noted as Lot 354, 355, 356 and 357. The lots were owned by WA Lorking (Lots 354 and 357), TS McDade and E Best (Lot 355) and SE Close (Lot 356). Danilenko Street is located to the east, Barton Street is located to the south and Lorking Street to the West.

4.5.4 Aerial photographs

4.5.4.1 1955 aerial photograph

- Land-use was dominated by agriculture with grazing on cleared land.
- Dwellings are located off-site along the southern and part western boundaries.
- Unsealed roads are located to the south (Barton Street) and west (Lorking Street).

4.5.4.2 1965 aerial photograph

No new features were identified in the 1965 aerial photograph.

4.5.4.3 1973 aerial photograph

New features identified in the 1973 aerial photograph were:

- The southern section of the investigation area appeared to have been cultivated.
- Land to the north contains buildings and has been cultivated,

4.5.4.4 1983 aerial photograph

New features identified in the 1983 aerial photograph were:

- The land-use of the investigation area appeared to have been grazing.

- Danilenko Street had been formed along the eastern boundary. The street appeared unsealed.

4.5.4.5 1993 aerial photograph

No new features identified in the 1993 aerial photograph.

4.5.4.6 2004 aerial photograph

New features identified in the 2004 aerial photograph were:

- Additional lots off-site to the south were used for residential land-use.

4.5.4.7 2009 aerial photograph

No new features identified in the 2009 aerial photograph.

4.5.4.8 2010 aerial photograph

New features identified in the 2010 aerial photograph were:

- The majority of the site had been cultivated.
- Several trees were located along fence lines.

4.5.4.9 2012 aerial photograph

New features identified in the 2012 aerial photograph were:

- A drainage line was identifiable running from the western boundary in a south east direction.
- Lots to the east were undergoing residential development.

4.5.5 1980 topographic map (1973 aerial photograph, 1977 field revision)

No features are identified in the investigation area on the 1980 topographic map. A built up area is located to the south. A road (sealed surface two or more lanes) is located to the west (Lorking Street). A road is located to the east.

4.5.4 Land and Property Information

4.5.4.1 Previous title reference – Volume 907, Folio 94

Volume 907, Folio 94 was previously Crown Land sold at auction on 27 April 1888 to Walter Alfred Lorking of Parkes, Postmaster.

The title was transferred to Patrick Michael McGirr of Parkes, Commission Agent on 18 August 1913.

The title was transferred to Emily Thompson wife of Argyle Bruce Thompson of Parkes, Hotel Manager on 29 June 1917.

The title was transferred to Patrick Michael McGirr of Forbes, Grazier on 9 July 1924.

The title was transferred to Maud Mabel Witts of Parkes, Spinster on 2 June 1925.

The title was transferred to Victoria Isabel Miller of Lichborne, Spinster on 28 January 1927.

The title was transferred to George Frederick Mill of Parkes, Farmer and Grazier on 10 March 1947.

4.5.4.2 Previous title reference – Volume 985, Folio 38

Volume 985, Folio 38 was previously Crown Land sold at auction on 23 October 1889 to Thomas Scott Mcdade and Edmund Best of Parkes, Drapers.

The title was transferred to Walter Alfred Lorking of Forbes, Postmaster on 18 December 1909.

The title was transferred to Patrick Michael McGirr of Parkes, Commission Agent on 18 August 1913.

The title was transferred to Emily Thompson wife of Argyle Bruce Thompson of Parkes, Hotel Manager on 29 June 1917.

The title was transferred to Patrick Michael McGirr of Forbes, Grazier on 9 July 1924.

The title was transferred to Maud Mabel Witts of Parkes, Spinster on 2 June 1925.

The title was transferred to Victoria Isabel Miller of Lichborne, Spinster on 28 January 1927.

The title was transferred to George Frederick Mill of Parkes, Farmer and Grazier on 10 March 1947.

The title was transferred to Nola Clarice Palmer wife of Gerard Palmer of Parkes, Farmer and Grazier on 11 January 1954.

4.5.4.3 Previous title reference – Volume 983, Folio 179

Volume 983, Folio 179 was previously Crown Land sold at auction on 23 October 1889 to Sydney Ephraim Close of Parkes, Auctioneer.

The title was transferred to Alfred Edward McIntosh of Parkes, Solicitor on 4 July 1907.

The title was transferred to Patrick Michael McGirr of Parkes, Commission Agent on 18 August 1913.

The title was transferred to Victoria Isabel Miller of Parkes, Spinster on 20 June 1924.

The title was transferred to George Frederick Mill of Parkes, Farmer and Grazier on 10 March 1947.

The title was transferred to Nola Clarice Palmer wife of Gerard Palmer of Parkes, Farmer and Grazier on 11 January 1954.

4.5.4.2 Previous title reference – Volume 985, Folio 33

Volume 985, Folio 38 was previously Crown Land sold at auction on 23 October 1889 to Walter Alfred Lorking of Parkes, Postmaster.

The title was transferred to Patrick Michael McGirr of Parkes, Commission Agent on 18 August 1913.

The title was transferred to Emily Thompson wife of Argyle Bruce Thompson of Parkes, Hotel Manager on 29 June 1917.

The title was transferred to Patrick Michael McGirr of Forbes, Grazier on 9 July 1924.

The title was transferred to Maud Mabel Witts of Parkes, Spinster on 2 June 1925.

The title was transferred to Victoria Isabel Miller of Lichborne, Spinster on 28 January 1927.

The title was transferred to George Frederick Mill of Parkes, Farmer and Grazier on 10 March 1947.

The title was transferred to William Finley Hourigan of Parkes on 11 March 1949.

4.5.5 Other information
Application of persistent pesticides or biosolids is unlikely to have occurred on the site.

4.6 Buildings and infrastructure
The boundaries of the site were fenced. Several internal fences traverse the site separating the investigation area into paddocks.

A small (4m x 4m) holding pen with loading ramp is located in the central section of the site. A water trough is located adjacent the holding pen.

No other infrastructure was identified on the site.

4.7 Contaminant sources
Pesticides may have been applied to the investigation area as part of farm management.

4.8 Contaminants of concern
- Heavy metals (arsenic, cadmium, chromium, copper, lead, nickel, zinc)
- Organochlorine pesticides (OCP)

4.9 Relevant complaint history
Nil

4.10 Contaminated site register
The investigation area is not listed on the NSW EPA Contaminated Land record or the list of NSW contaminated sites notified to the EPA (accessed 4 October 2013). Neighbouring properties are also not listed.

4.11 Previous investigations
No previous contamination investigations are known to have been undertaken on the site.

4.12 Neighbouring land-use
North – Rural-residential
South – Bus depot and residential
East – Danilenko Street and rural beyond (undergoing residential development)
West – Lorking Street, residential

The neighbouring land-uses are not expected to impact on the contamination status of the site.

4.13 Integrity assessment
The site history was obtained from a history review. The information to the best of the assessor's knowledge is accurate.

5. Site condition and environment
5.1 Surface cover
Surface cover consisted of pasture species including cocksfoot, oats, phalaris, wallaby grass, clover and barley grass. Weed species included mallow, thistle and Paterson's curse. A tree stand comprising willow and eucalypts was located in the central section of the site. A tree stand is also located in the southern section.

5.2 Topography

The site is located on a mid-slope. Slope is very gently to moderately inclined ranging from 0 to 10%. Aspect is predominantly south east.

5.3 Soils and geology

The site is within the Parkes Soil Landscape (King 1998). Soil types of the Parkes Soil Landscape comprise shallow to moderately deep, moderately well-drained red earths and red podzolic soils/non-calcic brown soils on sideslopes. Lower slopes have moderately deep imperfectly drained red brown earths.

The Parkes Soil Landscape is underlain by the Cotton Formation, Burrandong Creek Member and Parkes Volcanics comprising sedimentary rocks including siltstones, chert, conglomerates, sandstones, limestones and volcanic rocks including volcanic sandstones and intermediate volcanics.

5.4 Surface water and groundwater

A drainage line traverses the site from north west to south east. Surface water on the site flows into the drainage line which empties into the stormwater system on Danilenko Street.

The Australian Natural Resources Atlas identifies the site within the Unincorporated Area – Lachlan Fold Belt Province Groundwater Management Unit. The management unit has an area of 238,277km^2 with approximately 47,000 ML consumed per year. Salinity levels are variable ranging from less than 1,000µg/L to greater than 20,000µg/L. Groundwater is located in fractured rock aquifers with variable yield potential. These factors have limited the use of groundwater to stock purposes with some domestic use.

No groundwater bores were identified in the NSW Natural Resource Atlas as occurring on the site or within 1km of the site. Bores in the locality are licensed for domestic and stock with water bearing zones located at depths greater than 20m in confined rock. Shallow monitoring bores are also located in the area.

5.5 Evidence of contamination checklist

Site layout showing industrial processes	None identified
Sewer and service plans	Sewer located along southern boundary
Manufacturing processes	None identified
Underground tanks	None identified
Product spills and loss history	None identified
Discharges to land, water and air	None expected
Disposal locations, presence of drums, wastes and fill materials	Nil
Soil staining	None identified
Visible signs of plant stress, bare areas	Bare areas identified around stock gates due to livestock compaction.

Odours	None identified
Ruins	None identified
Other	-

6. Sampling analysis plan and sampling methodology

No soil samples collected

7. Results and discussion

The site is rural land and has a land-use history of grazing on cleared areas. Cropping for fodder production is expected to have been undertaken in the past. There was no evidence of fill, sheep dips, orchards, mines or other contaminating activities from the historical review. No significant building or commercial activity was observed from the aerial photographs.

Historical aerial photographs indicate an agricultural land-use of grazing with some cropping. The Lands Department title records indicate the owners of the site were generally farmers and graziers.

A small holding pen is located in the central section. The pen is expected to have used for ease of loading and unloading stock. No potential contamination is associated with the holding pen.

No contaminating activities were identified from the site inspection or desktop study.

8. Conclusions and recommendations

8.1 Summary

The site is located on the north eastern fringes of Parkes and has an area of approximately 10 hectares. Danilenko Street is located along the eastern boundary, Barton Street along the southern boundary and Lorking Street along the western boundary.

The site is farmland with a current land-use of stock grazing. Small amounts of cropping for stock fodder production have occurred in the past.

A small holding pen used for stock loading and unloading was located in the central section of the site. No contaminating activities are expected to be associated with the holding pen.

The contamination status of the site was assessed from a site inspection and desktop study. No soil samples were collected for laboratory analysis.

No contaminating activities were identified on the site. No fill, staining or evidence of contaminating activities were observed on the site. The site is expected to be suitable for residential land-use. A soil sampling program is required to confirm findings.

8.2 Assumptions used in reaching the conclusions

An accurate history has been obtained and typical past farming practices were adopted.

8.3 Suitability of proposed use

Residential land-use is expected to be suitable on the site. Additional investigations including soil sampling are required to confirm suitability.

8.4 Recommendation for further work

Additional investigations including a soil sampling program is recommended to confirm the contamination status of the site.

Location	Potential contaminants sources	Area	No of sampling locations	Pattern	Depth	Contaminants of concern
General site	Agriculture, pesticides	10ha	28	Systematic within each paddock	Surface (0-0.1m)	Arsenic, cadmium, chromium, copper, lead, nickel, zinc, organochlorine pesticides (OCP)

If other areas of contamination are identified then additional sampling and analysis may be required. The additional investigations should be undertaken in accordance with the contaminated land management planning guidelines State Environmental Planning Policy No. 55 (SEPP 55) by an appropriately qualified environmental scientist.

9. Report limitations and intellectual property

This report has been prepared for the use of the client to achieve the objectives given the clients requirements. The level of confidence of the conclusion reached is governed by the scope of the investigation and the availability and quality of existing data. Where limitations or uncertainties are known, they are identified in the report. No liability can be accepted for failure to identify conditions or issues which arise in the future and which could not reasonably have been predicted using the scope of the investigation and the information obtained.

The investigation identifies the actual subsurface conditions only at those points where samples are taken, when they are taken. Data derived through sampling and subsequent laboratory testing is interpreted by geologists, engineers or scientists who then render an opinion about overall subsurface conditions, the nature and extent of the contamination, its likely impact on the proposed development and appropriate remediation measures. Actual conditions may differ from those inferred to exist, because no professional, no matter how well qualified, and no sub-surface exploration program, no matter how comprehensive, can reveal what is hidden by earth, rock or time. The actual interface between materials may be far more gradual or abrupt than a report indicates. Actual conditions in areas not sampled may differ from predictions. It is thus important to understand the limitations of the investigation and recognise that we are not responsible for these limitations.

10. References

CMA (1980) *Parkes Topographic Map 1:50,000* (Central Mapping Authority of New South Wales, Bathurst)

DEC (2006) *Contaminated Sites: Guidelines for the NSW Site Auditors Scheme* (NSW Environment Protection Authority, Chatswood)

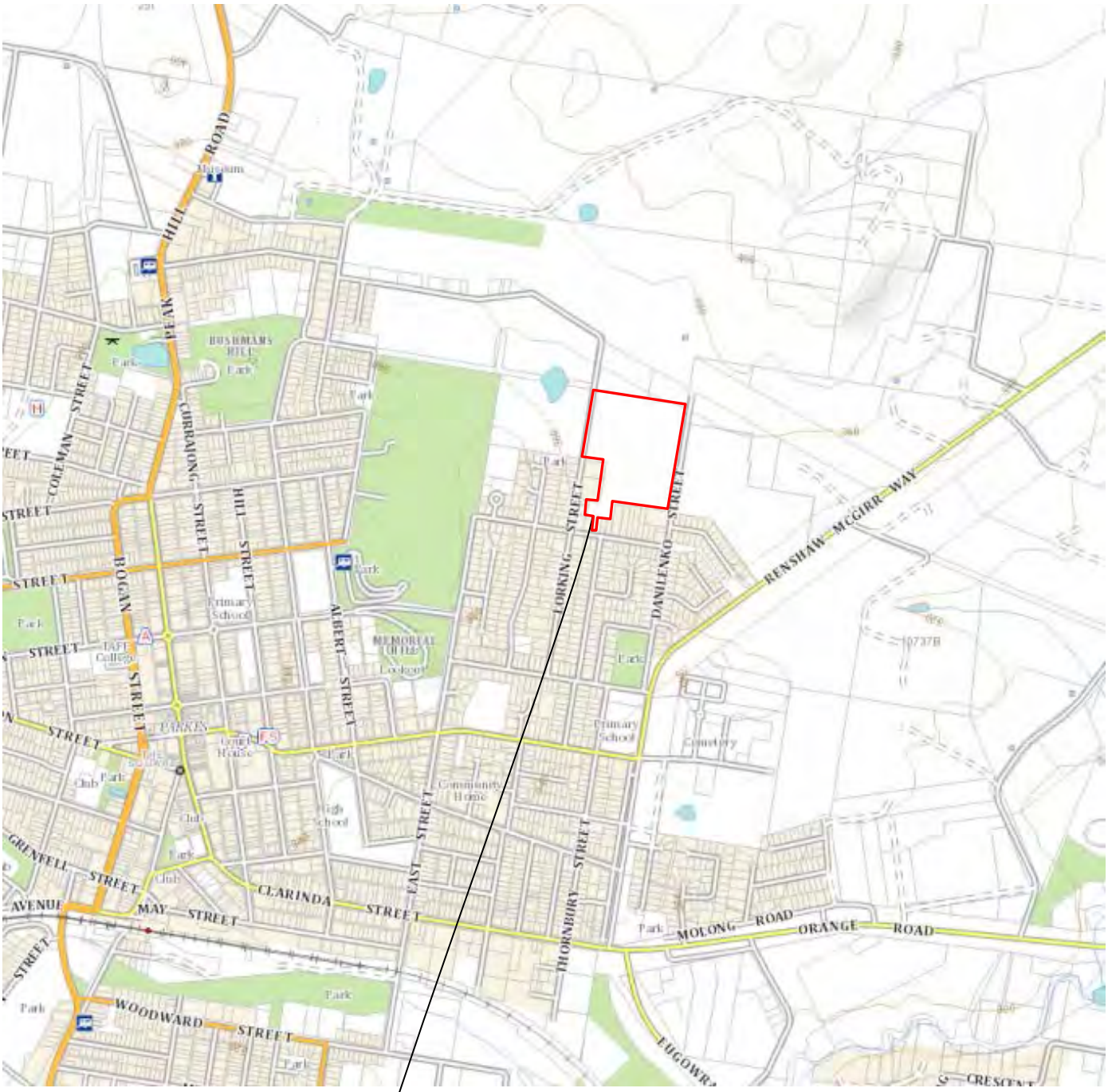
EPA (1995) *Contaminated sites: Sampling Design Guidelines* (NSW Environment Protection Authority, Chatswood)

King DP (1998) *Soil Landscapes of Forbes 1:250,000 Sheet* (Department of Land and Water Conservation NSW)

NEPC (2013) *National Environment Protection (Assessment of Site Contamination) Measure 2013* (National Environment Protection Council Service Corporation, Adelaide)

Figures

North



Investigation area

Figure 1: Locality map		
Lot 12 DP1131006 Webb Street, Parkes NSW		
	Envirowest Consulting Pty Ltd	
Job – R13468c	Drawn by: LD	Date: 14/10/2013

North

Legend

Investigation area

Figure 2. Aerial photograph of the site (2009)		
Lot 12 DP1131006 Webb Street, Parkes NSW		
	Envirowest Consulting Pty Ltd	
Job – R13468c	Drawn by: LD	Date: 14/10/2013

Figure 3. Photographs of the site

Looking south west over investigation area

Looking north east over investigation area

Looking south over the investigation area

Holding pen