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HumeLink

Historic Heritage Impact Assessment
EIS Technical Report 3

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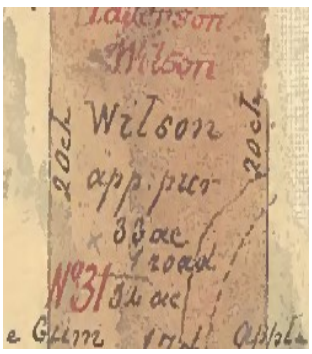
Historic Heritage Impact Assessment

June 2023



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EXECUTIVE SUMMARY

Transgrid proposes to increase the energy network capacity in southern New South Wales (NSW) through the development of around 360 kilometres of new 500 kilovolt (kV) high-voltage transmission lines and associated infrastructure between Wagga Wagga, Bannaby and Maragle. This project is collectively referred to as HumeLink. The project would be located across five Local Government Areas (LGAs) including Wagga Wagga City, Snowy Valleys, Cootamundra-Gundagai Regional, Upper Lachlan Shire and Yass Valley. The location of the project is shown on Figure 1-1.

HumeLink would involve construction of a new substation east of Wagga Wagga as well as connection to existing substations at Wagga Wagga and Bannaby and a future substation at Maragle in the Snowy Mountains (referred to as the future Maragle 500 kV substation). The future Maragle 500 kV substation is subject to a separate major project assessment and approval (reference SSI-9717, EPBC 2018/836).

Construction of the project is targeted to commence in 2024, subject to the required planning and regulatory approvals. Once construction has commenced, the project is estimated to take approximately 2.5 years to build and would become operational by the end of 2026.

The purpose of this report is to assess the potential historic heritage impacts from construction and operation of the project to support the environmental assessment in accordance with Division 5.2 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The project is being assessed as a Critical State Significant Infrastructure (CSSI) in accordance with Division 5.2 of the EP&A Act (Application Number: SSI-36656827). Planning Secretary's Environmental Assessment Requirements (SEARs) for the project issued on 14/03/2022 identified historic heritage as a key issue that must be addressed by the Environmental Impact Statement (EIS).

Previously recorded sites

The heritage study area for this report was defined by applying a one kilometre wide buffer to either side of the project footprint. There are five heritage listed items that have curtilages that are located partially within the project footprint.

One place within the project footprint, *Kiley's Run* (Place ID 16005), was entered 'indicative' on the Register of the National Estate (RNE) and is not listed on any other register. A second place, Derringullen Creek Area (Place ID 1078), is registered on the RNE and is also listed on the Yass Valley Local Environmental Plan (LEP). The listed curtilages for both areas overlap but are not the same. The RNE listed curtilage is larger than the LEP listed curtilage, the RNE listed curtilage is within the project footprint, whereas the LEP listed curtilage is in the heritage study area only.

The RNE was closed in 2007. The RNE is now an archive of information rather than a statutory list. All references to the RNE were removed from the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) on 19 February 2012. The remaining three sites are listed on Local Environmental Plans (LEPs).

Previously recorded historic items within the project footprint

Site name	Item ID	Category	Significance	LGA	List
Ivydale woolshed	I73	Historic	Local	Wagga Wagga	LEP
Stone Ruin	I71	Historic	Local	Wagga Wagga	LEP
Elizabeth Nugent grave on *College Creek*	I202	Historic	Local	Wagga Wagga	LEP
Kiley's Run	16005	Historic/ Intangible	Indicative on the RNE	Cootamundra-Gundagai	RNE
Derringullen Creek Area	1078	Natural	Registered	Yass	RNE

There are also 20 historic items listed for their local heritage significance, one item listed for its state heritage significance and two items listed for their national heritage significance that occur within the heritage study area. These items are outside of the project footprint.

Survey results

In addition to previously recorded sites," four potential historic items have been identified during the field survey in the project footprint.

Historic items recorded during field assessment

Site name	LGA
Historic Site 1: Sheep dip and well	Yass Valley
Historic Site 2: Chimney	Yass Valley
Historic Site 3: Modified tree 1	Upper Lachlan
Historic Site 4: Modified tree 2	Upper Lachlan

Heritage Significance of items recorded during survey

Historic Site 1: Sheep dip and well

This potential historic item comprises a hand-dug well, sheep dip and associated footings located within the project footprint. This location, in particular the well, has some potential to contain archaeological deposits. However, the background research undertaken has not been able to determine the potential age of this item nor any association with the history of the property. It is unlikely that this site will meet any of the criteria for heritage significance.

Historic Site 2: Chimney

This potential historic item comprises a brick and sandy mortar fireplace located within the project footprint. Background research undertaken has not been able to determine the potential age of this item nor any association with known people or places. It is unlikely that this site will meet any of the criteria for heritage significance.

Historic Site 3: Modified tree 1

This site is a modified tree. The tree is marked with survey blazes and are likely associated with the survey of the Crookwell Railway Line and adjacent property boundaries. Survey marker trees are increasingly rare and uncommon within the landscape. However this tree is in poor condition and is unlikely to show details regarding the provenance, age, and function of this specific item. It is unlikely that this site will meet any of the criteria for heritage significance.

Historic Site 4: Modified tree 2

This site is a modified tree. The tree is marked with survey blazes and are likely associated with the survey of the Crookwell Railway Line and adjacent property boundaries. Survey marker trees are increasingly rare and uncommon within the landscape. However, this tree is in poor condition and is unlikely to provide detail regarding the provenance, age, and function of this specific item. It is unlikely that this site will meet any of the criteria for heritage significance.

An additional historic item was identified by a landowner as being the potential remains of a mud brick hut and evidence of mining located near Derringullen Creek, and that this area was known as the 'Jews ground'. Ground surface visibility was poor and access was impeded due to the vegetation cover; as a result, the location of the hut and evidence of mining activity could not be positively identified during field surveys. As the location of the item described by the landowner could not be found, an assessment cannot be made of the archaeological potential or significance of this item. Further survey work is required to confirm presence or absence of this item. This should be completed following detailed design and prior to any proposed impacts in the area.

Assessment of impacts

The project aims to avoid historic items as a first principle. Impacts to historic items and sites within the project footprint are summarised in the following table.

Summary of indicative impacts to historic items within the project footprint

Site name	Significance	Impact to item	Would project impact the significance of an item?	Can significance be protected through mitigation?
Historic Site 1: Sheep dip and well	Nil	Item located partially within the project footprint. Part of this item may be directly impacted by the project.	No	N/A
Historic Site 2: Chimney	Nil	This item is located wholly within the project footprint. The whole of this item may be directly impacted by the project.	No	N/A
Historic Site 3: Modified tree 1	Nil	This item is located wholly within the project footprint. The whole of this item may be directly impacted by the project.	No	N/A
Historic Site 4: Modified tree 2	Nil	This item is located wholly within the project footprint. The whole of this item may be directly impacted by the project.	No	N/A
Ivydale Woolshed	Local	The heritage listed curtilage of this item is partially within the project footprint, however Ivydale Homestead itself is approximately 900 m from the project footprint.	No	N/A
Stone ruin	Local	The heritage listed curtilage of this item is partially within the project footprint, however the Stone Ruin itself is approximately 500 m east of the project footprint.	No	N/A
Elizabeth Nugent grave on College Creek	Local	The project footprint impacts the listed curtilage however the exact location of the historic item is 430 m north-east of the project footprint.	No	N/A
Kiley's Run	Indicative on the RNE	The heritage listed curtilage of this item is partially within the project footprint The site consists of shearers quarters, woolshed and homestead. These items are located at least 200 m west of the project footprint.	No	N/A
Derringullen Creek Area	Registered on the RNE	The heritage listed curtilage of this item would be located partially within the project footprint, however the currently listed portion of the historic item itself is outside of the project footprint. This item is within the transmission line portion of the project footprint.	No	N/A

Nineteen historic items listed for their local heritage, one item listed for its state heritage significance and two items listed for their national heritage significance occur within the heritage study area and outside of the project footprint. Of these twenty-two items there would be no impact to the heritage significance of 20 of these items. There may be indirect visual impact from the project on two items.

The two places on the NHL partly within the heritage study area, but not within the project footprint are the Australian Alps National Parks and Reserves and the Snowy Mountains Scheme. The Australian Alps National Parks and Reserves has been listed for both natural and cultural values and the Snowy Mountains Scheme for its cultural and engineering values. None of the heritage values associated with the Snowy Mountains Scheme will be impacted by this project.

The impact to the heritage significance of the Australian Alps National Parks and Reserves is assessed to be negligible. The visual impact on this item was assessed in a separate report: Technical Report 8 – Landscape Character and Visual Impact Assessment which concluded that there would be low visual impact to the aesthetic values of this item. No other identified heritage values of this item will be impacted.

The impact to the heritage significance of the locally listed Tarlo River National Park is assessed to be negligible. The visual impact on this item was assessed in a separate report: Technical Report 8 – Landscape Character and Visual Impact Assessment which concluded that there would be low visual impact on this item.

This study has found that there are five historic items within or partially within the project footprint. The project would not impact the significance of any historic items. Any project impacts upon historic heritage can be appropriately managed through standard mitigation and management measures.

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GLOSSARY, ABBREVIATIONS AND DEFINITIONS

ACHAR	Aboriginal Cultural Heritage Assessment Report
ACT	Australian Capital Territory
APZ	Asset protection zone
CHL	Commonwealth Heritage List
HMP	Heritage Management Plan
CMP	Conservation Management Plan
CSSI	Critical State Significant Infrastructure
DCCEEW	Department of Climate Change, Energy, the Environment and Water
Easement	A legal right attached to a parcel of land that enables the non-exclusive use of the land by a third party other than the owner. For transmission lines, an easement defines the corridor area where the lines are located and that allows access, construction and maintenance work to take place. The easements for the 500 kV transmission lines would typically be 70 m wide. However, a few locations would require wider easements up to 110 m wide at transposition locations and up to 130 m wide where the new transmission line would parallel the relocated section of Line 51. The easement grants a right of access and for construction, maintenance and operation of the transmission line and other operational assets.
EIS	Environmental Impact Statement
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)
EPL	Environment Protection Licence
FCNSW	Forestry Corporation of NSW
GIS	geographic information system
ha	hectare
Heritage Act	*Heritage Act 1977*
Heritage study area	The heritage study area for this report was defined by applying a one kilometre wide buffer to either side of the project footprint (refer to Figure 1-3).
Historic item	An item that is of historic heritage significance. Historic heritage is non-Aboriginal heritage.
Heritage listed item	A historic site or item listed on a heritage register or list
HumeLink	new high-voltage transmission lines and associated infrastructure between substations at Wagga Wagga, Bannaby and Maragle
km	kilometre/s
kV	Kilovolt
LEP	Local Environmental Plan
LGA	Local Government Area
m	metre

ML	Megalitres
NHL	National Heritage List
MNES	matters of national environmental significance
NEM	National Electricity Market
NOHC	Navin Officer Heritage Consultants
NSW	New South Wales
OHEW	Overhead earth wire
OPGW	Optical Fibre Ground Wire
Project	The CSSI project 'HumeLink', which is the subject of this Environmental Impact Statement.
Project footprint	The area that has been assumed for the purpose of this EIS to be directly affected by the construction and operation of the project. It includes the indicative location of project infrastructure, the area that would be directly disturbed during construction and any easement required during operation.
Proponent	The entity seeking approval for the CSSI application, which for HumeLink is New South Wales (NSW) Electricity Networks Operations Pty Ltd as a trustee for NSW Electricity Networks Operations Trust (referred to as Transgrid).
QLD	Queensland
REZ	Renewable Energy Zone
RNE	Register of the National Estate
SEARs	Planning Secretary's Environmental Assessment Requirements
SHR	State Heritage Register
Survey area	The survey area generally included the project footprint including locations where construction facilities, the proposed Gugaa 500 kV substation, worker accommodation facility and telecommunications hut are proposed.
SMA	Snowy Mountains Authority
SSD	State Significant Development
SA	South Australia
SSI	State Significant Infrastructure
TAS	Tasmania
Transmission line route	The location of the transmission line structures along the middle of the transmission line easement.
UNESCO	United Nations Educational, Scientific and Cultural Organization
VIC	Victoria

1 INTRODUCTION

1.1 Overview

The Australian energy landscape is transitioning to a greater mix of low-emission renewable energy sources, such as wind and solar. To support this transition, meet our future energy demands and connect Australian communities and businesses to these lower cost energy sources, the national electricity grid needs to evolve.

Transgrid proposes to increase the energy network capacity in southern New South Wales (NSW) through the development of around 360 kilometres of new 500 kilovolt (kV) high-voltage transmission lines and associated infrastructure between Wagga Wagga, Bannaby and Maragle. This project is collectively referred to as HumeLink. The project would be located across five Local Government Areas (LGAs) including Wagga Wagga City, Snowy Valleys, Cootamundra-Gundagai Regional, Upper Lachlan Shire and Yass Valley. The location of the project is shown on Figure 1-1.

HumeLink would involve construction of a new substation east of Wagga Wagga as well as connection to existing substations at Wagga Wagga and Bannaby and a future substation at Maragle in the Snowy Mountains (referred to as the future Maragle 500 kV substation). The future Maragle 500 kV substation is subject to a separate major project assessment and approval (reference SSI-9717, EPBC 2018/836).

The project would deliver a cheaper, more reliable and more sustainable grid by increasing the amount of renewable energy that can be delivered across the national electricity grid, helping to transition Australia to a low carbon future. It would achieve this by supporting the transfer of energy from existing renewable generation as well as facilitate development of new renewable generation in the Wagga Wagga and Tumut Renewable Energy Zones (REZs). The project would provide the required support for the network in southern NSW, allowing for the increase in transfer capacity between new renewable generation sources and the state's demand centres of Sydney, Newcastle and Wollongong. The project would also improve the efficiency and reliability of the current energy transfer in this part of the network.

Furthermore, HumeLink would form a key part of the transmission line infrastructure that supports the transfer of energy within the National Electricity Market (NEM) by connecting with other major interconnectors. The NEM incorporates around 40,000 kilometres of transmission lines across Queensland (QLD), NSW, Australian Capital Territory (ACT), Victoria (VIC), South Australia (SA) and Tasmania (TAS).

Construction of the project is targeted to commence in 2024, subject to the required planning and regulatory approvals. Once construction has commenced, the project is estimated to take approximately 2.5 years to build and would become operational by the end of 2026.

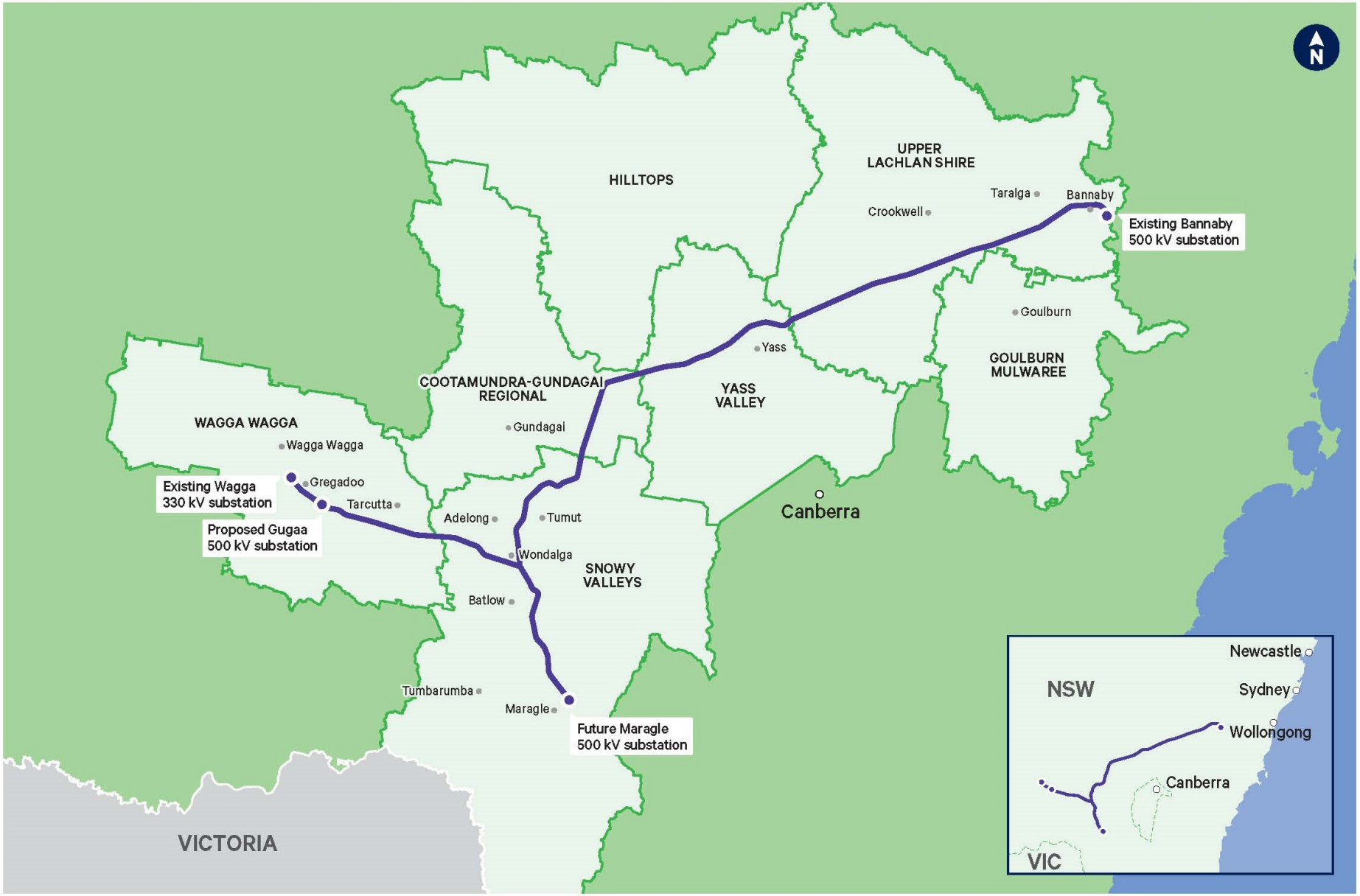
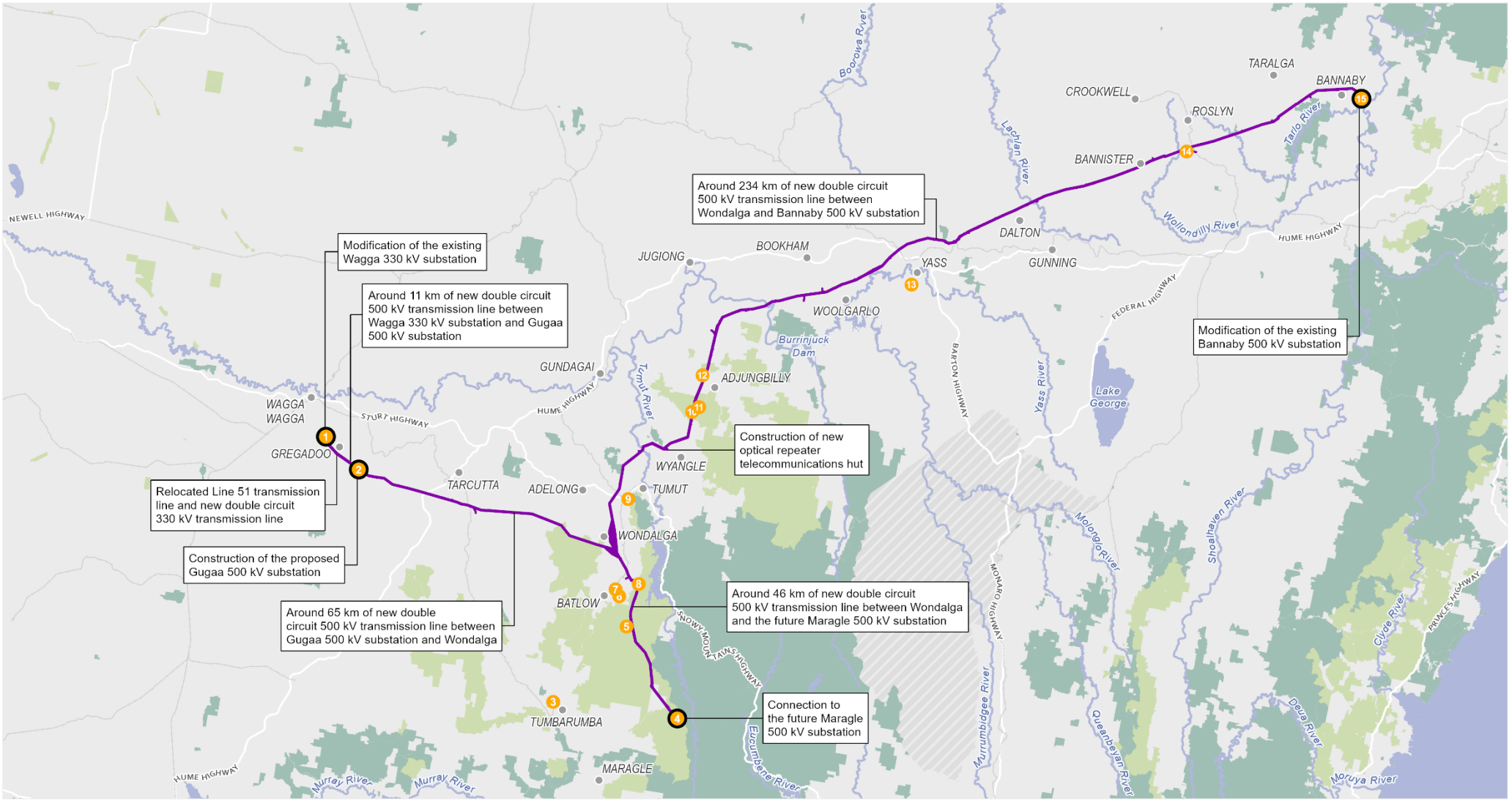


Figure 1-1 Location of the project

1.2 Key components

The project includes the following key components (refer to Figure 1-2):

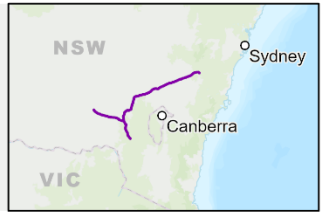
- construction and operation of around 360 kilometres of new double circuit 500 kV transmission lines and associated infrastructure between Wagga Wagga, Bannaby and Maragle
- construction of a new 500/330 kV substation at Gregadoo (Gugaa 500 kV substation) approximately 11 kilometres south-east of the existing Wagga 330/132 kV substation (Wagga 330 kV substation)
- demolition and rebuild of a section of Line 51 (around two kilometres in length) as a double circuit 330 kV transmission line connecting into the Wagga 330 kV substation
- modification of the existing Wagga 330 kV substation and Bannaby 500/330 kV substation (Bannaby 500 kV substation) to accommodate the new transmission line connections
- connection of transmission lines to the future Maragle 500/330 kV substation (Maragle 500 kV substation, approved under the Snowy 2.0 Transmission Connection Project (SSI-9717))
- provision of one optical repeater telecommunications hut and associated connections to existing local electrical infrastructure
- establishment of new and/or upgraded temporary and permanent access tracks
- ancillary works required for construction of the project such as construction compound, worker accommodation facilities, utility connections and/or relocations, brake and winch sites, and helipad/helicopter support facilities.



Project footprint
National park and reserve
State forest
Waterbody
Waterway
Major road
Railway
Substation location

Construction ancillary facilities

1. Wagga 330 kV substation compound (C01)
2. Gregadoo Road compound (C06)
3. Tumbarumba accommodation facility (AC1)
4. Maragle 500 kV substation compound (C05)
5. Snubba Road compound (C16)
6. Bowmans Lane compound (C15)
7. Memorial Avenue compound (C14)
8. Snubba Road compound (C03)
9. Snowy Mountains Highway compound (C02)
10. Honeysuckle Road compound (C07)
11. Red Hill Road compound (C08)
12. Adjungbilly Road compound (C09)
13. Yass substation compound (C10)
14. Woodhouselee Road compound (C11)
15. Bannaby 500 kV substation compound (C12)



Source: *Aurecon, Transgrid, Spatial Services (DCS), ESRI Basemap*

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Projection: GDA 1994 MGA Zone 55

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FIGURE 1-2: Key components of the project

1.3 Purpose and scope of this report

The main purpose of this report is to assess the potential historic heritage impacts from construction and operation of the project to support the environmental assessment in accordance with Division 5.2 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

1.4 Secretary's Environmental Assessment Requirements

This report has been prepared in accordance with the Planning Secretary's Environmental Assessment Requirements (SEARs) for the project as well as relevant government assessment requirements, guidelines and policies, and in consultation with government agencies. Table 1-1 lists relevant matters of the SEARs addressed in this report.

Table 1-1 Secretary's Environmental Assessment Requirements

Subject	Secretary's Environmental Assessment Requirements	Assessment
Heritage	*Assess the impact to historic heritage having regard to the NSW Heritage Manual.*	This technical report (EIS Technical Report 3)
Supplementary SEARs		
19	The EIS must provide a detailed Heritage Impact Assessment conducted by an experienced and qualified heritage expert. The assessment must also include a visual impact assessment and detailed species assessment on potential impacts to the Bogong moth (which is a value of the heritage place). Whilst not an EPBC Act listed threatened species, the Bogong moth's assessment should follow the information requirements for EPBC listed species that is listed under paragraph 17.	This technical report (*Technical Report 3*) *Technical Report 1 - Biodiversity Development Assessment Report* Section 10.1.1 of *Technical Report 2 – Aboriginal Cultural Heritage Assessment Report* presents the findings of the bogong moth assessment.

1.5 Structure of this report

This report includes the following:

- Chapter 1 – introduces the project and purpose of this document
- Chapter 2 – provides a project description summary
- Chapter 3 – outlines the statutory requirements relevant to the heritage study area with regard to historic cultural heritage
- Chapter 4 – includes the methodology used to complete this assessment
- Chapter 5 – provides an historical context for the project
- Chapter 6 – discusses the physical context of the project including landscape context, past land use, previously recorded historic items in the heritage study area, survey results and analysis
- Chapter 7 – describes the cultural heritage values and assesses the significance of historic objects and places
- Chapter 8 – assesses the impacts of the proposed development on historic cultural heritage values
- Chapter 9 – provides management recommendations to avoid and minimise harm, and mitigate any heritage impacts, based on legislative requirements, and the results of the archaeological investigation
- Chapter 10 – provides a conclusion for this assessment.

1.6 Key project terms

1.6.1 Heritage study area

The study area for this report was defined by applying a one kilometre wide buffer to either side of the project footprint. This buffer was applied to identify any historic items within the vicinity of the project, which may be indirectly impacted by the project.

1.6.2 Project footprint

The area that has been assumed for the purpose of this EIS to be directly affected by the construction and operation of the project. It includes the indicative location of project infrastructure, the area that would be directly disturbed during construction and any easement required during operation.

1.6.3 Survey area

Field survey was carried out on foot in conjunction with the Aboriginal cultural heritage survey. The survey was undertaken within the project footprint, which included locations where construction facilities, the proposed Gugaa 500 kV substation, worker accommodation facility and telecommunications hut are proposed.

Access to the survey area was not possible in some areas as a result of a lack of landowner consent. For these areas alternative methods were used which included visual inspections and map based desktop inspections. Should access be granted to these restricted areas at a future date, additional field surveys to assess historic heritage impacts will be undertaken.

Figure 1-3 depicts the heritage study area and the project footprint.

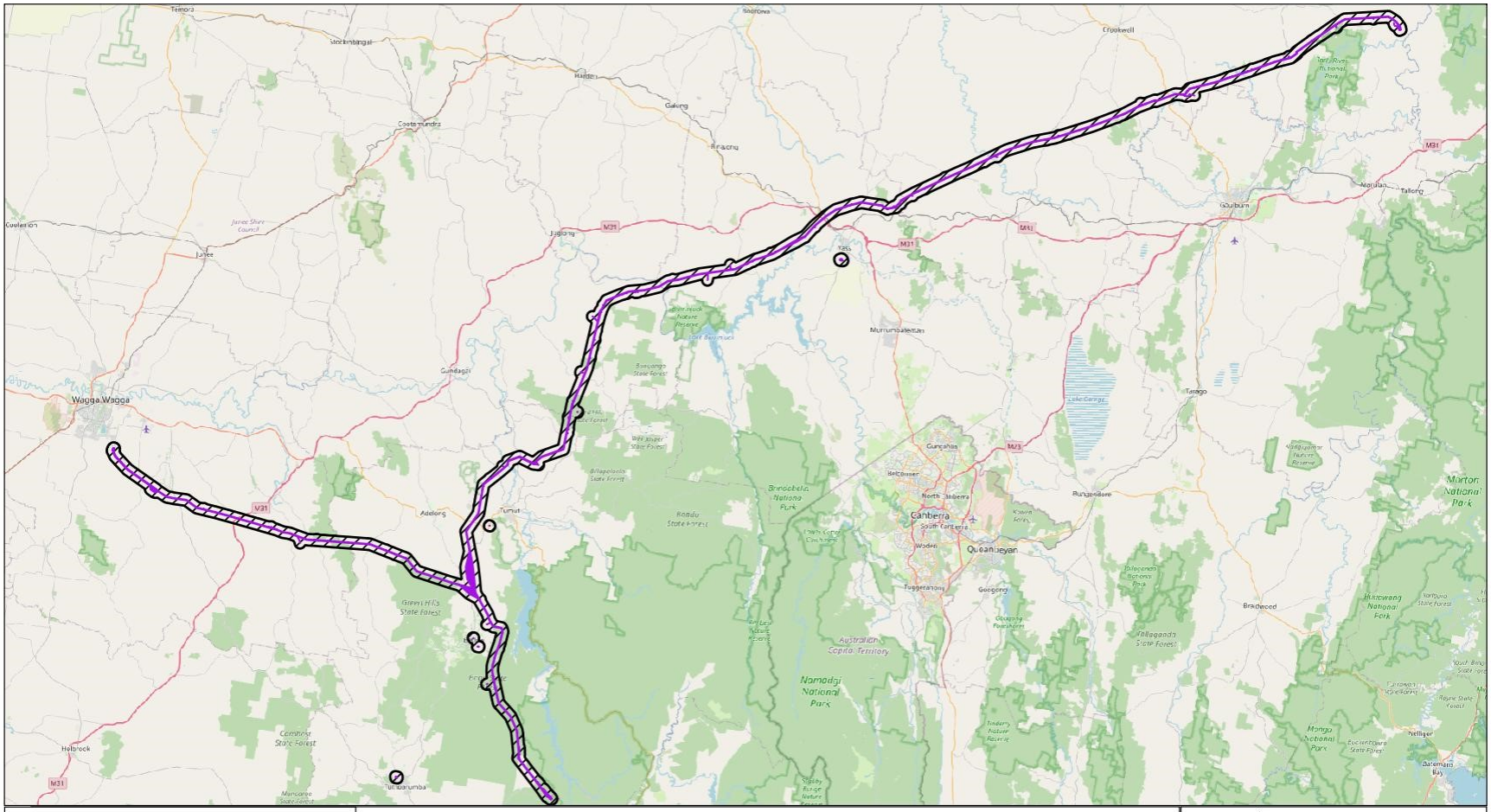

Figure 1-3 Heritage study area and project footprint

2 PROJECT OVERVIEW

The project description in this chapter is based on a concept design and indicative construction methodology for the project. The design and construction methodology would continue to be refined and confirmed during detailed design and construction planning by the construction contractors. Further details on the project are provided in Chapters 3 and 4 of the EIS.

2.1 Summary of key components of the project

Key components of the project are summarised in Table 2-1

Table 2-1: Summary of key components of the project

Component	Description
Transmission lines and supporting infrastructure	
Transmission lines and structures	The project includes the construction of new 500 kV transmission line sections between: • Wagga 330 kV substation and Gugaa 500 kV substation (approximately 11 km) • Gugaa 500 kV substation and Wondalga (approximately 65 km) • Wondalga and Maragle 500 kV substation (approximately 46 km) • Wondalga and Bannaby 500 kV substation (approximately 234 km). The transmission line section between the Wagga 330 kV substation and proposed Gugaa 500 kV substation would operate at 330 kV under HumeLink. The project also includes the rebuild of approximately 2 km of Line 51 as a new 330 kV transmission line between the Wagga 330 kV substation and around Ivydale Road, Gregadoo. This would be adjacent to the new transmission line between the existing Wagga 330 kV and proposed Gugaa 500 kV substations. The 500 kV transmission lines would be supported on a series of free-standing steel lattice structures that would range between around 50 m up to a maximum of 76 m in height and generally spaced between 300 to 600 m apart. The typical transmission line structure height would be around 60 m. Earth wire and communications cables would be co-located on the transmission line structures. The 330 kV structures for the rebuild of Line 51 would range between 24 m and 50 m in height and have a typical height of 40 m. Indicative configurations of transmission line structures that may be used as part of the project are shown in Figure 2-1. The type and arrangement of the structures would be refined during detailed design. The footings of each structure would require an area of up to 300 m^2 to 450m^2, depending on ground conditions and the proposed structure type. Additional disturbance at each structure site may be required to facilitate structure assembly and stringing.

Component	Description
Transmission line easements	The easements for the 500 kV transmission lines are typically 70 m wide. However, a number of locations may require wider easements of up to 110 m wide at transposition locations[1] and up to 130 m wide where the new transmission line would parallel the relocated section of Line 51. The easement provides a right of access to construct, maintain and operate the transmission line and other operational assets. The easement also generally identifies the zone of initial vegetation clearance and ongoing vegetation management to ensure safe electrical clearances during the operation of the lines. Vegetation management beyond the easement may also occur where nearby trees have the potential to fall and breach safety clearances.
Telecommunications hut	Telecommunications huts, which contain optical repeaters, would be required to boost the signal in the optical fibre ground wire (OPGW). One telecommunications hut would be required for the project. The telecommunications hut would be located adjacent to existing transmission line structures. Cables would be installed between the transmission line structure and the local power supply. The telecommunications hut would be surrounded by a security fence. A new easement would be established for the telecommunications hut power connection. The project also involves a telecommunications connection of OPGW between two proposed transmission line structures and the future Rye Park Wind Farm substation (SSD-6693). This removes the need for an additional telecommunications hut in this area of the project.
Substation activities	
Construction of the proposed Gugaa 500 kV substation	A new 500/330 kV substation would be constructed at Gregadoo, about 11 km south-east of the Wagga 330 kV substation. The substation would include seven new 500/330 kV transformers and three 500 kV reactors. The proposed Gugaa 500 kV substation is expected to occupy an area of approximately 22 hectares.
Modification of the existing Bannaby 500 kV substation	The existing Bannaby 500 kV substation on Hanworth Road, Bannaby would be expanded to accommodate connections for new 500 kV transmission line circuits. The modification would include changes to the busbars, line bays, bench and associated earthworks, steelwork, drainage, external fence, internal/external substation roads, secondary containment dams, sediment containment dams, cabling, and secondary systems. All of the works would be restricted to the existing substation property.
Modification of the existing Wagga 330 kV substation	The existing Wagga 330 kV substation on Ashfords Road, Gregadoo would be reconfigured to accommodate new bays for two new 500 kV transmission line circuits within the existing substation property. This would include modifications to the busbars, line bays, existing line connections, bench and associated earthworks, relocation of existing high voltage equipment, drainage, external fence, internal substation roads, steelwork, cabling, and secondary systems.

[1] Transposition is the periodic swapping of positions of the conductors of a transmission line in order to improve transmission reliability.

Component	Description
Connection to the future Maragle 500 kV substation	The project would connect to the future Maragle 500 kV substation approved under the Snowy 2.0 Transmission Connection Project (SS1-9717). Construction of the Maragle substation is proposed to be undertaken between 2023 and 2026. Further detail on the Snowy 2.0 Transmission Connection project is available at the Department of Planning and Environment's Major Projects website: www.planningportal.nsw.gov.au/major-projects/project/10591.
Ancillary facilities	
Access tracks	Access to the transmission line structures and the substations would be required during construction and operation. Wherever possible, existing roads, tracks and other existing disturbed areas would be used to minimise vegetation clearing or disturbance. Upgrades to existing access tracks may be required. In areas where there are no existing roads or tracks, suitable access would be constructed. This may include waterway crossings.
Construction compounds	Construction compounds would be required during construction to support staging and equipment laydown, concrete batching, temporary storage of materials, plant and equipment and worker parking required to construct the various elements of the project. Fourteen potential construction compound locations have been identified. The proposed use of the construction compounds and their proposed boundaries/layout would be refined as the project design develops in consultation with relevant stakeholders and the construction contractors.
Worker accommodation facility	Existing accommodation facilities within towns adjacent to the project would provide temporary accommodation for the majority of the construction workers. However, a potential shortage in accommodation has been identified close to the project footprint. A potential option to provide additional temporary worker accommodation during the construction period is the establishment of a temporary worker accommodation facility at the corner of Courabyra Road and Alfred Street, Tumbarumba to accommodate about 200 construction workers. The worker accommodation facility would consist of demountable cabins and would be connected to existing utilities. All required amenities for the accommodation facility would be provided including services and worker parking for light and heavy vehicles. However, the ultimate delivery of the project may include multiple temporary worker accommodation facilities in various forms, which would be outlined in the Worker Accommodation Strategy for the project. The strategy will be developed in consultation with councils, and other relevant stakeholders. Any new or changed worker accommodation facility would be subject to additional environmental assessment, as required.

Component	Description
Helipad/helicopter facilities	To facilitate construction of the project, helicopters may be used to deliver materials/equipment and transfer personnel to construction areas particularly within high alpine regions. To enable helicopters to operate safely and allow easy access to the site, a helicopter landing pad would be required. The helipad is expected to occupy an area of around 30 m by 30 m, and would be remediated after construction. These areas would typically be located on existing disturbed land not subject to inundation and a reasonable distance from waterways, sensitive receivers and drainage lines. Eight locations have been identified and assessed as potential helipad locations. The exact locations to be used would be confirmed during detailed design by the construction contractors. In addition to this, the existing facilities at the Wagga Wagga Airport and Tumut Airport may be used.
Utility connections, adjustments and protection	The project would require utility connections, adjustments and protection. Such works include interfaces with other transmission lines and connections to existing services for temporary facilities. Potential impacts to existing services and utilities would be confirmed during detailed design and any proposed relocation and/or protection works would be determined in consultation with the relevant asset owners.

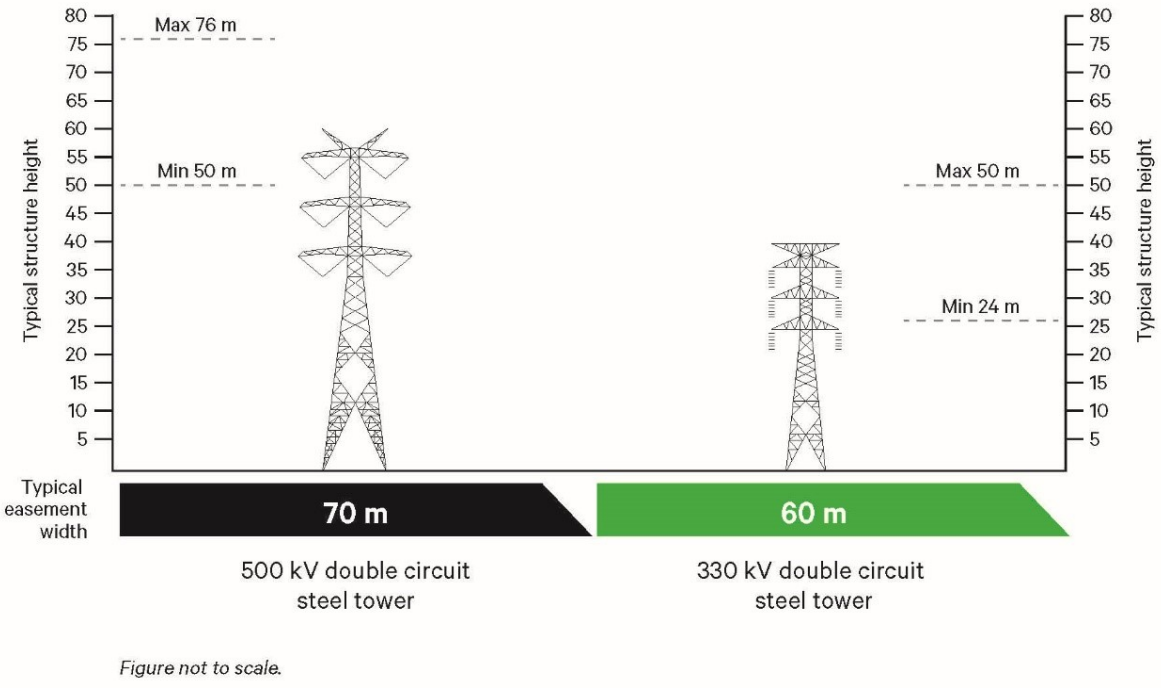

Figure 2-1 Indicative transmission line structures

2.2 Construction of the project

2.2.1 Construction activities

Key construction activities would generally include (but are not limited to):

- site establishment work, such as:
    - clearing of vegetation and topsoil
    - establishment of construction compounds and helipad/helicopter facilities
    - utility relocations and/or adjustments
    - construction of new access tracks and waterway crossings and/or upgrade of existing access tracks to transmission line structures
    - road improvement work
    - establishment of environmental management measures and security fencing
    - construction of temporary worker accommodation
- construction of the transmission lines, including:
    - earthworks and establishment of construction benches and brake and winch sites for each transmission line structure
    - construction of footings and foundation work for the new transmission line structures including boring and/or excavation, steel fabrication works and concrete pours
    - erection of the new transmission line structures
    - stringing of conductors, overhead earth wires and OPGW
    - installation of associated transmission line structure fittings inclusive of all earthing below ground level
- relocation of a section of Line 51, including:
    - demolition of the existing section of Line 51
    - erection of new transmission line structures for the rebuild of Line 51 in a new location
    - stringing of conductors, overhead earth wires and OPGW
    - installation of associated transmission line structure fittings inclusive of all earthing below ground level
- construction of the proposed Gugaa 500 kV substation, including:
    - bulk earthworks to form the substation bench, access roads, drainage and oil containment structures
    - installation of concrete foundations, bund walls, fire walls, noise walls and kerbs including excavation
    - installation of reinforced concrete and piled foundations for the electrical equipment and associated steel support structures
    - installation of electrical conduits, electrical trenches, site stormwater drainage, oil containment work and associated concrete pits, pipes and tanks including excavation
    - installation of new ancillary and equipment control buildings
    - erection of galvanised steel structures to support electrical equipment
    - installation of electrical equipment on foundations and/or steel support structures
    - installation of conductors, cabling, wiring, electrical panels and electrical equipment
    - erection of the substation site boundary security fencing, including site access gates
    - connection of the proposed transmission lines to the substation

- modification of the existing Wagga 330 kV substation to enable the proposed connection and operation of the new transmission lines, including:
    - demolition and removal of redundant electrical equipment, fencing and cabling
    - bulk earthworks to form the extended substation bench and modified drainage structures
    - installation of concrete foundations and kerbs including excavation
    - installation of reinforced concrete and piled foundations for the electrical equipment and associated steel support structures
    - erection of galvanised steel structures to support electrical equipment
    - installation of electrical equipment on foundations and/or steel support structures
    - installation of electrical conduits, electrical trenches, and modified site stormwater drainage including excavation
    - installation of conductors, cabling, wiring, electrical panels and electrical equipment
    - installation of fencing, lighting and other security features
    - testing and commissioning
    - connection of the proposed transmission lines to the substation
- modification of the existing Bannaby 500 kV substation to enable the proposed connection and operation of the new transmission lines, including:
    - bulk earthworks to form the extended substation bench, new access road, modified stormwater drainage, modified oil containment and modified sediment control structures
    - installation of concrete foundations, retaining walls, bund walls, fire walls and kerbs including excavation
    - installation of reinforced concrete and piled foundations for the electrical equipment and associated steel support structures
    - erection of galvanised steel structures to support electrical equipment
    - installation of electrical equipment on foundations and/or steel support structures
    - installation of electrical conduits, electrical trenches, site stormwater drainage, oil containment works and associated concrete pits, pipes and tanks including excavation
    - installation of conductors, cabling, wiring, electrical panels and electrical equipment
    - installation of fencing, lighting and other security features
    - demolish redundant fencing including footings and kerbs
    - testing and commissioning
    - connection of the proposed transmission lines to the substation
- connection of the proposed transmission lines to the future Maragle 500 kV substation including:
    - stringing conductors between transmission line structures and the future Maragle 500 kV substation gantry (including overhead earth wire (OHEW) and OPGW)
    - installing droppers from the future substation gantry to the switchgear
- construction of the telecommunications hut, including:
    - bulk earthworks to form the pad for the hut
    - excavation and preparation for concrete foundations
    - installation of reinforced concrete and piled foundations
    - excavation and installation of electrical equipment conduits, trenches and general site drainage work
    - installation of the building, site wiring and electrical equipment

- installation of security fencing and site access gates

- installation of buried cabling from the 500 kV transmission line structures to Rye Park Wind Farm substation
- testing and commissioning of new electrical infrastructure
- demobilisation and rehabilitation of areas disturbed by construction activities.

A number of activities are expected to commence in accordance with the project conditions of approval before the key construction activities outlined above. These activities are considered pre-construction minor work and would comprise low impact activities that would begin after planning approval but prior to approval of the Construction Environmental Management Plan.

2.2.2 Construction program

Construction of the project is targeted to commence in 2024, and is estimated to take about 2.5 years to complete. The project is expected to be fully operational by the end of 2026 (refer to Figure 2-2).

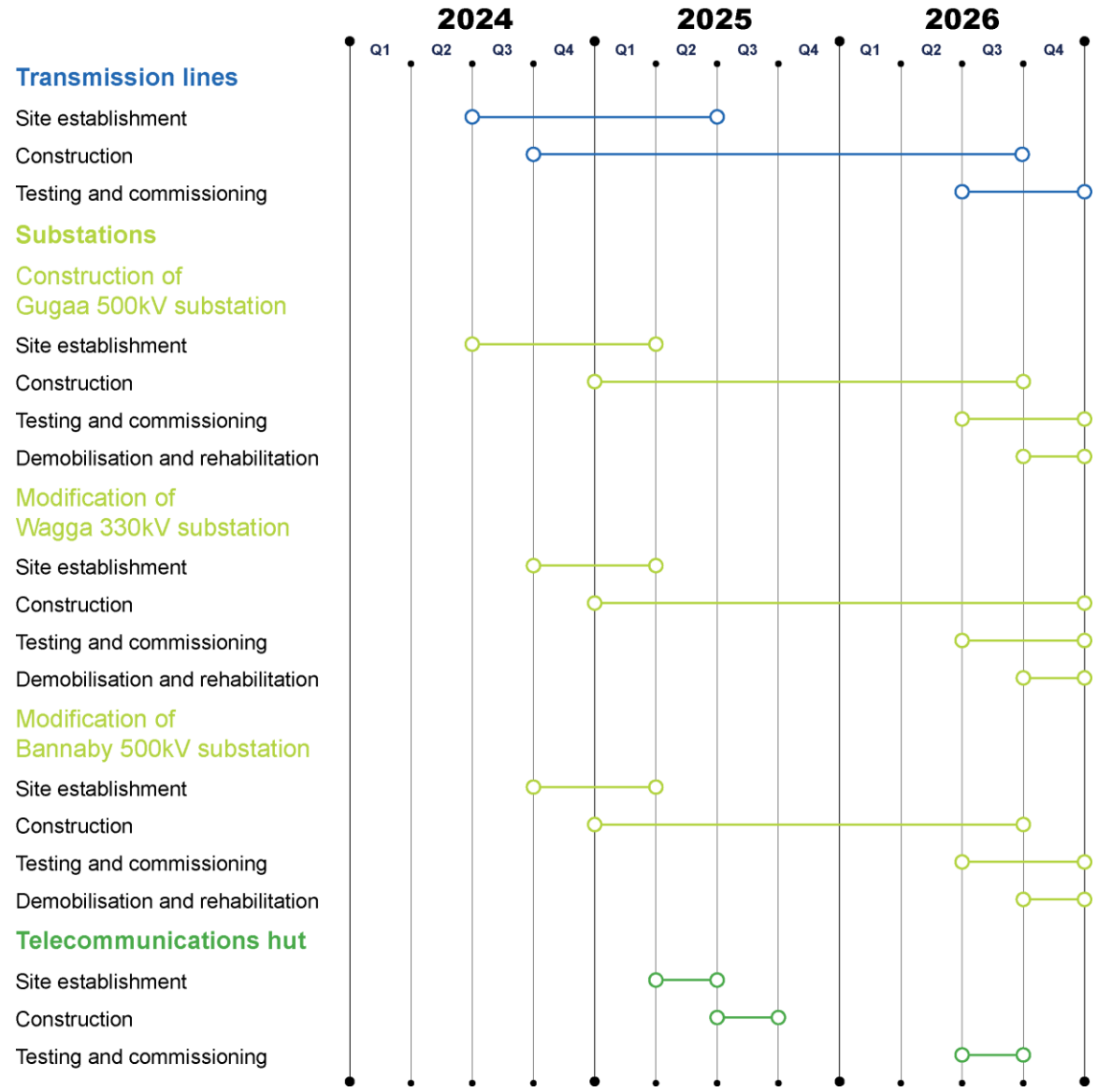

Figure 2-2 HumeLink indicative construction program

2.2.3 Indicative duration of construction activities

Construction at each transmission line structure would be intermittent and construction activities would not occur for the full duration at any one location. Durations of any particular construction activity, and inactive/respite periods, may vary for a number of reasons including (but not limited to):

- multiple work fronts
- resource and engineering constraints
- works sequencing and location.

Figure 2-3 presents an indicative duration of construction activities associated with an individual transmission line structure.

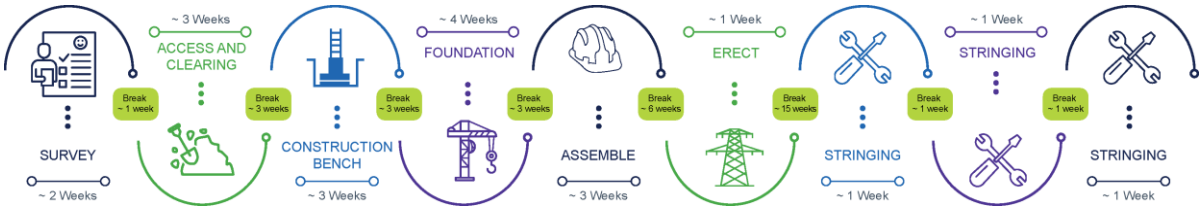

Figure 2-3 Indicative duration and sequence of construction activities for transmission line structures

Construction of the proposed Gugaa 500 kV substation could take up to 2.5 years.

2.2.4 Construction hours

It is expected that construction activities would largely be undertaken during standard construction hours. However, there would be times when working outside of standard construction hours would be required (as defined by the *Interim Construction Noise Guideline* (DECC, 2009)), subject to approval. As the details of construction methodology and project needs are developed, these hours will be refined for certain activities.

Where extended hours are proposed for activities in proximity to sensitive receivers, additional measures would be implemented and the work would be managed through an out-of-hours work protocol.

A series of work outside the standard construction hours is anticipated to include (but is not limited to) the following:

- transmission line construction at crossings of a main road or railway as these locations are expected to have restricted construction hours requiring some night work for activities such as conductor stringing over the crossing(s)
- work where a road occupancy licence (or similar) is required, depending on licence conditions
- transmission line cutover and commissioning
- the delivery of equipment or materials outside standard hours requested by police or other authorities for safety reasons (such as the delivery of transformer units)
- limited substation assembly work (eg oil filling of the transformers)
- connection of the new assets to existing assets under outage conditions (eg modification and/or connection work at Bannaby 500 kV substation, Wagga 330 kV substation and Maragle 500 kV substation), which is likely to require longer working hours
- emergency work to avoid the loss of lives and/or property and/or to prevent environmental harm

- work timed to correlate with system planning outages
- situations where agreement is reached with affected sensitive receivers
- activities that do not generate noise in excess of the applicable noise management level at any sensitive receiver.

2.2.5 Construction plant and equipment

An indicative list of construction plant and equipment likely to be required during construction is provided below.

- air compressors
- backhoes
- bob cats
- bulldozers
- concrete agitator
- concrete pump
- cranes (various sizes up to 400 tonnes)
- crawler crane with grab attachments
- drill and blast units and associated support plant/equipment
- drones
- dumper trucks
- elevated work platform
- excavators (various sizes)
- flatbed Hiab truck
- fuel trucks
- generators
- graders
- helicopters and associated support plant/ equipment
- mulchers
- piling rig
- pneumatic jackhammers
- rigid tippers
- rollers (10-15 and 12-15 tonne)
- semi-trailers
- tilt tray trucks
- trenchers
- transport trucks
- watercarts
- winches.

2.2.6 Construction traffic

Construction vehicle movements would comprise vehicles transporting equipment, waste, materials and spoil, as well as workers' vehicles. A larger number of heavy vehicles would be required during the main civil construction work associated with the substations. Non-standard or oversized loads would also be required for the substation work (eg for transformer transport) and transportation of transmission line structure materials and conductors.

Hume Highway, Sturt Highway, Snowy Mountains Highway, Batlow Road and Gocup Road are the main national and state roads proposed to provide access to the project footprint. These roads would be supported by regional and local roads throughout the LGAs of Wagga Wagga City, Snowy Valleys, Yass Valley, Cootamundra-Gundagai Regional and Upper Lachlan Shire that connect to the project footprint.

2.2.7 Construction workers

The construction worker numbers would vary depending on the stage of construction and associated activities. During peak construction activities, the project could employ up to 1,200 full time equivalent construction workers across multiple work fronts. It is expected that the maximum number of construction workers at any one location would not exceed 200.

2.2.8 Testing and commissioning

Prior to energisation of the infrastructure, a series of pre-commissioning activities would be conducted. This would include testing the new transmission lines and substation earthing, primary and secondary equipment.

2.2.9 Demobilisation and rehabilitation

Demobilisation and site rehabilitation would be undertaken progressively throughout the project footprint and would include the following typical activities:

- demobilisation of construction compounds and worker accommodation facility
- removal of materials, waste and redundant structures not required during operation of the project
- removal of temporary fencing and environmental controls.

2.3 Operation and maintenance of the project

The design life of the project is 50 years, which can be extended to more than 70 years for some assets.

The substations and transmission lines would be inspected by field staff and contractors on a regular basis, with other operational activities occurring in the event of an emergency (as required). The project would require about five workers (in addition to Transgrid's existing workers) during operation for ongoing maintenance activities. Likely maintenance activities would include:

- regular inspection (ground and aerial) and maintenance of electrical equipment
- general building, asset protection zone and access road/track
- vegetation clearing/trimming within the easement
- fire detection system inspection and maintenance
- stormwater drainage systems maintenance.

It is expected that these activities would only require light vehicles and/or small to medium plant (depending on the work required).

3 LEGISLATIVE AND POLICY CONTEXT

3.1 Commonwealth legislation

3.1.1 Environment Protection and Biodiversity Conservation Act 1999

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) is the Commonwealth Government's national environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities, and heritage places – defined in the EPBC Act as matters of national environmental significance (MNES). To this end, it establishes:

a. the National Heritage List (NHL) – a list of Indigenous, historic and natural places of outstanding significance to the nation, and

b. the Commonwealth Heritage List (CHL) – a list of Indigenous, historic and natural heritage places owned or controlled by the Australian Government.

The EPBC Act also establishes requirements for environmental approval of activities that will have a significant impact on a declared World Heritage property – heritage places of outstanding universal value included in the World Heritage List established by the United Nations Educational, Scientific and Cultural Organization (UNESCO) and recognised under the 1972 World Heritage Convention.

There are no places listed on the CHL or World Heritage List within the project footprint and heritage study area.

There are two places on the NHL partly within the heritage study area, but not within the project footprint. They are the Australian Alps National Parks and Reserves and the Snowy Mountains Scheme (Table 3-1). The Australian Alps National Parks and Reserves has been listed for both natural and cultural values and the Snowy Mountains Scheme for its cultural values.

Table 3-1 Places on the NHL partly within the heritage study area

Place	Location	Place ID	Class	Status
Snowy Mountains Scheme	Snowy Mountains Highway, Cabramurra, NSW, Australia	105919	Historic	Listed Place (14/10/2016)
Australian Alps National Parks and Reserves	The Alpine Way, Thredbo Village, NSW, Australia	105891	Natural	Listed Place (07/11/2008)

3.1.1.1 Snowy Mountains Scheme

The Snowy Mountains Scheme is the largest public works engineering scheme ever undertaken in Australia. The scheme was constructed over a 25 year period from 1949 to 1974 by over 100,000 workers, many of whom migrated to Australia from Europe after World War Two. These workers were housed in approximately 120 camps and three towns (Khancoban, Cabramurra and Talbingo) during construction. The entire Snowy Mountains region was changed, with the existing townships of Jindabyne and Adaminaby relocated to accommodate the scheme's necessary infrastructure. The work on the Snowy became a representation of the new multicultural Australia that emerged from European migration post-World War Two (Department of Climate Change, Energy, the Environment and Water (DCCEEW), 2021).

Completed in 1974, the scheme includes 80 kilometres of aqueduct pipelines, 13 major tunnels measuring over 145 kilometres, seven power stations (two deep underground), eight switching stations and control centres, and a number of large dams. The scheme generates approximately 4500 gigawatts every year and provides nearly a third of all renewable energy fed into the eastern mainland grid, powering major cities like Sydney, Melbourne and Canberra. The scheme also provides over 2300 gigalitres of water annually for irrigation for large parts of inland NSW and Victoria to the west of the Great Dividing Range (DCCEEW, 2021).

3.1.1.2 Australian Alps National Parks and Reserves

The following is an extract from the Australian Heritage Database entry for this site:

The Australian Alps National Parks and Reserves are part of a unique Australian mountainous bioregion extending over NSW, the Australian Capital Territory and Victoria. The Australian Alps National Parks and Reserves displays a mosaic of interactions between its natural and cultural environments. The natural landscapes of the Australian Alps National Parks and Reserves contain extremely restricted alpine and sub-alpine environments and flora and fauna species, with the alpine zone occupying a very small area (approximately 25,000 hectares). The Australian Alps National Parks and Reserves contains glacial lakes and includes the plateaus and peaks that are prominent and unparalleled in the Australian continent with an average elevation of only 330 metres above sea level. The Australian Alps National Parks and Reserves includes most of continental Australia's peaks over 1,700 metres and all of those over 1,900 metres and experiences extensive snow coverage on a seasonal basis. The Australian Alps National Parks and Reserves provides a vital refuge for alpine and sub-alpine flora and fauna species, with a high level of richness and endemism across a wide range of taxa.

The Australian Alps National Parks and Reserves contains the Indigenous history of moth feasting which involved the use of an adult insect – the moth – as the basis for large annual gatherings of different Aboriginal groups for ceremonies. Transhumant grazing commenced in the 1830s and was the practice of using alpine high plains to graze stock during the summer months. It was a significant pastoral activity of the 19th and 20th centuries, continuously practised for over 150 years that made a considerable contribution to Australia's pastoral industry. Transhumant grazing created and sustained a distinctive way of life that is valued as an important part of Australia's pioneering history and culture. Historic features associated with transhumant grazing are evident in the former stockman's huts, the relict former grazing landscapes, stock yards and stock routes.

Scientific research has been undertaken in the Australian Alps National Parks and Reserves since the 1830s. The value is demonstrated by the density and continuity of scientific endeavour. Research sites extending throughout the Alps relate to botanical surveys, soil conservation exclosures, karst research sites, fire ecology plots, arboreta, glacial research sites and space tracking.

Snow-based recreation in the Australian Alps National Parks and Reserves commenced in Kiandra in 1861 with the establishment of the Kiandra Snowshoe Club and expanded from an ad hoc activity by enthusiasts to a multi-million dollar snow sport and tourism industry, today with substantial ski slopes and village resorts. The government hotels established in scenic locations – the Mount Buffalo Chalet, the Yarrangobilly Caves House and Precinct, the Chalet at Charlottes Pass, the Hotel Kosciusko (former) and Mount Franklin Chalet (former) were major features of the expanding activity in the early twentieth century.

The pioneering history of the high country is valued as an important part of the construction of the Australian identity featuring in myths, legends and literature. The ballad of The Man from Snowy River epitomises horsemanship undertaken in rugged landscapes. The stories, legends, myths and lifestyles of the mountains have been romanticised in books, films, songs, and television series and many, such the Silver Brumby novels, are part of Australia's national identity. Through his ballad The Man from Snowy River, Andrew Barton 'Banjo' Paterson captured the imagination of the Australian people, stimulating a passion for the high country and the way of life associated with the mountains.

3.1.2 Register of the National Estate

The Register of the National Estate (RNE) was established under the now-repealed *Australian Heritage Commission Act 1975* (Commonwealth). The National Estate was defined under this Act as:

> "those places, being components of the natural environment of Australia or the cultural environment of Australia, that have aesthetic, historical, scientific or social significance or other special value for future generations as well as for the present community".

Following the introduction of the EPBC Act, the RNE continued as a statutory register for a transition period, to allow places to be transferred to other heritage lists and registers at the national, state and territory, and local government levels, if appropriate. All references to the RNE were removed from the

EPBC Act in 2012. The RNE is currently maintained on a non-statutory basis as a publicly available archive for education and the promotion of heritage conservation. It provides an indication of some places that may be of value to the community.

Registered places were entered in the RNE prior to its closure in 2007. Indicative places were entered into the RNE database; however, a decision on whether the place should be entered in the RNE itself was not made prior to the closure of the register.

One place within the project footprint, *Kiley's Run* (Place ID 16005), was entered as an indicative place on the RNE and is not currently listed on any other register. A second place, Derringullen Creek Area (Place ID 1078), is registered on the RNE and is also listed on the Yass Valley Local Environmental Plan (LEP). The listed curtilages for both areas overlap but are not the same. The RNE listed curtilage is larger than the LEP listed curtilage, the RNE listed curtilage is within the project footprint, whereas the LEP listed curtilage is in the heritage study area only.

Table 3-2 details those places on the RNE within the heritage study area and project footprint.

Table 3-2 Items listed on the RNE within the project footprint and heritage study area*

Place	Address	Place ID	Category	Status
Derringullen Creek Area	Hume Hwy, Yass, NSW, Australia	1078	Natural	Registered
Kileys Run	via Adjungbilly, NSW, Australia	16005	Historic	Indicative Place
Kosciuszko National Park (1981 boundary)	Snowy Mountains Hwy, Tumut, NSW, Australia	659	Natural	Registered
Snowy Mountains Scheme	Snowy Mountains Hwy, Cabramurra, NSW, Australia	1058	Historic	Registered
Tarlo River National Park (1991 boundary)	Taralga, NSW, Australia	1141	Natural	Registered

*Note: Those shaded are outside the project footprint and in the heritage study area only.

3.2 State legislation

3.2.1 Heritage Act 1977

The *Heritage Act 1977* (Heritage Act) is intended to promote understanding and conservation of the state's heritage and provides for identifying and registering items of state heritage significance. It protects items of environmental heritage which are defined as "*those places, buildings, works, relics, moveable objects, and precincts, of state or local heritage significance"*. Items that have been identified by the Heritage Council of NSW as being of significance to the State are listed on the State Heritage Register (SHR). Proposed works within the curtilage of an SHR item require the approval of the Heritage Council of NSW; or must meet the criteria for a standard exemption or an applicable site-specific exemption.

In addition, to the protection offered to items of recognised state heritage significance, the Heritage Act also requires government instrumentalities (NSW government agencies and state-owned corporations) to establish and maintain a register of their heritage assets, known as a Section 170 Heritage and Conservation Register.

The Act also protects archaeological relics. A 'relic' is defined as:

> *any deposit, artefact, object or material evidence that:*
>
> > *(a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and*
> >
> > *(b) is of state or local heritage significance.*

Under Section 139 of the Heritage Act, a person must not disturb or excavate any land that may result in a relic being discovered, exposed, moved, damaged or destroyed; unless the works are carried in accordance with an excavation permit or approval issued by the Heritage Council of NSW.

Excavation permits are issued under Sections 140 and 141 of the Act. Exceptions from the requirement to hold an excavation permit include minor works involving limited impact to relics of local heritage significance, and archaeological monitoring or test excavation of land with known or predicted relics of local heritage significance. These exceptions do not apply to land with known or predicted relics of state heritage significance.

Approvals for works within the curtilage of an item listed on the SHR are issued under Sections 60 and 63 of the Act. If the works will have little or no adverse impact on the heritage significance of the item, an application may be made for a s.60 fast track approval which would otherwise require a major works (or standard) section 60 approval under the Heritage Act.

There is one historic item on the SHR within the heritage study area and outside of the project footprint:

Table 3-3 Places on the SHR within the heritage study area

Item name	Location	LGA	Item type	Listing no.
Hillas Farm Homestead and Outbuildings	Hanworth Road Bannaby NSW 2580	Upper Lachlan Shire	Landscape	00301

3.2.2 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) requires that environmental impacts are considered in land-use planning and development approval processes. One of the objectives of the Act is to promote the sustainable management of built and cultural heritage.

The EP&A Act contains provisions enabling the making of environmental planning instruments. These include state environmental planning policies, which deal with matters of state or regional environmental planning significance within NSW; and LEPs, which guide planning decisions for local governments.

Planning approval pathways have been created in the EP&A Act to assess projects classed as State Significant Development (SSD) and SSI. A range of development types can be declared to be SSD or SSI due to their size, economic value, or if they are in a sensitive environmental area. SSI projects may also be declared to be Critical SSI (CSSI) if they are of a high priority that “is essential for the State for economic, environmental or social reasons”.

The project has been identified as CSSI under the State Environmental Planning Policy (Planning Systems) 2021. As the identification, assessment and mitigation of potential heritage impacts is managed by the environmental impact assessment process, the heritage provisions of environmental planning instruments do not apply, and the project does not require an approval or an excavation permit under the Heritage Act. Key issues which require detailed assessment are specified in the SEARs, and in the conditions of consent that are set when a project is approved.

3.2.3 *Local Environmental Plans*

Standard provisions for local environmental plans are set out in the *Standard Instrument—Principal Local Environmental Plan* (EPI 2006:155a). Section 5.10 provides for the conservation and management of environmental heritage, which can include buildings, works, places, relics, trees, objects or archaeological sites. Historic items and heritage conservation areas on the land to which the LEP applies are identified and described in Schedule 5 environmental heritage.

The project footprint covers parts of the Wagga Wagga City, Yass Valley, Snowy Valleys (formerly Tumut Shire and Tumbarumba Shire), Cootamundra-Gundagai Regional (formerly Cootamundra Shire and Gundagai Shire) and Upper Lachlan Shire local government areas.

The relevant LEPs are:

a. Wagga Wagga Local Environmental Plan 2010
b. Yass Valley Local Environmental Plan 2013
c. Tumbarumba Local Environmental Plan 2010
d. Tumut Local Environmental Plan 2012
e. Cootamundra Local Environmental Plan 2013
f. Gundagai Local Environmental Plan 2011
g. Upper Lachlan Shire Local Environmental Plan 2013.

There are 23 items within the heritage study area listed on LEP environmental heritage schedules, three of which are within the project footprint (Table 3-4).

Table 3-4 Places on LEPs within the project footprint and heritage study area*

Item name	Address	Type	Significance	LEP	Item no.
Bunnaby Homestead	77 Hanworth Road (adj. to *Hillas Farm*), Bannaby	Built	Local	Upper Lachlan	I2
Hillas Farm Homestead and Outbuildings	47 Hanworth Road, Bannaby	Complex / Group	State	Upper Lachlan	I1
Tarlo River National Park	Tarlo via Taralga Road, Tarlo	Landscape	Local	Upper Lachlan	I160
Elizabeth Nugent grave on *College Creek*	1615 Humula Road, Tarcutta	Landscape	Local	Wagga Wagga	I202
Ivydale	10 Ivydale Road, Gregadoo	Built	Local	Wagga Wagga	I72
Ivydale Woolshed	9 Ivydale Road, Gregadoo	Built	Local	Wagga Wagga	I73
Stone Ruin	1149 Gregadoo East Road, Gregadoo	Built	Local	Wagga Wagga	I71
Tennis Court	Keajura Road, Tarcutta	General	Local	Wagga Wagga	I190
Coolalie limestone kilns and quarry	Bango Lane, Yass	Archaeological-Terrestrial	Local	Yass Valley	A297
Derringullen Creek fossil area	Hume Highway, Yass	Landscape	Local	Yass Valley	A299
Aberlour and stables	Victoria St, Yass	Built	Local	Yass Valley	I152
Old Batlow Co-operative Canning Office	Pioneer St, Batlow	Built	Local	Tumut	I29
Batlow Hotel Building	Pioneer St, Batlow	Built	Local	Tumut	I25
Batlow Newsagent (former Batlow Post Office)	Pioneer St, Batlow	Built	Local	Tumut	I26

Item name	Address	Type	Significance	LEP	Item no.
Public School Batlow Technology School	Pioneer St, Batlow	Built	Local	Tumut	I30
Former State Bank Building	Pioneer St, Batlow	Built	Local	Tumut	I24
Uniting Church	Selwyn St, Batlow	Built	Local	Tumut	I33
The Old Nurses Quarters	Mayday Rd, Batlow	Built	Local	Tumut	I23
Batlow Masonic Centre	Pioneer St, Batlow	Built	Local	Tumut	I31
Batlow Museum (former Church)	Batlow Rd, Batlow	Built	Local	Tumut	I22
Batlow Literary Institute	Pioneer St, Batlow	Built	Local	Tumut	I28
Roman Catholic Church/Convent	Selwyn St, Batlow	Built	Local	Tumut	I32
Anglican Church	Pioneer St, Batlow	Built	Local	Tumut	I27

*Note: Those shaded are in the heritage study area only and not within the project footprint.

Figure 3-1 depicts the location of heritage listed items in relation to the project footprint and heritage study area. More detailed maps for each location are within Chapter 6.

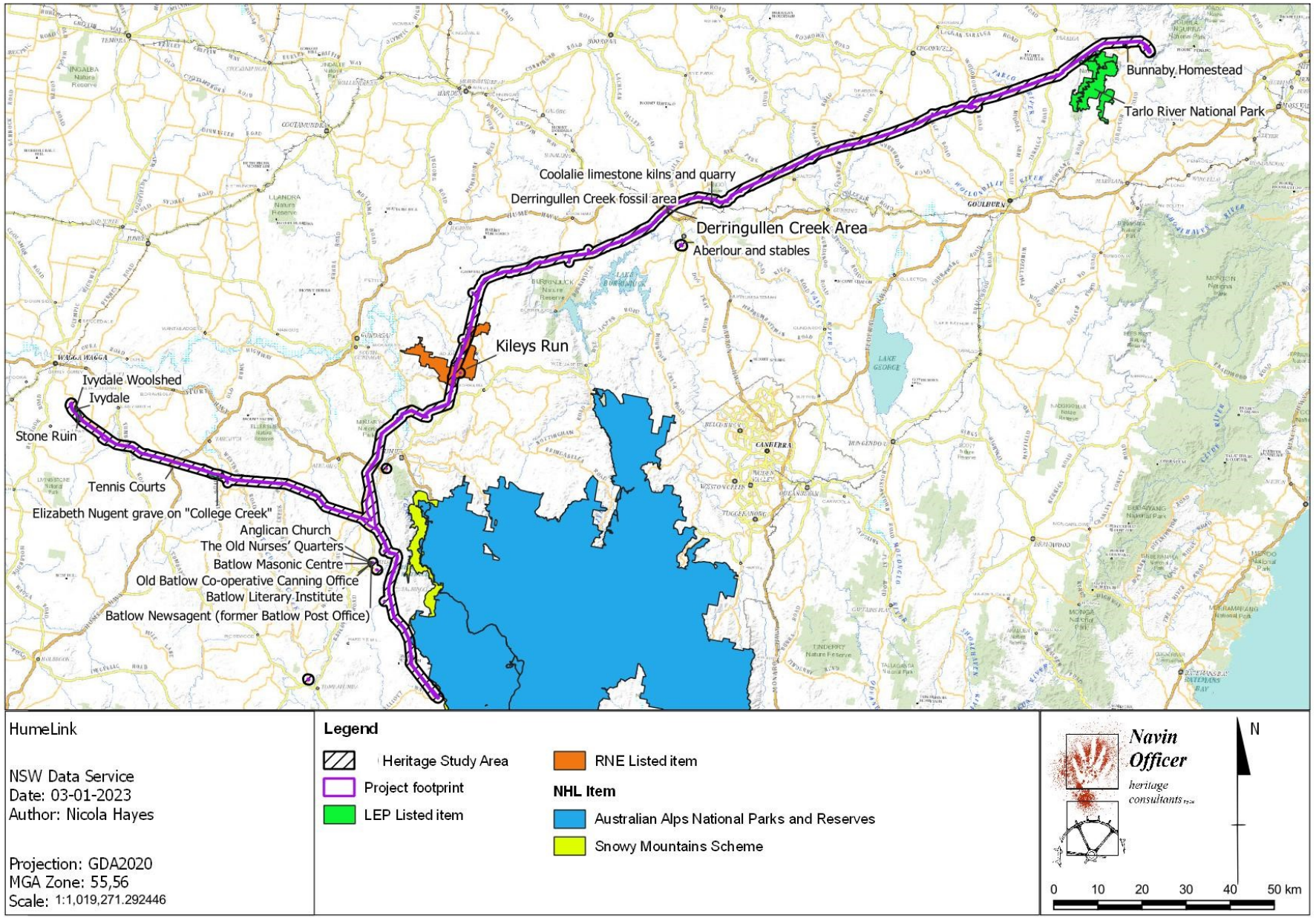

Figure 3-1 Location of heritage listed items

4 METHODOLOGY

4.1 Overview of approach

This report has been developed in accordance with principles of *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance*, 2013 ('the Burra Charter', Australia ICOMOS 2013), and the following guidelines:

- *NSW Heritage Manual* (NSW Heritage Office 1996)
- *Assessing Heritage Significance* (NSW Heritage Office 2001)
- *Statements of Heritage Impact* (Heritage Office & Department of Urban Affairs and Planning 2002)
- *Assessing Significance for Historical Archaeological Sites and 'Relics'* (Heritage Branch, Department of Planning 2009).

The report describes the results of the investigation to identify historic cultural heritage values within the historic heritage study area, assesses the harm the proposed development may cause, and outlines management recommendations for actions to avoid, minimise or mitigate the impact.

4.2 Key tasks

4.2.1 Literature and database review

A range of archaeological and historical data was reviewed for the heritage study area. This literature and data review was used to determine if known historic sites are located within the area under investigation, to facilitate site prediction on the basis of known regional and local site patterns, and to place the area within an archaeological and heritage management context. The review of documentary sources included heritage registers and schedules, local histories, and archaeological reports.

Sources of historical information included regional and local histories, heritage studies and theses, parish maps, and where available, other maps, such as Crown plans. Searches were undertaken of the following statutory heritage registers and schedules:

- World Heritage List
- National Heritage List
- Commonwealth Heritage List
- State Heritage Register
- Section 170 Heritage and Conservation Register(s) within the State Heritage Inventory (NSW Heritage)
- Environmental Heritage Schedules from the Local Environmental Plans for Wagga Wagga City, Yass Valley, Snowy Valleys (formerly Tumut Shire and Tumbarumba Shire), Cootamundra-Gundagai Regional (formerly Cootamundra Shire and Gundagai Shire) and Upper Lachlan Shire local government areas.

4.2.2 Field survey

The field investigation was carried out in tandem with the Aboriginal cultural heritage surveys and involved physical inspection of the historic heritage survey area across all accessible properties. Any features of historic heritage significance or potential significance encountered in the historic heritage study area were recorded.

4.3 Personnel

Contributors to the collection of information towards the preparation of this report from Navin Officer Heritage Consultants (NOHC) has included:

- Ben Sybert
- Jasmine Fenyvesi
- Joel Mason
- Meg Walker
- Ngaire Richards
- Tessa Bryant
- Elisa Scorsini
- Nicola Hayes
- Ricardo Servin.

This report was prepared by Nicola Hayes with geographic information system (GIS) support from Ben Sybert. Nicola has a Bachelor of Arts and Science (BA/Sc), as well as a Graduate Diploma in Archaeology from the Australian National University.

4.4 Limitations and uncertainty

The full length of the survey area could not be physically surveyed due to property access constraints. All areas where access was possible were subject to survey.

Figure 4-1 shows areas of the survey area that were not able to be accessed as part of this historic heritage impact assessment. Where access was not possible, the area was viewed from the nearest available public vantage point, such as a road, as well as using aerial maps, parish maps and photographs. Additional assessment will occur in areas where ground disturbing activities are required in locations outside of the previously surveyed heritage survey area. In all locations where access was possible, a field survey has been undertaken.

All relevant historic items have been included in this historic heritage impact assessment. The information fields in the State Heritage Inventory were often incomplete for listed items and the basis for assessments were not stated. As such, reassessment of the historic heritage significance of these items against incomplete listing information was not possible. Refer to Figure 4-1 which shows the areas surveyed.

The assessment of visual impacts on heritage items was reliant on the findings in *Technical Report 8 – Landscape Character and Visual Impact Assessment*.

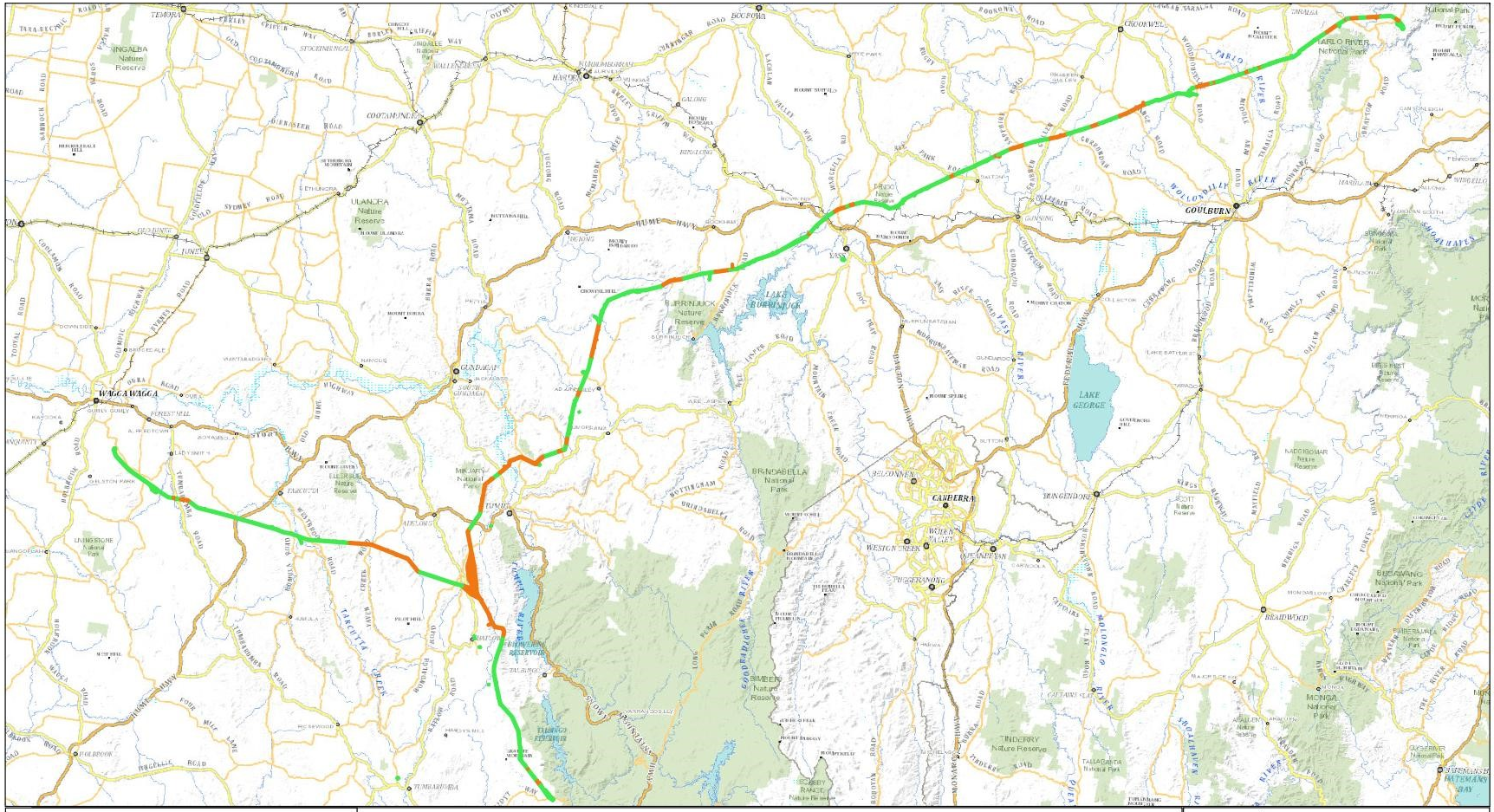

Figure 4-1 Survey completion

5 HISTORICAL CONTEXT

5.1 Thematic analysis

The NSW historic themes associated with potential heritage sites within the heritage study area are linked with pastoralism, communication, land tenure, utilities and transport. National historic themes may be defined as peopling Australia; developing local and regional economies; environment; building settlements, towns and cities; and governing.

5.2 Wiradjuri Country

The area extending from Wagga Wagga to the east, and north to Gundagai, is the country of the Wiradjuri people. The character of the area was dominated by the Murrumbidgee River and its tributaries. It was a source of fish, shellfish and watered plants such as yams and tubers. The surrounding grassland sustained kangaroo and emus and the trees housed possums and birds. The Wiradjuri also travelled to the Snowy Mountains area for the annual Bogong Moth migration, including Tumut and the western flanks of the mountains.[2]

The Holbrook-Tarcutta area was also Wiradjuri land. Holbrook was on the direct route to Yellowin, the principal meeting place of the Murray River, Yass and local Aboriginal peoples. Like elsewhere, early European movement often followed and perpetuated Aboriginal paths and trade routes. Charles Sturt, who explored the region in 1829, commented on the beauty of the rich and lightly timbered valley through which the Murrumbidgee River flowed, country that was the product of Aboriginal land management practices.[3]

From the 1830s, the Wiradjuri way of life was increasingly disrupted by the invasion of Europeans, with introduced diseases such as syphilis and influenza taking a terrible toll. Conflict over resources ensued as their hunting grounds were overrun by cattle, which they would take as the need arose despite the conflict, in the mid-1840s groups of 300 people were still regularly seen. Further to the west, around Narrandera, the Wiradjuri wars of the 1840s saw Aboriginal people hunted “like possums”.[4] The Wiradjuri were deprived of their riverine lands and were driven to less attractive hill country to the east where the men found employment on stations as cattlemen, general hands, shearers and grain processors, with the women employed as domestic servants. Many moved into towns.[5]

5.3 The Gandangara and Ngunawal

According to anthropologist, Norman Tindale, two major language groups occupied the Goulburn-Mulwaree region at the time of first European contact the Gandangara[6] to the north of Goulburn, and the Ngun(n)awal[7] to the south. Tindale’s 1974 map of tribal boundaries is based on the distribution of language groups, derived largely from linguistic evidence published between 1840 and 1956. The boundaries are approximate, and probably varied over time.[8] The historian, Jackson-Nakano suggests that Tindale’s tribal boundaries incorporated a number of distinct communities with their own dialects linked by kinship networks, common belief systems, ceremonies, and customs.[9] The term ‘Mulwaree’ comes from one of the Aboriginal groups that once claimed Lake George or *Weereewaa*, as part of their country. These groups were the Mulwaree, the Cookmai, the Pajong, and the Wallabalooa. Yet, blanket lists from the 1830s identify the usual occupation area for the Mulwaree

[2] Heritage Office and Department of Urban Affairs and Planning, *Regional Histories of New South Wales*, 1996, pp. 118.

[3] Heritage Office, *Regional Histories…,* pp. 132-134; Swan, 1970, p. 21.

[4] Heritage Office, *Regional Histories…,* pp. 132.

[5] Heritage Office, *Regional Histories…,* pp. 133.

[6] Also known as the Gundungurra, Gundungari, Gurra-gunga, and Burragorang.

[7] Also called the Ngunuwal, Ngoonawal, Wonnawal, Nungawal, Yarr, Yass tribe, Lake George, Five Islands tribe or Molonglo tribe.

[8] Tindale 1974 cited in AMBS, 2012, p. 12; Tindale, Norman B. 1974 *Aboriginal Tribes in Australia*. UCLA Press.

http://www.samuseum.sa.gov.au/page/default.asp?site=2&page=tindale cited in Edward Higginbotham & Associates Pty. Ltd 2009 Goulburn Mulwaree Archaeological Management Plan, Vol. 1 Historical Themes, p. 20.

[9] Jackson-Nakano 2001: xxi-xxiii and 13 cited in AMBS, 2012, p. 12

Aboriginal people as being in the districts of Tarlo, Wollondilly and Lake Bathurst. The Mulwaree almost certainly held rights to the eastern shore and environs of Lake George including Bundang. The group's access to the lake was probably via Allianoyonyiga Creek.[10]

Charles MacAlister, writing in 1907, claimed that the three 'tribes' of Argyle were the 'Mulwaree', the 'Tarlo' and the 'Burra'. Of these, he claimed that the Burra Burra were the most warlike, their country including the Abercrombie district, Taralga and Carrabungla. Jackson-Nakano suggests that all Aboriginal groups in its immediate surrounds may have been designated the 'Mulwaree'.[11] There is also evidence to indicate that the 'Mulwaree' group extended to the district north-east of the township of Goulburn. In 1902, the *Goulburn Evening Penny Post* reported that the breast plate of 'Mulwaree Tommy' also known as 'King of the Cookmai' was found on a property at Taralga.[12]

An absence of natural physical barriers meant that travel was relatively easy across the region, enabling the locals to maintain inter-community contact.[13] Large gatherings for corroborees have been recorded at Rocky Hill near the East Goulburn Anglican Church, the old railway quarry on the Wollondilly River, and Mulwaree Flats near the bridge at the brewery, as well as on the site of All Saints' Church in Eastgrove and Goulburn Railway Station.[14] After crossing the Breadalbane Plains in 1834, the naturalist, John Lhotsky met a group of some 60 Aboriginal people camping at Fish River. He was told that they travelled as far as Goulbourn [sic], and Yass Plains, but not so far as Limestone [Canberra]. This information is corroborated by MacAlister, who claimed that people travelled from the Lachlan River to visit Goulburn. Adding further support, Mrs Ruth Bell stated in 2011 that there was a walking track between Goulburn and a meeting place on the Lachlan, and another route connected Goulburn and Lake George, which was a spiritual area and meeting place for a number of different communities.[15]

The Gandagurra and Ngunawal engaged in 'fire-stick farming', burning areas to encourage regrowth which in turn attracted kangaroos. Fire was also used to trap game.[16] Food resources included kangaroos, wallabies, possums and other small marsupials such as bandicoots, emu, wild turkey, echidna, native ducks, fish and eels, freshwater mussels, snakes, native bees and ants.[17] Possums were caught by climbing trees notched using a tomahawk, cutting a hole in the limb and administering a blow when the animal emerged.[18] The Wollondilly and Cookbundoon river systems were home to a variety of wildlife, including eels, black swans, ducks and other water birds. Swans and water fowl also nested on the rocky isles in Lake Bathurst.[19] Bulrushes (*Typha sp.*) were collected from river and stream banks during spring; the starchy roots were baked, and outer skin removed before eating.[20] Bogong moths (*Agrotis infusa*) migrate in summer to the Bogong Mountains, Tumut and the Kosciusko region, where they aestivate at high altitudes in large numbers. The Ngunawal joined other groups in the high ranges, to feast on the moths roasted over hot ashes. [21]

[10] Mulwaree Shire Community Heritage Study, Draft Report, p. 28.

[11] MacAlister, Charles 1907 *Old Pioneering Days in the Sunny South*, Sydney cited in Mulwaree Shire Community Heritage Study, Draft Report, p. 28.

[12] Jackson-Nakano, Ann 2001 The Kamberri: A History of Aboriginal families in the Canberra- Queanbeyan district and surrounds 1820–1927, and historical overview 1928 – 200, Weereewaa history Series Volume 1, NLA Canberra cited in Mulwaree Shire Community Heritage Study, Draft Report, p. 28.

[13] Smith 1992, p. 3 cited in AMBS, 2012, p. 13.

[14] Tazewell 1991b, p. 243; Wyatt 1972, p. 111-112 cited in AMBS, 2012, p. 13.

[15] Lhotsky 1979 [1835], p. 104-105; MacAlister 1907, p. 82; R. Bell pers. comm. 25/07/2011 cited in AMBS, 2012, p. 13.

[16] Bennett 1967 [1834], p. 290; Govett 1977 [1836-7], p. 23 cited in AMBS, 2012, p. 14.

[17] Bennett 1967 [1834], p. 173,301; Govett 1977 [1836-7], pp. 29,32,34-35,37; MacAlister 1907, p. 88; Wyatt 1972, p. 107; Koettig and Lance 1986, p. 18 cited in AMBS, 2012, p. 14.

[18] Govett 1977 [1836-7], pp. 33-34; 37) cited in AMBS, 2012, p. 14.

[19] Govett 1977 [1836-7], pp. 22-23 cited in AMBS, 2012, p. 14.

[20] Bennett 1967 [1834], p. 183; Gott 1999 cited in AMBS, 2012, p. 15.

[21] Flood 1980 pp. 68-73,112; Helms 1890, pp. 14-15 cited in AMBS, 2012, p. 15.

MALE AND FEMALE NATIVES OF NEW SOUTH WALES.

Figure 5-1 A sketch of Aboriginal people from the Mulwaree Plains "dressed in their usual manner", 1836[22]

NIGHT SCENE—THE GUNYAS, OR HUTS, OF THE NATIVES.

Figure 5-2 Gunyas at night, based on a description of an Aboriginal camp site at Tarlo[23]

[22] Govett, W.R. 1977 *Sketches of New South Wales*, Gaston Renard Publisher, Melbourne, p. 16.
[23] Govett, W.R. 1977 *Sketches of New South Wales*, Gaston Renard Publisher, Melbourne, p. 28.

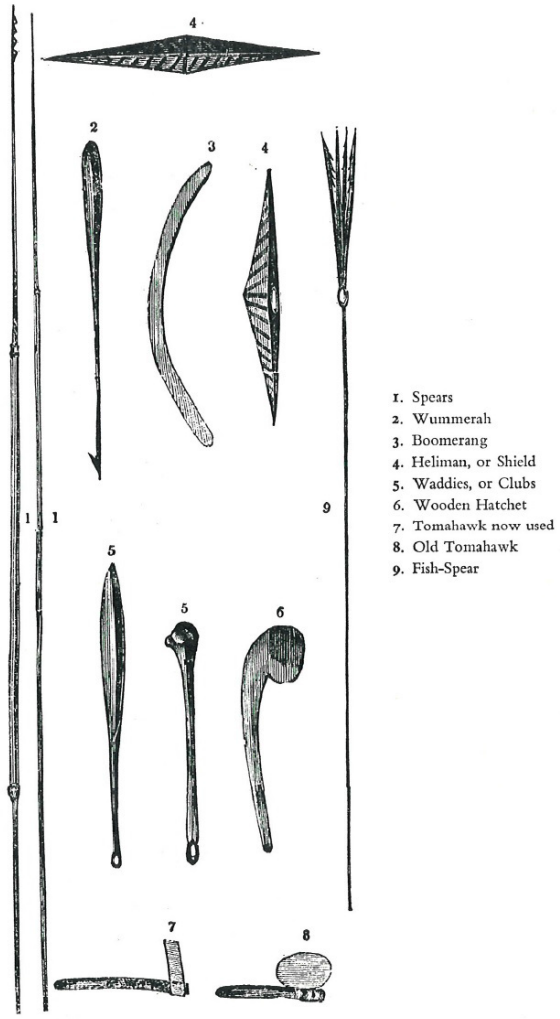

Figure 5-3 Weapons of the Natives of New South Wales[24]

From the 1820s, pastoral properties were established over what was once open forest, disrupting the traditional ways of life of the Gandagurra and Ngunuwal. Additionally, the change in land use brought about by the European invasion had a serious impact on the availability of once abundant natural resources. In the mid-1830s, Govett noted that:

> "The kangaroos have either been killed or have fled in search of more retired forests. Sheep and cattle have taken their place, the emu and turkey are seldom seen, the millions of parrots have even become scarce…".[25]

5.4 European exploration

The exploration of Hume, Throsby and Meehan opened up the route to the South-western Districts beyond Goulburn. After restrictions were removed from accessing the Cow Pastures area, south of the Nepean in 1820, areas to the south-west, such as Goulburn-Mulwaree and beyond were targeted by Europeans, eager to escape the confines of the crowded Cumberland Plain. A stockyard was established for Surveyor-General John Oxley and Throsby near Bargo in 1821 and others followed, creeping south-west to Berrima. Goulburn-Mulwaree was increasingly traversed by exploring parties pushing further south, including, for example, Hamilton Hume and William Hovell's expedition to Port Phillip in 1824 which set out from Gunning.[26]

[24] Govett, W.R. 1977 *Sketches of New South Wales*, Gaston Renard Publisher, Melbourne, p. 12.

[25] Govett 1977 [1836-7]:2 cited in AMBS, 2012, p. 15.

[26] *Australian Dictionary of Biography* entries cited by Edward Higginbotham & Associates, Vol. 1, p. 22.

Hume and Hovell crossed from Tumbarumba into the Holbrook Shire on 10 November 1824, on the first overland expedition to Victoria from the Sydney region by Europeans.[27] In 1829, Charles Sturt found a country that was lightly timbered, with dark masses of she-oak lining the river with the lushness declining to the west corresponding with areas of lower rainfall. European settlement of the area did not begin until the 1830s, when stock began to be moved beyond the Nineteen Counties as far south as the Murray region. Within 15 years of Sturt's visit, most of the water frontages along the Murrumbidgee were occupied by pastoralists, alienating a crucial resource from the Wiradjuri and imposing a new land management regime on much of the area which often resulted in conflict with the Wiradjuri people, who resisted this occupation vigorously. The Gundagai and Wagga Wagga regions developed rapidly, with the prime river frontages taken by the late 1830s, tributary creeks were targeted. [28] By the mid-1840s, most river frontages had been occupied by pastoralists and by the late 1840s squatting runs dominated the area.[29] Pastoralism resulted in the clearing of the bush, the sinking of wells and construction of dams and systematic fencing, with the expansion of towns as a result. [30]

During the goldrushes pastoralists thrived selling meat to the miners – between 1851 and 1854, prices soared. Overlanders taking stock to South Australia traversed the area, with Wagga Wagga the point at which the river was crossed. In subsequent decades following the gold rushes, sheep came to dominate, whereas previously cattle were the favoured stock. [31]

[27] Carnegie, M. 1973 *Friday Mount*, The Hawthorn Press, Melbourne, p. 2.
[28] Heritage Office, *Regional Histories…,* pp. X.
[29] Heritage Office, *Regional Histories…,* pp. 132-134; Swan, 1970, p. 21.
[30] Heritage Office, *Regional Histories…,* pp. X.
[31] Heritage Office, *Regional Histories…,* pp. X.

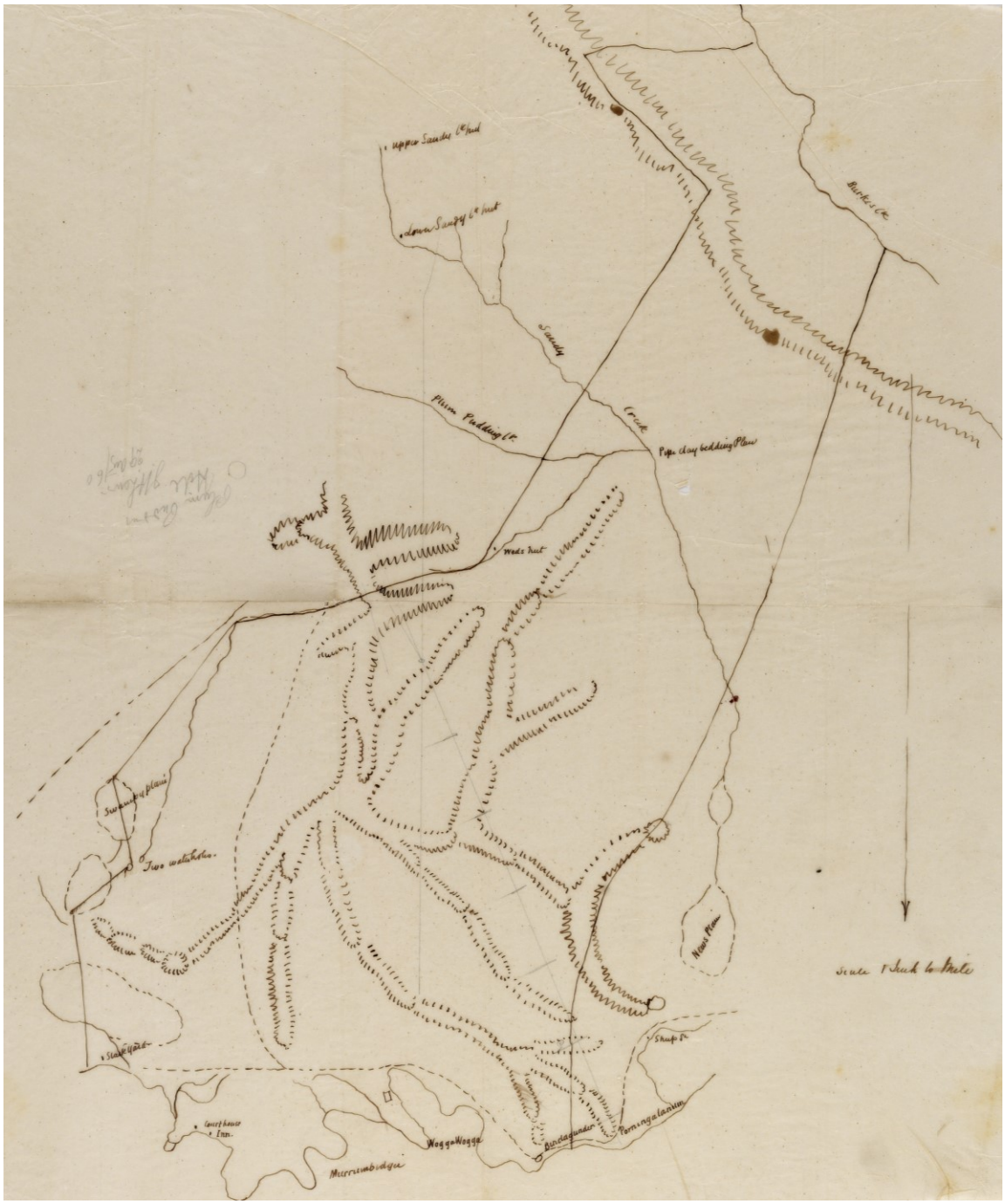

Figure 5-4 This 1852 sketch by Surveyor Townsend, extends north of the Murrumbidgee which encompasses part of the project footprint*[32]

*Note: The Wiradjuri pronunciations of places such as 'Wogga Wogga' and 'Porningalanum' to the south of the 'Murrumbidgi'. Various tracks and sheep stations are marked.

[32] NSWSA: Surveyor General, Field Book No. 699, at 2/8076.1

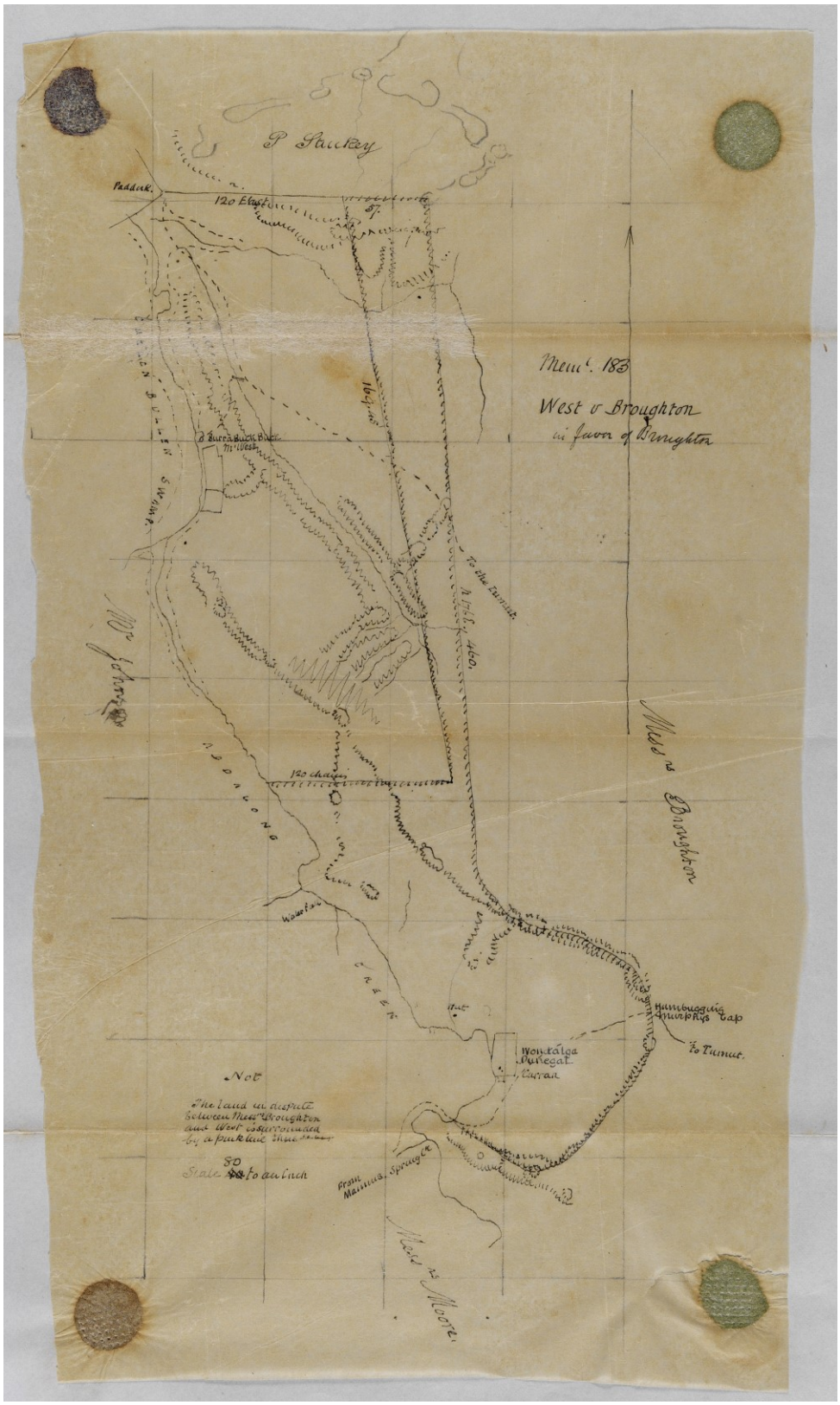

Figure 5-5 This 1852 sketch by Surveyor Townsend, shows the area in the vicinity of Adelong Creek, Cullen Bullen Swamp and the road to Tumut; various tracks, fence lines and sheep stations are marked[33]

[33] NSWSA: Surveyor General, Field Book No. 699, at 2/8076.1

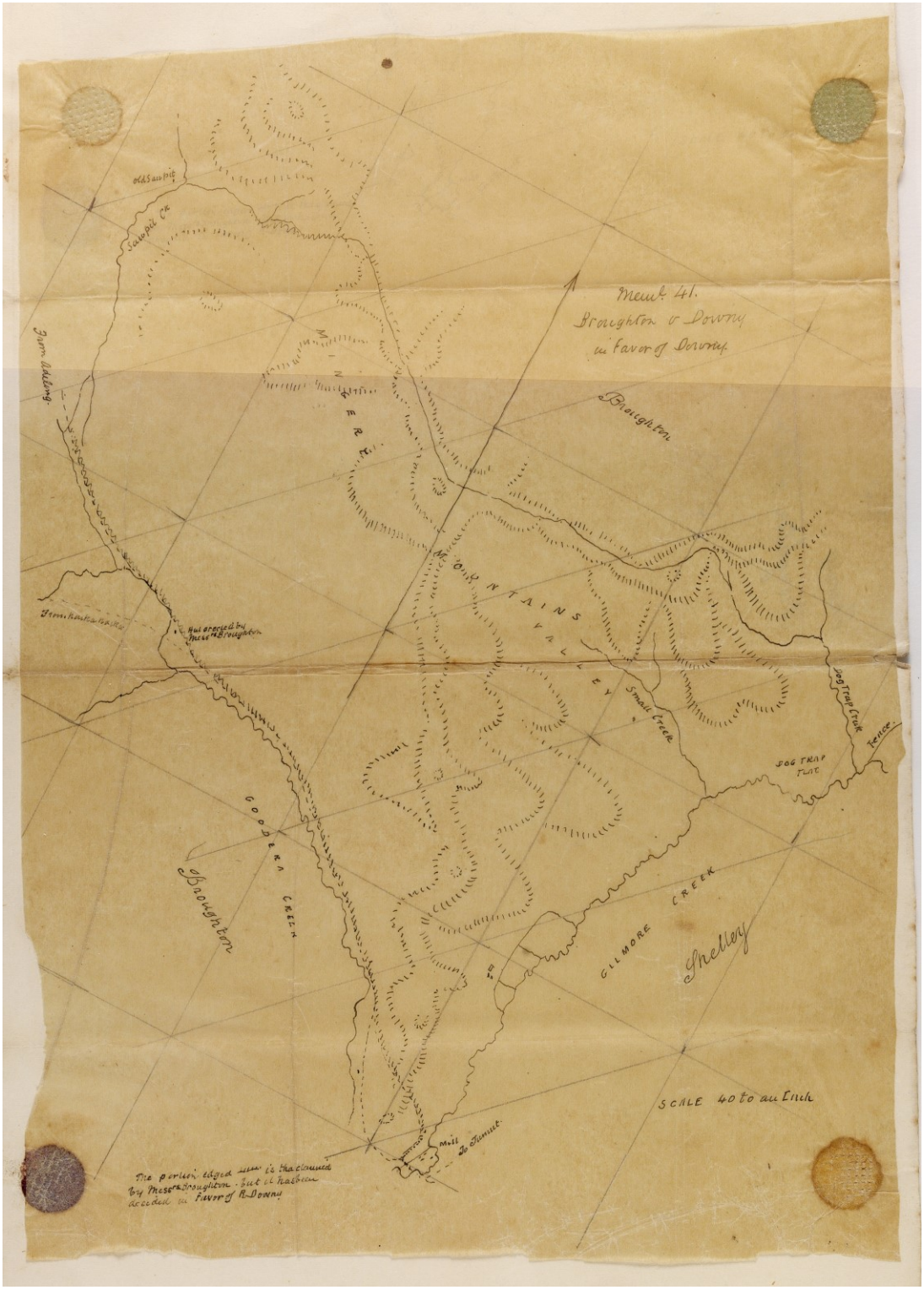

Figure 5-6 This 1852 sketch by Surveyor Townsend, shows the track from Adelong, the location of saw pits, huts and a mill[34]

[34] NSWSA: Surveyor General, Field Book No. 699, at 2/8076.1

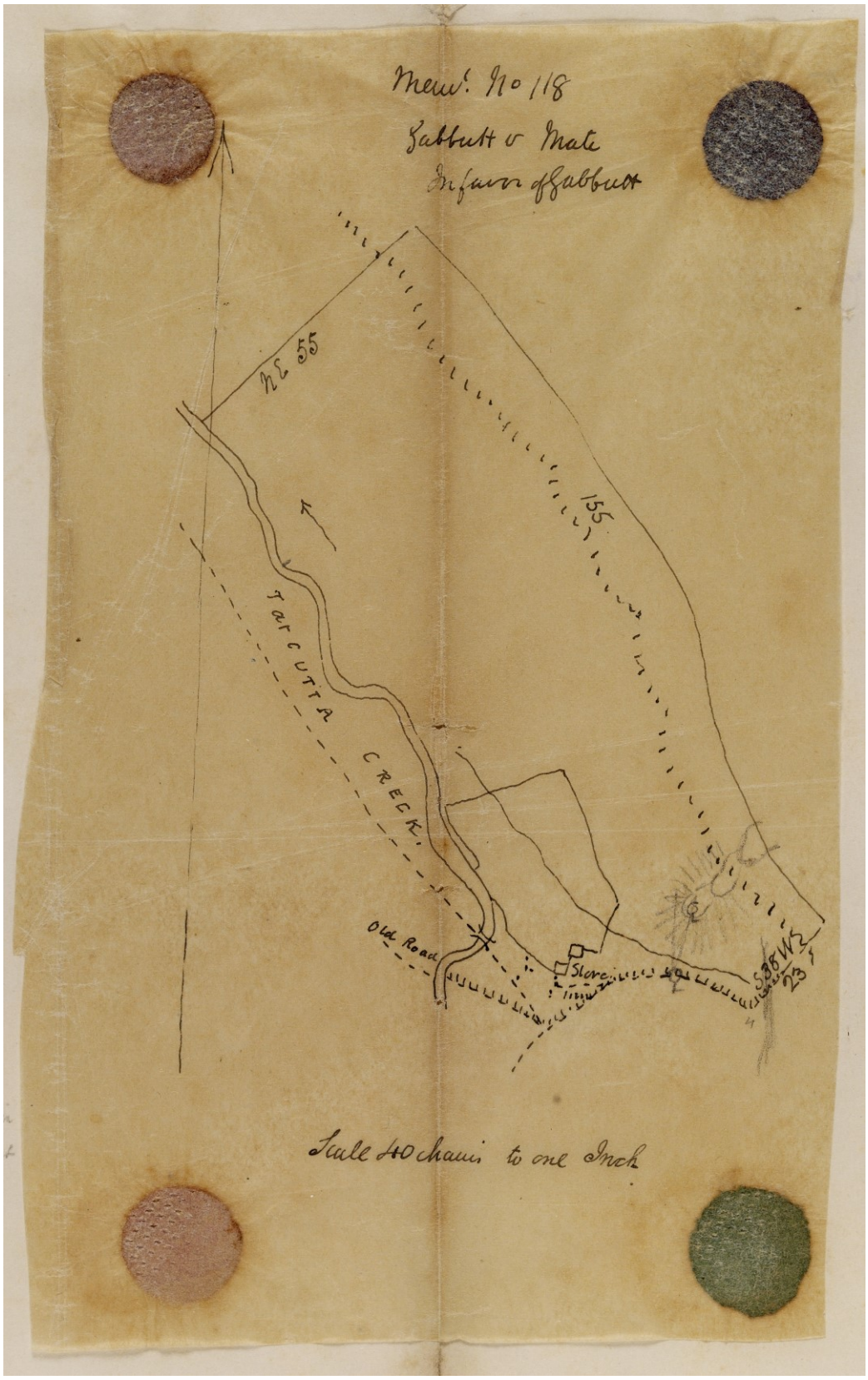

Figure 5-7 This 1852 sketch by Surveyor Townsend, shows Tarcutta Creek, roads and the site of a store[35]

[35] NSWSA: Surveyor General, Field Book No. 699, at 2/8076.1

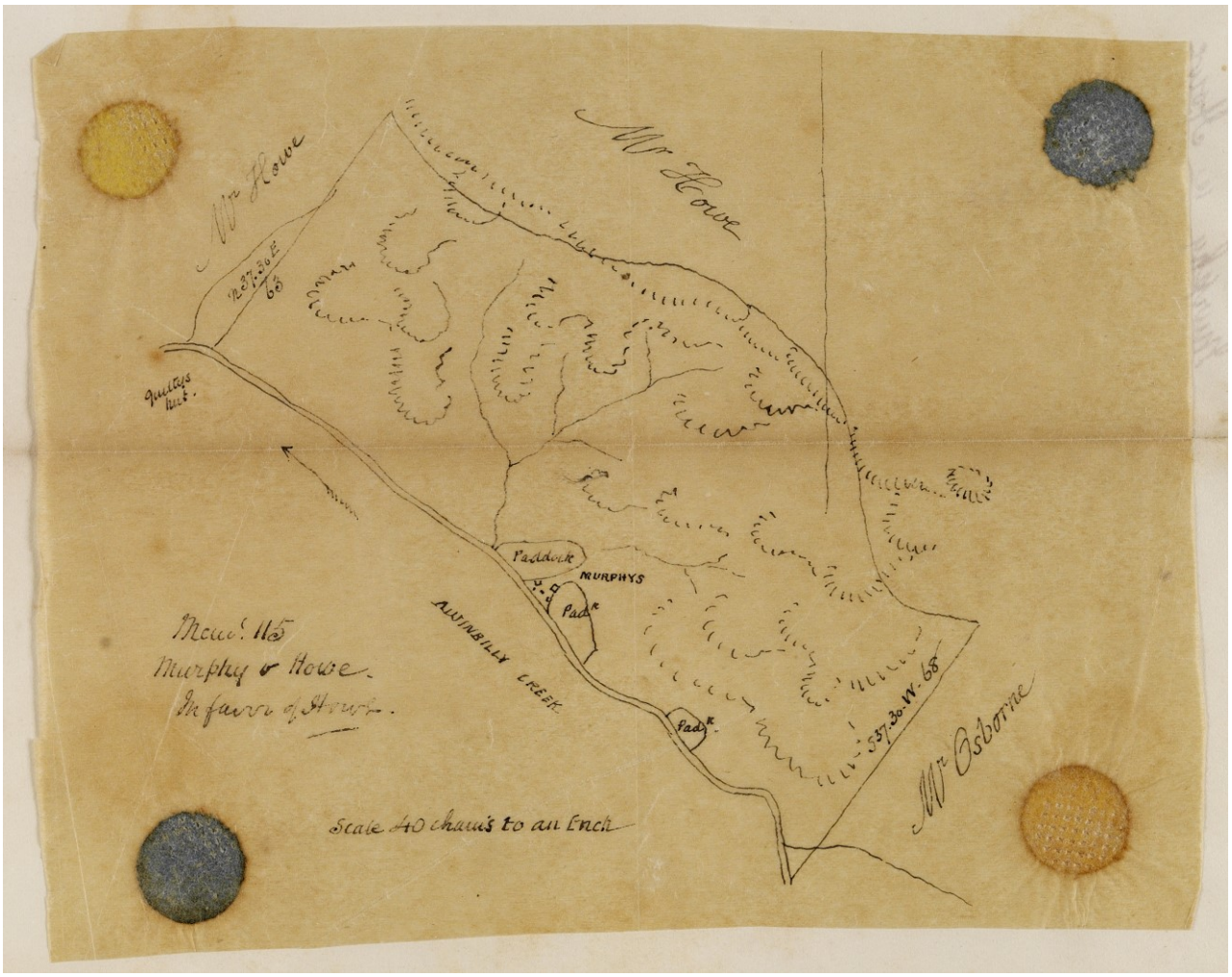

Figure 5-8 This 1852 sketch by Surveyor Townsend, shows Adjunbilly Creek and the sites of huts and fences[36]

[36] NSWSA: Surveyor General, Field Book No. 699, at 2/8076.1

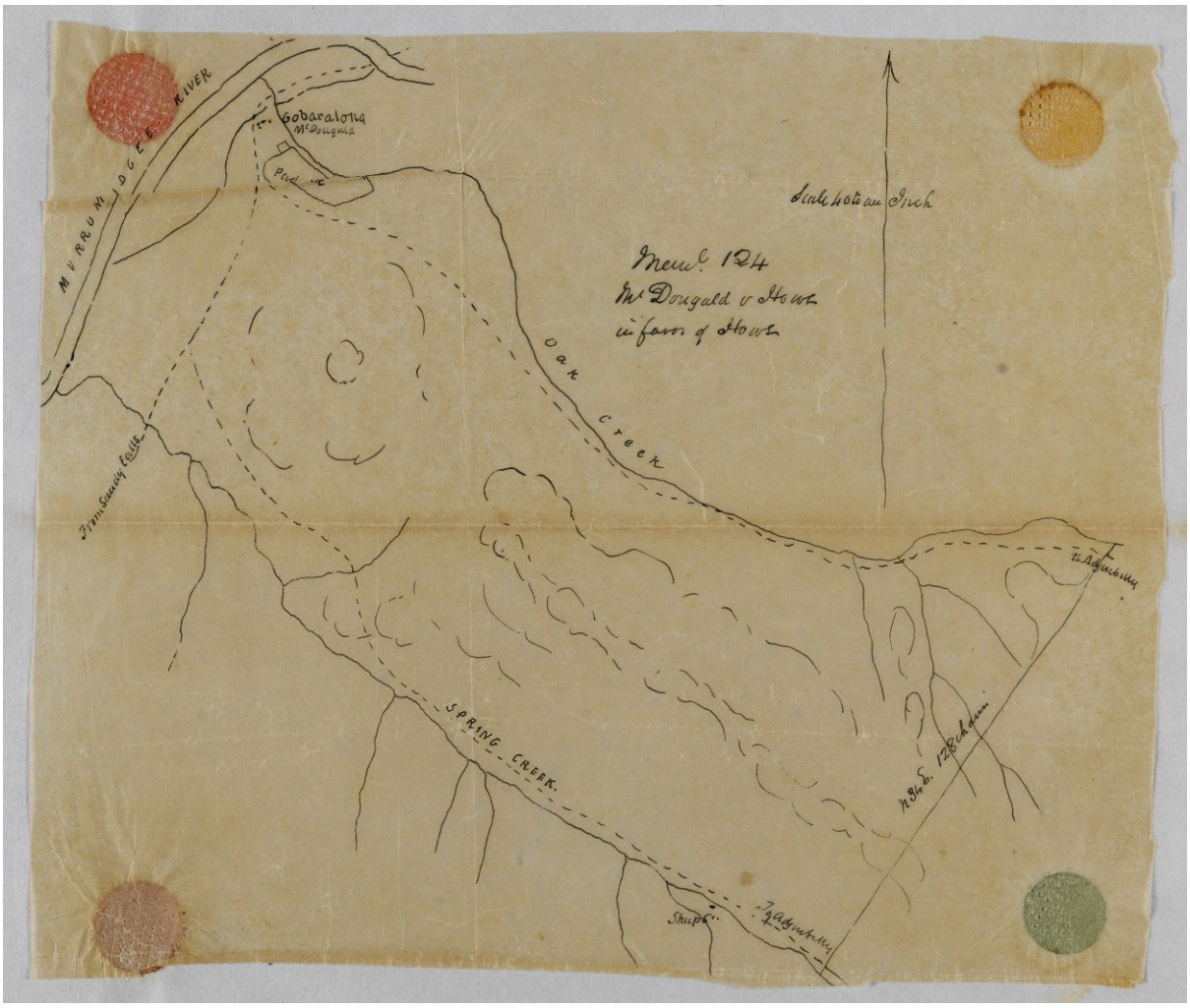

Figure 5-9 This 1852 sketch by Surveyor Townsend, shows the line of the Murrumbidgee in the vicinity of Gobaralong and the location of paddocks, huts, and tracks[37]

[37] NSWSA: Surveyor General, Field Book No. 699, at 2/8076.1

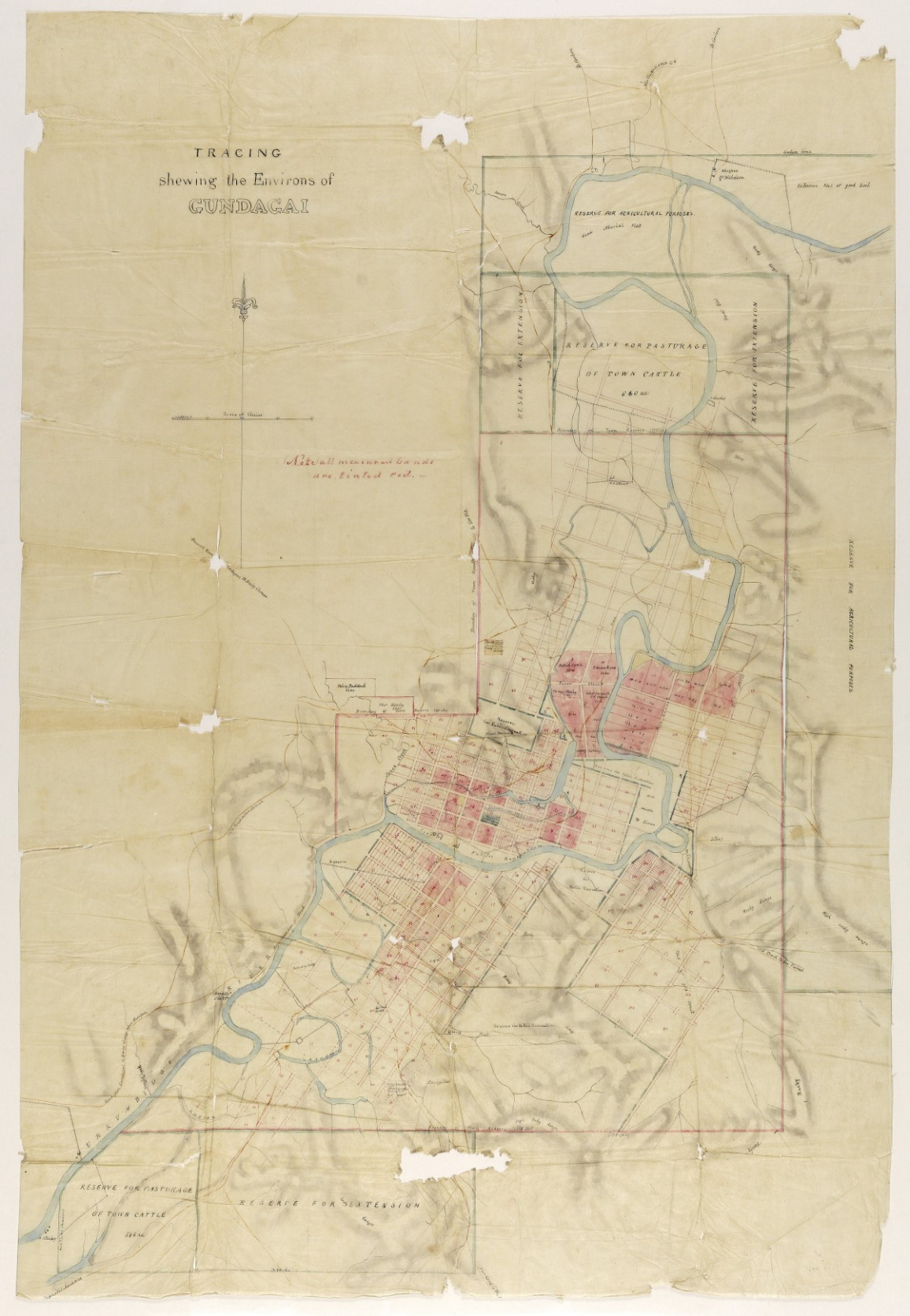

Figure 5-10 This 1852 sketch by Surveyor Townsend, shows the "Environs of Gundagai" including roads and reserves[38]

[38] NSWSA: Surveyor General, Field Book No. 699, at 2/8076.1

5.5 European occupation of the interior of NSW

It was in February 1818 that ten Europeans were first authorised to take up land west of the Great Dividing Range at Bathurst. The occupation gradually expanded to the north and south, radiating out from the Sydney Basin as routes were discovered and physical barriers were overcome. Permission was increasingly given for people to graze stock beyond the mountains, and this was regularised by the issue of a 'ticket of occupation' obtained by paying a small fee, which allowed the holder to graze stock within two miles of a named locality.[39]

By the mid-1820s, a favourable market for Australian wool had emerged in Britain and immigration to the Colony was on the rise. In 1824 the Australian Agricultural Company (a British investment company with many powerful imperial connections that eventually evolved into BHP) had been created by an Act of the Imperial Parliament "...for the cultivation and improvement of waste lands in the Colony...".[40] British capital took an increasing interest in the opportunities afforded by NSW. Speculation in livestock for new holdings drove up prices and the pressure for expansion beyond the then 'Limits of Settlement' was immense. Lured by the prospect of substantial profits many colonists without the required 'ticket of occupation' made their way to the interior and illegally occupied the country, as squatters.[41]

Twenty or more stations, including *Rossiville, Baw Baw, Cardross, Lansdowne, Maxton, Strathallen, Springfield* and *Tirranna* were settled by the end of the 1820s, well before the township of Goulburn was surveyed and built.[42] Occupation by pastoralists led to further settlement, the establishment of roads, towns and inns, and an influx of convict workers, who built the roads and shepherded stock. Initially, the Europeans constructed simple slab and bark huts, Dr Robert Waugh noted in 1835:

> "A man goes and sits down – as it is called – on land as he pleases, builds a hut in three days and lives there for a dozen years...I live in a house that you would not put a pig into in Scotland…I had seen a man with 1,000 sheep living in a house made of sheets of bark like the letter A."[43]

By the late 1830s, the European market for Australian wool was established and increased numbers of skilled tradesmen or 'mechanics' were immigrating to NSW, enabling residences of quality to be erected.

5.5.1 The 'Limits of Location'

The original system of land tenure in NSW was based on British common law with legal title to land dependent on the validity of each change in tenure from the time of grant. In 1825 Governor Darling received instructions to arrange for a new survey to divide the settled districts into counties, hundreds and parishes (Figure 5-11). Unoccupied lands were to be valued for sale at not less than the average value for the parish, if not otherwise reserved for community and civic functions. Prior to this date land was obtained by grant from the Crown.[44]

In September 1826 an order by Governor Darling established the 'Limits of Location' which defined the area, considered to be sufficient to meet the needs of the Colony, within which settlers could take up land. Four areas of settlement outside the Cumberland Plain were defined – the Hunter Valley, Bathurst, the Southern Highlands and Illawarra-Shoalhaven. The Hunter Valley was the most closely settled and intensely occupied area outside the County of Cumberland.[45] The heritage study area was well beyond the Limits of Location and had not yet been invaded on a concerted scale by Europeans.

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[39] King, C.J. 1957 *An Outline of Closer Settlement In New South Wales*, Department of Agriculture New South Wales, pp. 26-30.

[40] Act 5 Geo.IV cap. LXXXVI cited in King, C.J., *An Outline*..., p. 33.

[41] Roberts, Sir Stephen, *History of Australian Land Settlement*, Macmillan of Australia, 1968, pp. 165-167.

[42] Firth, Vol.1, p. 2. *Tirranna* was still owned in 2004 by descendants of the original settler, Dr Andrew Gibson, the Assistant Colonial Surgeon, who took up the land grant in 1828; Mulwaree Shire Community Heritage Study, Draft Report, p. 36.

[43] Waugh cited in Firth, Vol. 1, p. 20.

[44] Mulwaree Shire Community Heritage Study, Draft Report, p. 33.

[45] King, C.J. *An Outline*..., pp. 26-30.

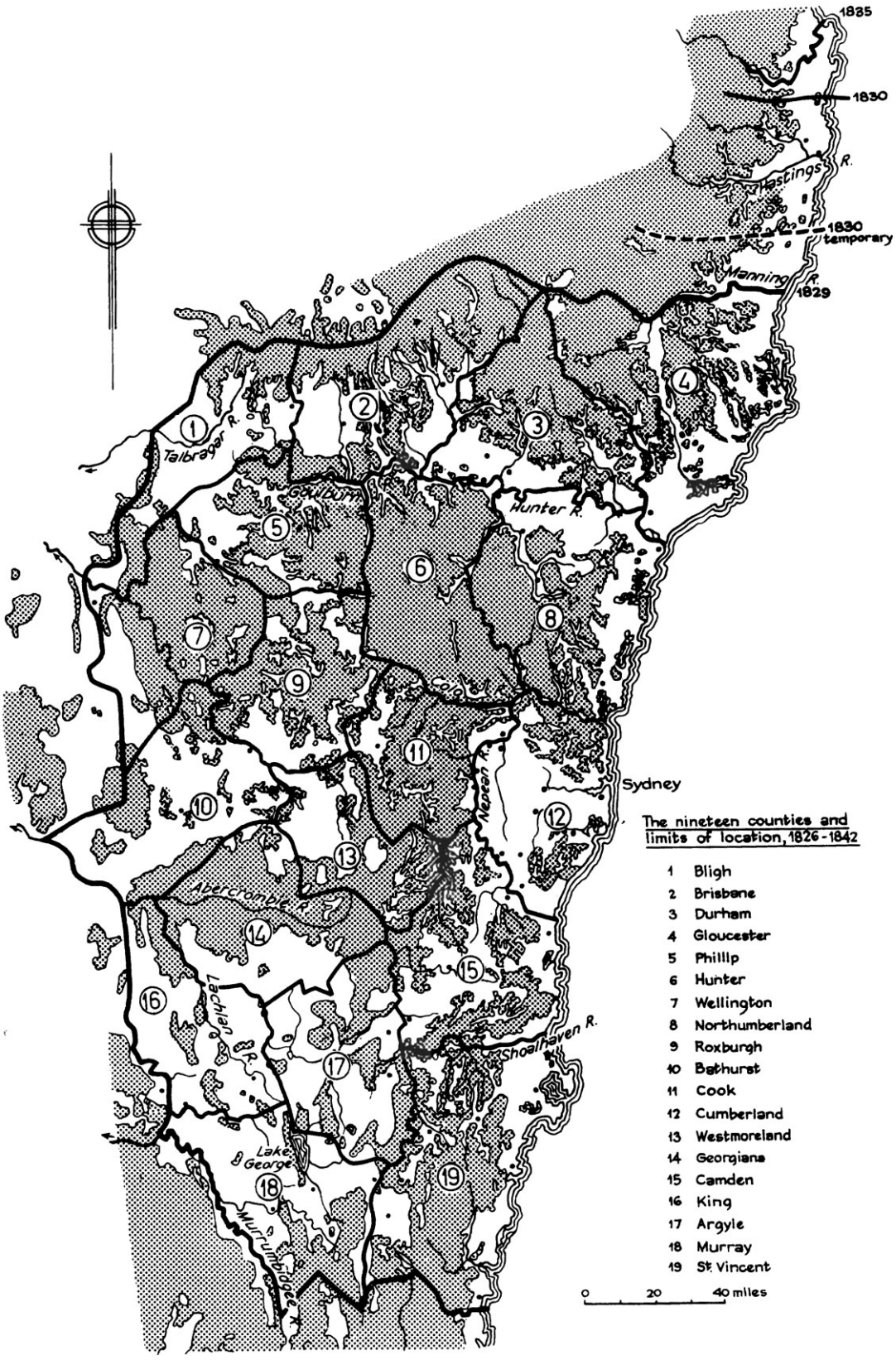

Figure 5-11 The Nineteen Counties and Limits of Location, 1826–1842*[46]

*Note: In 1829 these could only be approximated, and a precise definition was not formulated until 1835. The majority of the heritage study area is outside these area with the exception of the County of Murray.

[46] Jeans, D.N. 1972 *An Historical Geography of New South Wales to 1901,* Reed Education, Sydney, p. 106.

In 1829 pressures for new pastoral areas were such that the boundaries constituting the limits of approved settlement were re-defined as the 'Nineteen Counties'. The order of 1829 divided eastern Australia into two regions – the settled and unsettled. In the words of land legislation historian, C.J. King, an imaginary line divided:

> "...two different worlds. Within, land could be alienated, settlement was officially encouraged, police protection was provided, roads were made and provision existed for local justice and the like; but, without, no land could be granted or sold, occupation was positively prohibited, and any man that dared to trespass had to rely entirely on himself. The Government not only refused to aid such transgression – they severely punished it, and the squatter who went beyond had to view any official as an enemy."[47]

Since 1828, prior even to the delineation of the 'Nineteen Counties', settlement had extended beyond the 'Limits of location' area defined. By the time the Nineteen Counties were officially confirmed in 1835, the men and herds were well beyond the area. After Sturt's expedition into the south-west in 1829, encroachment on Wiradjuri lands began and by the late 1830s the heritage study area was very much part of this wave of occupation.

In 1833 Governor Bourke introduced an Act of Council to protect "...the Crown lands of the Colony from Encroachment, Intrusion and Trespass".[48] The Act authorised the appointment of Commissioners who had the authority to warn off trespassers from the outlying country and to act on behalf of the Crown. The effect of this Act, however, was mainly the movement of men and stock even further afield beyond the patrolled areas.[49] This and other attempts to control this invasion of the Crown lands were a failure since, in C.J. King's opinion, the concentrated strength of a whole community and its commercial and economic interests were solidly ranged against them.[50] In December 1835 Bourke wrote:

> "...the persons...familiarly called squatters are the object of great animosity on the part of the wealthier settlers, however,…it must be confessed that these squatters are only following in the steps of all the most influential and exceptionable colonists, whose cattle and sheep stations are everywhere to be found side by side with those of the obnoxious squatter, and held by no better title."[51]

Squatters and their stockmen, including Mate of *Umutbee* and *Toonga* and Smith of *Kyeamba*, both stations being in the direct route of the transmission line, followed the rivers and the tracks of the explorers and lived and operated outside the law.[52] This illegal occupation of the land beyond the prescribed limits of settlement was well known by a government that was unable to control it.

5.5.2 Beyond the limits

In 1836 an Act of Council attempted to regulate squatting beyond the frontier by allowing grazing beyond the boundaries subject to the payment of a £10 licence fee. It was also an attempt to officially recognize the situation and to obtain recognition by the occupiers of Crown title. As licences were to be issued only to reputable settlers vouched for by the Commissioners of Crown Lands who were appointed to oversee the newly occupied territory, it was also an attempt to remove the stigma of illegal squatting by excluding undesirables.[53] Because the licences had to be renewed annually, tenure was insecure and improvements were made at the licensee's risk, thus they were basic and insubstantial, huts rather than houses and fencing was sparse if it existed at all. As there were no surveys, the squatter had to bargain with neighbours to define his boundaries and, in reality, licences were merely an assertion by the Crown of its title. This situation further increased squatters' hesitation to develop their holdings.[54]

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[47] King, C.J. *An Outline* ..., p. 40.

[48] Cited in King, C.J., *An Outline*..., pp. 46-47.

[49] Jeans, D.N. *An Historical Geography*..., pp. 152-3.

[50] King, C.J. *An Outline* ..., p. 46.

[51] Cited in King, C.J. *An Outline* ..., p. 47.

[52] Roberts, Sir Stephen, *History of Australian Land Settlement*, pp. 165-167.

[53] Jeans, D.N. *An Historical Geography*..., p. 154.

[54] King, C.J. *An Outline* ..., p. 48.

Law and order were also becoming an issue on the frontier with the number of 'depredations' by the natives and 'atrocities' by the shepherds increasing. An Act of Council in March 1839 signalled yet another attempt to restrain the occupation of Crown lands via a charge on the head of stock, with the funds being used to finance policing of the area.[55] In another Act, in May 1839, the area beyond the Limits of Location (The Nineteen Counties) was divided into nine districts (Figure 5-12) to be supervised by Commissioners. They also had to collect licence fees and had a small force of Border Police to assist them. At the time Governor Gipps announced to the public that he had received instructions that inquests were to be held into any violent deaths of Aboriginal people resulting from conflict with white men, he noted atrocities recently committed beyond the frontier and stated that:

> "…as the Aboriginal possessors of the soil from which the wealth of the country has been principally derived – and as subjects of the Queen, whose authority extends over every part of New Holland – the natives of the Colony have equal right with the people of European origin to the protection and assistance of the law of England."[56]

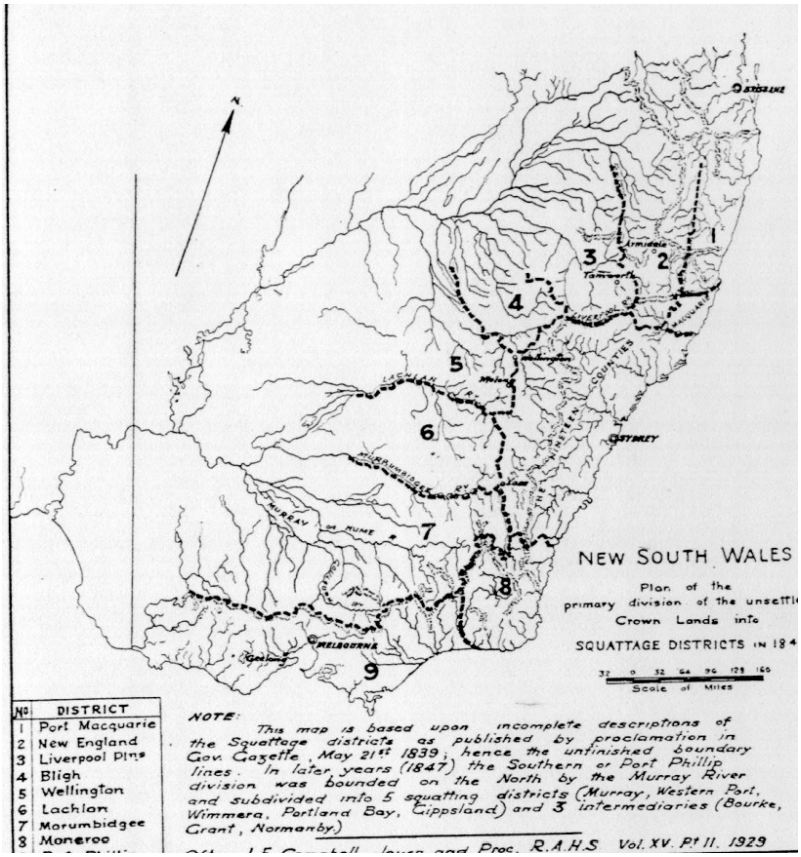

Figure 5-12 Plan of the Primary Division of the Unsettled Crown Lands of New South Wales into Squattage districts in 1840*[57]

*Note: The heritage study area is part of Areas 6 and 7 (the Lachlan and Murrumbidgee districts) and encroaching on the Nineteen Counties to the east.

With the passage of the Australian Lands Act of 1842 (5 and 6 Vict., C.36) the British Parliament legislated (again) to end free grants. The Act prescribed auction from a minimum upset price of £1 per acre as the sole means of selling Crown land. With no allowance for pre-emptive or other rights, the Act heightened squatters' insecurity while further asserting Crown rights, thus development continued to be scant, as the surveys of Surveyor Townsend of the late 1840s and early 1850s demonstrate.[58] In reality, the licensees were bitterly opposed to a fee calculated on the size of their holdings. Formerly

[55] King, C.J. *An Outline*..., pp. 48-49.

[56] *Government Gazette*, 22 May 1839, p. 606.

[57] King, C.J. *An Outline* ..., p. 49.

[58] Heathcote, R.L. 1964 'Conservation or Opportune Use? The Pastoralists' Problem in Semi-Arid Australia', *Advancement of Science*, May, pp. 52-53.

the £10 annual rental had secured a run of unlimited size, but the new project required, in addition to the purchase requirement, a separate fee for every 20 square miles. Confronted by this opposition, the Colonial Office bowed to pastoral interests and Orders in Council of March 1847 under the Imperial Act of 1846 (9 and 10 Vict., c.104) allowed for a more favourable tenure, offering different leases according to the location, while retaining the £10 annual rental for all.[59] NSW was then divided into three districts for leasing purposes. The 'settled' districts were within the Nineteen Counties where the annual licence was continued; the newly created 'intermediate' districts covered the better watered lands near the coastal ports where an eight-year lease covering an area of 25 square miles was offered; and the 'unsettled' districts confined by a border delineated by the Barwon-Darling, in which a 14-year lease for a run with a maximum of 50 square miles was obtainable. The Murrumbidgee District, including the heritage study area, was a part of the 'unsettled' area. Rentals in the 'unsettled' districts allowed for a carrying capacity of not more than 4,000 sheep with another £2.10s for each additional 1,000 sheep carrying capacity. The lessees also had the first right of purchase. At the end of the lease if the run was sold the lessee would be compensated for any improvements. Lots were to be rectangular and no lot along a water course was to have more than 440 yards of direct water access for 160 acres and no lot was to extend over both sides of a stream large enough to be a boundary. The right to purchase 1 square mile in 25 was used by lessees to pick the choicest spots and to strategically control the country.[60]

The following year, 1848, Earl Grey, the Secretary of State for the Colonies, instructed the new Governor, Fitzroy that the term 'Crown Leases' gave:

> "…the grantees only an exclusive right to pasturage for their cattle and of cultivating such land as they may require within the larger limits of this assigned to them, but that these leases are not intended to deprive the natives of their former right to hunt over these districts or to wander over them in search of subsistence in the manner to which they have hithertofore accustomed, from the spontaneous produce of the soil, except over land actually cultivated or fenced in for that purpose."[61]

Theoretically at least, mutual rights of Aboriginal people and pastoralists on crown leases were to be recognised.

5.5.3 The selection acts of the 1860s

The rapid increase in population caused by the gold rush of the 1850s further fuelled the demand for land. This was led by former tenants who were looking for freeholds and successful ex-miners with capital to invest. They were encouraged by city politicians keen to attack their political rivals, the pastoralists.[62] It was in this broad context in 1861 that two land laws significantly opened up NSW for closer settlement. The 1861 Crown lands Alienation Act (25 Vic. No.1) and the Crown lands Occupation Act (25 Vic. No.2) superseded all previous legislation. The principal of conditional purchase was instituted as well as free selection before survey. Any person could select 40 to 230 acres of any Crown Lands (except town, suburban or reserved lands) at £1 per acre, subject to conditions of residence and improvement. In the unsettled districts runs that ranged from 25 to 100 square miles depending on the quality of the country were to have five-year leases which were to be open to competition by private tender. To encourage permanent improvements lease-holders were entitled to a pre-emptive right over the area at the rate of four acres for every pound spent on improvements. They were also able to lease adjoining land to the extent of three times their freehold.[63] People making claims under the various land acts invested great effort into these small landholdings to achieve the level of productivity required to maintain the land, particularly since the acts required improvements to be made to the property three years after its acquisition, to the value of £1 per acre. This resulted in the ringbarking of trees, clearing, fencing, and the damming of creeks and rivers in order to satisfy these requirements on such small holdings.

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[59] Jeans, D.N. *An Historical Geography* ..., p. 155.

[60] King, C.J. *An Outline* ..., pp. 55-56; 60.

[61] SRNSW: Col. Sec., Special bundle, Reserves for Aborigines 1848-49, Despatch Earl Grey, Secretary of State for the Colonies to Governor Sir Charles Fitzroy, 11 February 1848, pp. 13-14.

[62] Jeans, D.N. *An Historical Geography* ..., pp. 207-08.

[63] King, C.J. *An Outline* ..., pp. 81-82.

In the land struggles which followed, the pastoralists used their pre-emptive and other rights to establish freehold estates by a range of strategies. The 14-year leases granted under the 1847 Orders in Council were terminated and replaced by five-year leases in the Intermediate and Unsettled Districts. It was not until 1866 that selection of the grazed Crown Lands by small farmers began in earnest, rising to a peak in the 1870s. The squatters met this threat by 'dummying', or the use of agents to secure land, which was later sold back to them at a pre-arranged price; by 'peacocking', the selection of the best parts of the runs, in such a way that made the remaining land untenable; or sometimes by bribing selectors to induce them to go elsewhere. By such methods many runs became freehold properties, while on others the most useful land surrounding natural water supplies or improvements such as wells, tanks and fences was secured as freehold by the pastoralist or his agent.[64] The 1861 Act had allowed the selector of a Conditional Purchase to pay a deposit of 5s (5 shillings) per acre (25 per cent) and pay the balance at the end of three years or pay interest annually at 5 per cent forever. A new Act in 1875 allowed payment of the balance by instalments of 1s (1 shilling) per acre and improved selectors' chances of achieving freehold title, but many did not avail themselves of this opportunity.[65]

Under the Crown Land's (Amendment) Act of 1875 (39 Vic No.13) dummying, which had been widely used since the passage of the Free Selection Act of 1861 was made a criminal offence. But as dummying still continued, and subverted the intention of the Act, there was another attempt in the 1880s to reduce the size of the lease holdings and intensify settlement.

5.5.4 Post 1880 land acts

This took the form of the 1884 Crown Lands Act (48 Vic. No.18) and the amending Bill of 1889, which continued the process of subdivision of the runs of the squatters, but in a gradual way that provided some security and stability to the run holder. The squatters were to divide their leaseholds into two portions known as the Leasehold Area and the Resumed Area and they could re-lease the leasehold area for fixed periods. In the eastern Division this was limited to five years, by way of a Pastoral Lease. The Resumed Area could be occupied under an annual Occupation Licence but the area was to remain open for selection under Conditional Purchase and Conditional Lease and the run holder's occupation licence for this area could be disposed of by auction if he failed to secure the licence. The boundaries of the three divisions of the State were redrawn from those prescribed in 1847, the heritage study area now becoming part of the Eastern Division, which covered the coastal areas and parts of the eastern slopes, and a new administrative system of Local Land Boards was introduced. The limit for conditional purchase in the Eastern Division was 640 acres, and with conditional lease 1,280 acres, and a time limit of two years was imposed on fencing the boundaries of both conditional leases and conditional purchases.[66]

The 1889 Crown Lands (Amendment) Act while introducing some radical reform, offered a number of privileges which the 1884 Act withheld. For pastoral leaseholders in the Eastern Division, the leasehold area, on the expiry of the lease, could be dealt with as a resumed area, and the lease holder could apply for an occupation licence over the land formerly held under pastoral lease. Holders of expiring pastoral leases in the Eastern division could also continue to hold their land at a new rent under preferential occupation licence. However, despite these concessions, by July 1890 it was clear that a large area of the Eastern Division had reverted to the Crown by the lapsing of pastoral leases, which greatly stimulated demand for land under conditional purchase.[67]

In the late 1880s a long period of economic boom in NSW came to an end, ushering in an economic depression which extended throughout most of the following decade. This was accompanied by ongoing industrial unrest in some key industries, including the pastoral industry which was hit by the shearers' strikes. There were also prolonged droughts and a cycle of very wet years in 1887 and 1889–1891, causing widespread flooding in some areas. The depression was accompanied by a dramatic fall in wool prices and triggered the banking crisis of 1893, when 13 of the 25 trading banks in NSW collapsed.[68] This combination of circumstances served to make pastoralism much less economically

[64] Jeans, D.N. *An Historical Geography* ..., p. 276.
[65] King, C.J. *An Outline* ..., pp. 89-90.
[66] King, C.J. *An Outline* ..., pp. 99-102.
[67] King, C.J. *An Outline* ..., pp. 105-07.
[68] King, C.J. An Outline..., pp. 110-114.

viable and had serious repercussions for squatters and selectors. By 1890 nearly 1,200 squatting runs were in the hands of financial institutions and, between 1883 and 1893, 95,997 selectors had transferred their holdings to others, in most cases to the holders of the runs on which the selections were made.[69]

The 1895 Crown Lands Act (58 Vic. No. 18) introduced at such a time of crisis did not interfere with the rights of the squatters, but offered them instead a number of concessions, by restoring the resumed parts of their runs, until they were needed for settlement and allowing them to apply for re-appraisement of their rents and an extension of their occupancy. The main emphasis of the 1895 Act, however, was the interests of the small settler to whom land was to be made available under new tenures. It also introduced a new principle of classification of land as to value and potential. Until 1895 Conditional Purchase and its associated Conditional Lease had been the principal means of selection and settlement of Crown Lands, but the 1895 Act provided two new options of Homestead Selection and Settlement Lease, both of which were obtainable from areas which had already been classified and made available for the purpose.[70]

The Homestead Selection required a rental of 1.25 per cent of the capital value of the block until the issue of the Grant, and thereafter 2.5 per cent. The Grant, to be issued by the Local Land Board required annual payment forever of a perpetual rent, residence forever on the selection, and forfeiture of the land in case these conditions were not carried out. The Settlement Lease was for a term of 28 years, with an annual rent of 1.2 per cent of the capital value of the farm, and required residence for the full term of the lease. The Act also allowed the leaseholder to obtain a Homestead Selection out of his leased land. In all cases the residence term was greatly extended. From a residence term of five years prior to 1895, it now became perpetual residence on Homestead Selections and 28 years on Settlement Leases, and it was not until 1917 that the term on all residential tenures was reverted to five years.[71] In view of the prevailing economic situation the Conditional Purchasers' Relief Act was introduced in 1896, offering further concessions to people unable to pay purchase instalments. These were reduced from 1s (1 shilling) to 9d (9 pennies) per acre, and where conditions allowed the full payment to be completed in 66 years, they were reduced to 6d (sixpence) per acre. Conditional Purchase holders were also permitted to convert to Homestead Selections, on which payments were considerably less than on Conditional Purchases.[72]

The introduction of these new tenures, the Homestead Selection and the Settlement Lease gave fresh impetus to the demand for land at the turn of the century. The increased certainty and intensification of occupation resulted in more substantial development. Other measures also made it more difficult for the pastoralists to increase the size of their holdings, including the introduction of a principle of 'good faith' into the law in an effort to prevent dummying. This required every selection to be taken up in good faith and held in good faith and because of legal redress reserved to the Crown it resulted in the elimination of dummying almost entirely.[73] Another measure which discouraged larger holdings was the introduction of the 1895 Land Tax Act (59 Vict. No. 16) which levied land tax at the rate of 1d (1 penny) in the pound for the unimproved value of the land.[74] In later debates on closer settlement in NSW many advocated the introduction of steeply graded progressive land taxes as being the surest means of reducing the size of the large estates. It was not till after the 1909 Federal elections when the Labor Party gained government that the Federal Land Tax (1910) was introduced.[75]

5.5.5 Closer settlement

Statistics indicate the success of these legislative measures. In 1900, 139,427 acres were made available for Homestead Selection and 329,314 acres for Settlement Lease. By 1901, these figures had increased to 203,873 acres for Homestead Selection and 851,916 acres for Settlement Lease, while between 1895 and the end of 1902, 2,432,000 acres were disposed of as Homestead Selections.

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[69] King, C.J. *An Outline* ..., pp. 115-16.
[70] King, C.J. *An Outline* ..., pp. 133-34.
[71] King, C.J. *An Outline* ..., pp. 134-35.
[72] King, C.J. *An Outline*..., pp. 134-36.
[73] King, C.J. *An Outline* ..., p. 135.
[74] King, C.J. *An Outline* ..., p. 138.
[75] King, C.J. *An Outline* ..., p. 139.

During the same period, however, 6,600,000 acres of Crown Land were disposed of as Conditional Purchases and Conditional Leases, the latter with the capacity to be purchased at any time during their period of tenure.[76] After the return of troops from both world wars, Soldier Settlement schemes were introduced. The history of tenure in the heritage study area is discernible in the parish maps reflects the impact of these legislative and administrative reforms.

5.6 The heritage study area

The connection between Sydney and its hinterland in the south-west, and to the Victorian capital, Melbourne is at the core of the development of the broader region which is bisected longitudinally by the Hume Highway and laterally by the Sturt Highway and Snowy Mountains Highway. Through Sydney and Melbourne, the producers of the south-west accessed not only the two most important domestic urban markets but also overseas markets via these capital city ports. Immigrants, including the squatters Smith and Mate, who took up holdings along the heritage study area, arrived through Sydney. Later specialist immigrants, imported to develop viticulture, also disembarked there.

Prior to 1928 the main overland route from Sydney to Melbourne was known as the Great South Road. This road in its northern most stages closely followed the route of Hume and Hovell from Hume's property at Lake George, to close to the site of Tumut, to the Murray River in the vicinity of Albury.[77]

Surveyor General Mitchell surveyed the road to Goulburn in detail in the early 1830s, and his suggested line between Lupton's Inn and Goulburn was adopted. Goulburn's advantageous position on the Great South Road meant it was exposed to most traffic destined for Victoria. Governor Bourke selected a town site in 1832, gazetted as the Town of Goulburn in 1833. It quickly became an important wheat growing area from the 1820s, and in the 1860s when free settlement increased in the western districts, along with their wheat production, Goulburn became the commercial centre of a prosperous agricultural and pastoral area. Sheep and cattle – both beef and dairy, have been raised extensively in the region and the entire district is seen as a 'fattening' centre. The town was the terminus of the railway from Sydney between 1869 and 1875 and remained an important railway junction, as well as one of the State's main stock markets and an important manufacturing centre.[78]

Such early road routes as the Hume Highway were dictated by the need for water and pasturage. Key features of such roads were the natural contours, watering places and level, sheltered campsites.[79] Road verges were wide to allow for feed for the bullocks that were the principal form of heavy transport. By the early 1850s, the Great South Road had only extended as far as Yass where a bridge crossing the Yass River was completed in 1854. A bullock track then continued to Bookham, Jugiong and Coolac to Gundagai where the Murrumbidgee was crossed by ford. The track then followed the southern bank of the river to Jones' Inn, 20 miles from Gundagai, where it turned sharply west to Lower Tarcutta. It then ran south through *Kyeamba Station* over Kyeamba Range to Garryowen to Holbrook, thence via Bowna to Albury. The route in this latter area was described in 1858 as little more than 'a scarcely formed bullock track with its tottering bridges, rugged steeps and treacherous passes' but it was nevertheless a popular road for coaches.[80] The main road linking Goulburn and Braidwood, eventually reaching the south coast, was in existence from the mid-1800s, however it remained undeveloped.[81]

The Hume Highway influenced the pattern of settlement and the economic and social development of the region. In the 19th Century for example, inns were spaced regularly along the line, roughly based on a days or half-days coach travel – at sites where horses needed to be changed or rested, at for example the Traveller's Rest. Improvements in transport modes have led to the decline of some towns

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[76] King, C.J. *An Outline* ..., p. 136.

[77] Department of Main Roads 1948 'Historical Roads of New South Wales. Development of the Route of the Hume Highway', *Main Roads*, Vol. XIII, No.4, pp. 122-126.

[78] Australian Encyclopaedia, Vol. 4 pp. 343-4, Heritage Office, *Regional Histories…,* pp. 108-9; Beckett, W.J. (ed.) 1947 *The Australian Blue Book*, 2nd ed. Vicrete Investments Limited, Sydney, p. 265.

[79] SRNSW: Surveyor General, Surveyors Field Books, Surveyor Townsend, Field Book No.699, Tracings and field notes of runs in the Murrumbidgee District, 2/8076.1; 'Roads and Traffic Authority, Upgrade of Heritage & Conservation Register for the South West Region, NSW, Thematic History', p. 20.

[80] Department of Main Roads 'Historical Roads…, pp. 122-126.

[81] Heritage Office, *Regional Histories…,* p. 111.

and local industries, as small rural settlements lost trade to larger and more accessible centres, such as Albury and Wagga Wagga, as well as Sydney and Melbourne.[82]

5.7 Specific towns and localities

For ease of analysis in this section, the project footprint has been analysed separately by LGA (refer to Figure 5-13).

[82] Roads and Traffic Authority, 'Upgrade of Heritage & Conservation Register for the South West Region, NSW, Thematic History', p. 30.

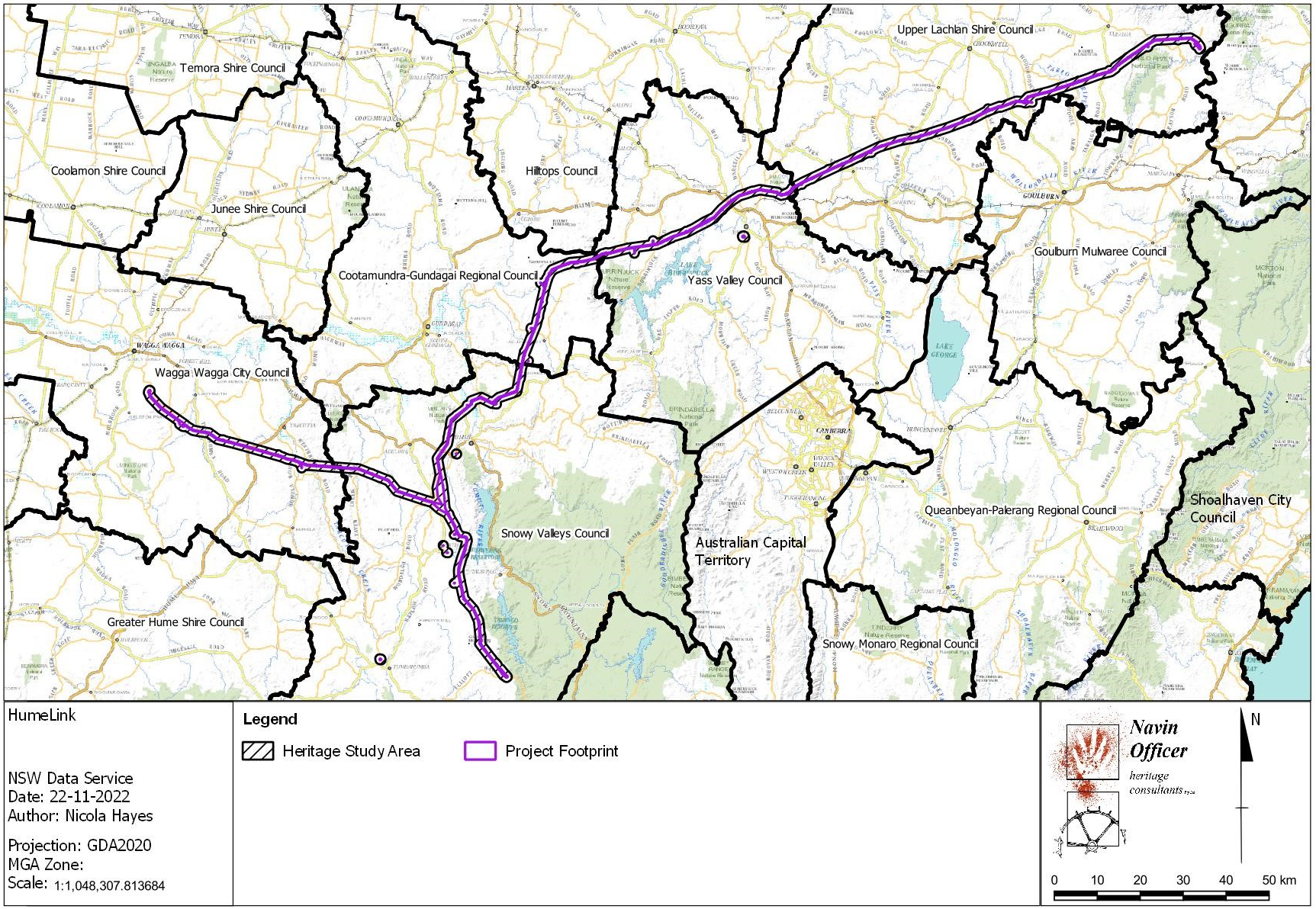

Figure 5-13 Map of HumeLink project footprint and LGAs

5.7.1 Wagga Wagga City Council

Oberne Creek/Westbrook

Westbrook, formally called Oberne Creek, is 23 kilometres west of Batlow. It is a farming and grazing township.

A visiting town and country writer described Oberne Creek in 1872:

> "…a magnificent estate and station, the property and residence of Charles D. Bardwell, Esq…several thousands of acres are purchased land. The area…is 45,000 acres…most of the fine stations-such as Oberne are merging into free-hold estates in this part of the country.
>
> The residence is a fine spacious building of brick, situated on a slight eminence just above a fine deep stream which flows between narrow channels…Before the house there is a capital orchard, several acres in extent. Fruit trees thrive wonderfully here,…I noticed apples, walnuts, plums, cherries, pears, apricots, peaches, and grapes of splendid quality…Oberne Hill on one side, Mount Bardwell on the other, and other prominent landmarks…are seen from the residence, which…[seems] in a valley.
>
> …Oberne is a cattle, sheep, and horse station.…[with] a large number of paddocks, …extensively laid down with artificial grasses, including clover, prairie, lucerne, and rye, besides the original kangaroo…for miles, where timber is not fit for building purposes, the whole of the trees are 'ringed.'
>
> Above the house…the station is splendidly grassed, and has a frontage both sides to the Tarcutta Creek. It carries…18,000 sheep and about 1,000 head of cattle;…at present, Mr. Bardwell has the best part of Mr. Klliot's Billapalap, a neighbouring run, rented to give more room.
>
> …about half-a-mile below the house Mr. Bardwell has a water-mill in full work… [it] grinds grain for the district for many miles around."[83]

Umbango Creek

The town of Umbango is named for the creek it lies alongside, and is the Wiradjuri word meaning 'to gaze at'.[84] The eponymous Station was purchased by Alexander MacPherson, a lands department field surveyor, c.1880, and operated by him until his death 1917.[85] *Umbango Creek Station* operated in an extensive network of massive landholdings including that of *American Yards*, later *Humula*.

Tarcutta to Keauri

On 7 January 1825, near the present site of Tarcutta, explorers Hume and Hovell met a group of Wiradjuri people who "begged the travellers would accompany them to their camp so the women and children might have an opportunity of seeing them".[86]

A decade after this first European contact, around 1835–1837, Tarcutta Creek was made home by Thomas Hodges Mate, who had moved from Wagga Wagga in search of pasture, with a flock of sheep purchased from Hannibal Macarthur.[87] His first house, *Hambledon*, was only a wattle and daub hut, without floorboards.[88] However, by 15 June 1839, Mate had an inn, a store and an established sheep

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[83] *Empire*, 1 April 1872, p. 3.

[84] Green, Dick 2002 'Wiradjuri Heritage Study', Report to Wiradjuri and Indigenous/non-Indigenous Community of Wagga Wagga, Wagga Wagga City Council and the NSW Heritage Office, p. 167.

[85] *Wagga Wagga Express*, 26 Jun 1917, p. 2.

[86] *Sydney Morning Herald,* 'Tarcutta', 8 Feb 2004. Accessed 20 November 2021 from https://www.smh.com.au/lifestyle/tarcutta-20040208-gdkq8f.html

[87] *Wagga Wagga Express*, 24 Jul 1894, p. 2.

[88] Cantlon, M. 1981 *Homesteads of Southern New South Wales 1830-1900*, Queensbury Hill Press, p. 119.

station by the creek.[89] He became a licenced publican on 1 July 1839 for his Tarcutta Inn, making him Tarcutta's earliest innkeeper and post-master.[90] In the same year, around 300–400 Wiradjuri people were recorded living around Mate's landholdings, who would help him with lambing and shearing.[91]

Also in 1839, George and Hanen MacLeay constructed their property, *Tarcuttah*, after the Wiradjuri word meaning either 'grass seed' or 'damper made from grass seeds'.[92] 'Tarcutta Creek' became simply, Tarcutta. In 1843, Henry Bingham, Crown Lands Commissioner for the County of Murray, noted T.H. Mate's 7,800-hectare run had 27 residents and several good huts. He noted that "An excellent inn is kept here and the establishment well conducted".[93] Over the years 1847–79, a new house was built on the opposite side of Tarcutta Creek. This vertical, U-shaped, slab homestead is known as *Hambledon*. It was probably in this building that Tarcutta's first Post Office was opened in 1849.[94]

In 1848, Mate's Tarcutta land was described as named *Umuther and Toonga* (*Umutbee*), of 49,000 hectares [120,000 acres], with 800 cattle and 11,000 sheep, stretching from near Oberne to Lower Tarcutta, then south-west to near *Kyeamba*, then east to Osborne. The length of boundary was 80 kilometres. Other properties were described at *Kulki*, *Tumberumba*, *Walla Walla* and *Oberne*.[95] *Umutbee* is Wiradjuri for 'Swamp out the back', as indeed was the case.[96]

The same special correspondent of the *Town & Country Journal* who had been to *Oberne* visited Tarcutta in 1872 and described:

> "…[the route between villages was] a wild, barren, and hilly country [where] Not a house is to be seen for the whole distance, and the road was a dreary one…Tarcutta is a fine station on the Tarcutta Creek, and carries both cattle and sheep. The residence…is near the main southern road…The area of the station is over 70,000 acres and nearly 8,000 acres are purchased; and now it carries about 10,000 sheep and 1,000 head of cattle. The cattle...are pictures of good breeding…In the centre of one of the larger paddocks half a mile from the house I was shown a wash pen…The water is obtained by means of a race from Tarcutta Creek....Immediately at the rear of the residence there is a large swamp called 'Umutbee'. It is 8 miles in length from north-west to south-east. This swamp years ago was covered with rushes which looked like fields of growing grain.[97]

Hambledon's importance declined after the construction of the railway to Wagga Wagga in 1878. Mate would later go on to become Mayor of Albury and MP for the district of Hume, as well as a successful businessman at his store, Mates Ltd.[98]

Gold was mined in Tarcutta from the 1880s onward, with limited success, but a small store, post office and butcher's shop were erected for prospectors. Tarcutta became a changing stop for the Cobb & Co coach.[99] Tarcutta village was gazetted in 1890.[100] Tarcutta's river flats were also home to graziers, dairymen, and some tobacco farms. The whole of the Tarcutta, Oberne and Humula areas were completely burnt out in January 1905. In the 1940s Tarcutta became home to many returned

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[89] Office of Environment and Heritage, 'Hambledon Homestead', *New South Wales State Heritage Register*, accessed 20 November 2021.

[90] *Wagga Wagga Express*, 24 Jul 1894, p. 2.

[91] *Wagga Wagga Express*, 24 Jul 1894, p. 2.

[92] *Border Morning Mail*, 2 Mar 1940, p. 3.

[93] Office of Environment and Heritage, 'Hambledon Homestead', *New South Wales State Heritage Register*, accessed 20 November 2021.

[94] Office of Environment and Heritage, 'Hambledon Homestead', *New South Wales State Heritage Register*, accessed 20 November 2021.

[95] Office of Environment and Heritage, 'Hambledon Homestead', *New South Wales State Heritage Register*, accessed 20 November 2021.

[96] Green, D. 'Wiradjuri Heritage Study', p. 167.

[97] *Empire*, 1 Apr 1872, p. 3.

[98] *Wagga Wagga Express*, 24 Jul 1894, p. 2.

[99] *Daily Advertiser*, 9 May 1934, p. 6.

[100] Baylis, J. 1927 'The Murrumbidgee and Wagga Wagga', *JRAHS,* Vol. 13, No. 4, pp. 294-304.

servicemen and their families who began new lives on soldier settlement blocks.[101] The population currently fluctuates around 250 people.[102]

Figure 5-14 Thomas Hodges Mate c. 1850, via Sam Everingham on Ancestry.com

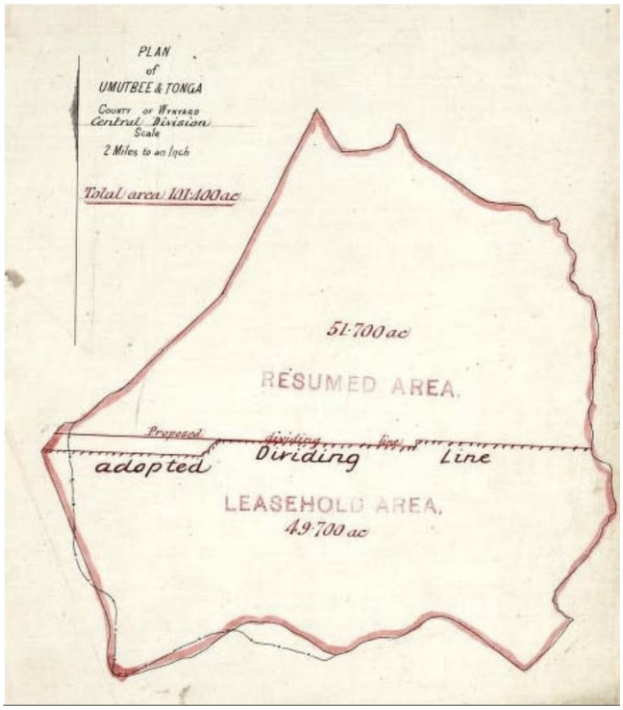

Figure 5-15 The *Umutbee* and *Toonga* Run of T.H. Mate, c.1889*[103]

*Note: The resumed area could be occupied under licence, but was open to conditional purchase or lease. The leasehold area could be leased for periods up to five years. This uncertainty meant that improvements in the way of development were insubstantial.

Kyeamba

Kyeamba is a Wiradjuri word meaning 'Place of springs'/'Big waterhole' or referring to a forehead band worn by local people.[104] European settler John Smith had accompanied T.H. Mate into the area.[105] By late 1839, Smith had constructed a number of slab and bark huts on *Kyeamba* and 30 acres were under cultivation. Some 26 Europeans had taken up residence on the holding and there were 220 cattle and 4,560 sheep. With his homestead located close to the Port Phillip Road Smith converted the house to an inn, known as the Traveller's Joy, later also known as the *Traveller's Rest* and later still as Kyeamba Inn. Thomas Walker took over the runs' licences when Smith became insolvent in 1843, but Smith continued to manage both *Kyeamba* and *American Yards* [outside of the heritage study area to the south].

At the end of 1843 there were some 52 Europeans resident at *Kyeamba*. The company, Walker and Co., employed Chinese vegetable gardeners on the flats of Kyeamba Creek and began cultivating wheat for domestic consumption. By 1847, a four-acre vineyard had been established under the watch of German vignerons Heinrich Rau, Sebastian Schubach and Johann Frauenfelder. They remained on

[101] Museum of the Riverina, 'From Barbed Wire to Boundary Fences: The Soldier Settlers of Tarcutta and Wantabadgery', accessed 25 November 2021 from https://museumriverina.com.au/exhibitions/past-exhibitions/from-barbed-wire-to-boundary-fences-the-soldier-settlers-of-tarcutta-and-wantabadgery

[102] Simpson, P. *Historical Guide to…*, p. 681.

[103] Lands Department, Historic Map Preservation Project, Umutbee Pastoral Holding, Run No.438, Image No. 13677801.

[104] Green, D., 'Wiradjuri Heritage Study', p. 167.

[105] Baylis, J., 'The Murrumbidgee…', pp. 294-304.

the property for two years, after which John Smith himself oversaw the winemaking, commencing production in 1849 and constructing a press in 1850.

In 1858, Smith re-acquired the licence to *Kyeamba*, which by this time had a quarry, sawmill, machinery shed, wine press and cellars. The vineyard consisted of 12 acres of vines protected on three sides by rows of fruit trees and on the fourth by a belt of willows. A grove of oak, elm, ash and birch was opposite the house. Cuttings from the vineyard contributed to the establishment of viticulture on the Murray Valley.[106]

The NSW Mounted Police had an office at *Kyeamba*, probably in the 1850s. The bushranger Dan (Mad Dog) Morgan, who was active in the area between 1862 and 1865 reputedly rested in the upstairs room of the Traveller's Joy, from where he could keep an eye on the police based just down the road.[107] Another Police Office consisted of eight rooms with a small gaol attached at the back.[108] It was reputedly used until 1895, then repurposed as a school master's residence until 1915, when it was leased for farm buildings.[109]

With the advent of the Robertson Selection Acts of the 1860s, John Smith selected much of the good land on Kyeamba. Sections were made in his name and those of his sons, George and Alick. By 1871 there were some 300 people per square mile in the area, when the *Town and Country Journal* reported that Kyeamba's vineyard, good orchard, acacias and willows, and backdrop of hills made a "pretty picture".[110] In the 1880s the vineyard was closed, the inn shut down and most of the vines ripped up. From that time wool production became the focus of activity, with some cattle. The Smiths continued to develop *Kyeamba* with a reservoir constructed post World War I, and in the 1930s a tennis court and a swimming pool were added. The homestead survives beyond the heritage study area, while still within the visual curtilage.

Kyeamba village developed along the line of the South Road. *The Town and Country* journalist stayed at the Traveller's Rest and remarked; "There is a small village laid out about a mile from Mr. Smith's, there is a telegraph office…but no post office…nearer than Tarcutta. There is a police station, stables for the coach-horses, and a few private houses about."[111] The Telegraph Station had opened a decade earlier and became a Post Office in 1891, as well as a repairing and testing station for the Sydney-Melbourne Telegraph Line. Kyeamba postal exchange therefore connected Wagga Wagga, Tumbarumba, Germanton (Holbrook) and Tarcutta.[112] As noted by Rosemary Broomham in *Vital Connections: A History of NSW Roads from 1788*: "The sense of community achieved in many of the country towns which grew up in the period was inextricably linked with road-based services such as the regular delivery of mail and newspapers."[113]

Book Book

Book Book, in the County of Wynyard, is 33 kilometres south-east of Wagga Wagga with a population of around 100. *Book book* is the Wiradjuri word referencing the Mopoke Bird's calls.[114] The earliest mention of the town comes from 1888, with an advertisement to pioneer Edward Ingram's agricultural company.[115] Ingram was running 1,600 sheep in the area.[116]

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[106] While, J. n.d. *The Shape of the Hills: A History of the Upper Kyeamba Valley*, n.p. pp. 10-14.

[107] Carnegie, M. 1973 *Friday Mount*, The Hawthorn Press, Melbourne, p. 142.

[108] While, J. *The Shape of…,* pp. 36-37.

[109] While, J. *The Shape of…,* pp. 36-37.

[110] Cited in Carnegie, *Friday Mount*, p. 143.

[111] *Empire,* 1 Apr 1872, p. 3.

[112] While, J. *The Shape of…,* pp. 36-40. Winston-Gregson's MA Thesis is cited.

[113] Cited in 'Roads and Traffic Authority, Upgrade of Heritage & Conservation Register for the South West Region, NSW, Thematic History', Freeman Randell, Conservation Architects & Planners, Canberra in Assoc. With Dr Susan Marsden, Historian, Adelaide, August 2003, p. 8.

[114] Green, D., 'Wiradjuri Heritage Study', p. 167.

[115] *The Australiasian*, 1 Sep 1888, p. 40.

[116] *Wagga Wagga Advertiser*, 30 Jan 1894, p. 2.

Gregadoo

Gregadoo originated with a soldier's settlement on Cox's Gully. After this it was a farming and grazing town, with a water powered flour mill. The Southwell family were early European settlers of the area, which is now a suburb of Wagga Wagga.[117]

Wagga Wagga

Wagga Wagga, situated on the Murrumbidgee River south-west of Sydney, is the focal point of an extensive agricultural and pastoral area, mostly consisting of smallholdings for wheat, grazing of sheep, cattle and raising of pigs, dairying and mixed farming.[118] The town is named from the Aboriginal word relating to crow calls. Land-seekers visited the area as early as the mid-1820s, while Charles Sturt and his party famously explored Wagga Wagga from 1829 to 1830.[119] Pioneer pastoralists were the Thompson family at their stations *Oura* and *Eunanoreena* c.1832, Robert Holt Best who took up Wagga Wagga Run c.1837, and the Jenkins family at *Tooyal* and *Buckingbong*.[120] Many of these early settlers' runs are named with Wiradjuri words, surely indicating communication between them and traditional owners. *Eunanoreenya* means 'waiting in ambush for the enemy' or may refer to a local tribe or dwelling place of Eunong, a Wiradjuri warrior.[121] *Tooyal* is the 'jag of a spear' or "'he place where white crane or spoonbills breed'.[122]

Wagga Wagga township was gazetted in 1847 and the courthouse established the same year.[123] It was not until 1849 that Surveyor Townsend delineated the town.[124] Also in 1849, Townsend reported that an inn, store and a few other buildings already existed. By the early 1850s, Wagga Wagga was already a regional power because of its extended police district. Stock sales began in 1855–56, and the population doubled between 1856 and 1861.[125]

In the 1860s, 300–400 Aboriginal people were recorded camping on what is now the Wagga Wagga racecourse, next to the Murrumbidgee. The area south of Wollundry Lagoon, including all of the current South Wagga suburbs such as Lake Albert, were undeveloped and remained wild bush.[126]

Wagga Wagga stopped importing wheat from the east in favour of exporting its own grain from a cultivated area of 2,800 hectares in 1875, when two flour mills were opened.[127] In this period, selectors still predominantly sowed and harvested wheat manually.[128] Progress up until the 1870s had been gradual, but the coming of the railway in September 1878 caused a population increase from 700 to 3,975.[129] Road and steam-boat traffic from Dubbo and the Murray further encouraged vigorous growth.[130]

5.7.2 Snowy Valleys Council

Wyangle

Wyangle is 12 kilometres north-east of Tumut, situated on the Tumut Plains , a small town of around 50 people that was originally populated by miners but is now a grazing district. It was also called

[117] *Daily Advertiser*, 28 Feb 1938, p. 4.
[118] Grolier Society, *The Australian Encyclopaedia*…, p. 139.
[119] Grolier Society, *The Australian Encyclopaedia*…, p. 139.
[120] Baylis, J. 'The Murrumbidgee…', pp. 294-304.
[121] Green, D., 'Wiradjuri Heritage Study', p. 167.
[122] Green, D., 'Wiradjuri Heritage Study', p. 167.
[123] Heritage Office, 'Regional Histories…', pp. 135-136.
[124] Grolier Society, *The Australian Encyclopaedia*…, p. 139.
[125] Heritage Office, 'Regional Histories…', pp. 135-136.
[126] Baylis, J. 'The Murrumbidgee…', pp. 294-304.
[127] Heritage Office, 'Regional Histories…', pp. 135-136.
[128] Irvin, E. 1962 *Early Inland Agriculture: Farming in the Southern Districts of New South Wales*, n.p, Wagga Wagga, p. 51.
[129] Grolier Society, *The Australian Encyclopaedia*…, p. 139.
[130] Heritage Office, 'Regional Histories…', pp. 135-136.

'Wiangel' and 'Wyanga'.[131] An interesting anecdote regarding the presence of metal ores at Wyangle survives from early squatter George Baker, who in 1868 discarded a worn-out cast iron plough-share into the creek at his Wyangle property. After retrieving the plough from the creek for use as parts, he noticed spots of bright copper covering it, suggesting high metallurgic and mineral qualities of the surrounding rocks.[132] A decade later, copper mining had commenced in earnest, with lodes discovered at Wyangle, Bombowlee and Little River, and smelting taking place at Snowball.[133]

Killimicat

Killimicat was the site of a timber beam bridge across the Tumut River, constructed in 1897, as well as a quarry.[134] In 2016 it had a population of 29, engaged primarily in grazing.[135]

Figure 5-16 The Pine Mountain from Killimicat Hill on road from Tumut to Gundagai, sunset, 1881[136]

Gocup

Farming and gazing take predominance in Gocup, lying eight kilometres north of Tumut on Meadow Creek. Other locals were employed at the quarry. Its population fluctuates around 150. Pioneers of the area included James McEvoy, William Myers, Richard Clee, Edward Stockwell and Mary Ann Patton.[137] The Gocup Run, from which the town's name is derived, was described in an 1860s advertisement:

> "…situate on the Tumut River,…capable of carrying 1500 cattle, improvements…comprise 3 good huts, drafting and milling yards, panel bails…1400 cattle…also 30 head of horses…".[138]

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[131] *The Sydney Morning Herald*, 13 Oct 1848, p. 4.

[132] *The Gundagai Times and Tumut, Adelong and Murrumbidgee District Advertiser*, 12 Sep 1868, p. 3.

[133] *The Sydney Morning Herald*, 12 Nov 1879, p. 5.

[134] *Cootamundra Herald*, 5 June 1897, p. 6.

[135] Australian Bureau of Statistics 2016 'Population of Killimicat', *2016 Census QuickStats: KIllimicat*. Accessed 14 November 2021.

[136] Willis, James A. C. 1881–1886) *Album: Sketches in New South Wales, 1881–1886 / James A.C. Willis.* SLNSW, Retrieved 25 November 2021 from https://digital.sl.nsw.gov.au/delivery/DeliveryManagerServlet?embedded=true&toolbar=false&dps_pid=IE10386676&_ga=2.227077150.2043605646.1637804579-242481119.1620350391

[137] *The Albury Banner and Wodonga Express*, 7 Mar 1930, p. 43.

[138] *Empire*, 11 Feb 1860, p. 9.

In 1950, more improvements had been made:

> "…the 1,240 acres…carries a thick sward of mixed grasses. Previous owners have…[undertaken] judicious thinning of timbered country… undulating hills…to the river, …lightly timbered with native gums…more than 1,000 head of fat cattle move lazily,… occasional clumps of oaks, elms, cedars, giant hawthorns and flame trees …The Tumut River winds picturesquely along its southern boundary and on these flats…several hay cuts a year are made with a mower and baler…'Gocup' itself, is a commodious brick home with every modern convenience…in beautifully laid out grounds, occupied by Mr. Sedgwick…and a second homestead…occupied by Mr. Fairfax and his family."[139]

Figure 5-17 Gocup tobacco flats c.1892. SLNSW: (1892) Picturesque Tumut[140]

Gilmore

The town of Gilmore, alongside a creek of the same name, is primarily associated with farming. A butter factory established in 1900 by Rosebank Dairy & Refrigerating Works took advantage of the many cattle in the area. Other industries were cheesemaking, flour manufacturing and sawmilling.[141] The population in 2016 was 177 people.[142.]

Gadara

Charles Baker was the first European to settle at Gadara, engaged in goldmining from the mid-1860s when he held 100 acres under free selection, but he soon transitioned to farming and breeding of horses when mining proved unsuccessful.[143] At Federation, the town was briefly but inconsequentially

[139] *The Land*, 3 Mar 1950, p. 11.

[140] [Album of photographs of Tumut, Yarrangobilly and the tobacco industry of the district, presented to Victor Albert George Earl of Jersey by the people of Tumut, Jan 1892] / Kerry & Co., Sydney. PXA 474.

[141] Simpson, P. *Historical Guide to…*, p. 291.

[142] Australian Bureau of Statistics 2016 'Population of Gilmore', *2016 Census QuickStats: Gilmore*. Accessed 14 November 2021.

[143] *The Sun*, 11 Oct 1922, p. 8.

considered for the Federal Capital.[144] Today, Gadara, about 6 kilometres east of Adelong, has a population of around 47 people, mainly engaged in grazing and agriculture.[145]

Figure 5-18 Panorama of grazing country at Gadara. Luke, E.T. (1902) on the Gadara site, Tumut [146]

Tumut

Tumut, situated alongside Tumut River, is the centre of an agricultural and pastoral district. Its name is derived from the Aboriginal word for 'camping place by the river', *doomat/doomut*.[147] Hamilton Hume and William Hovell were the first Europeans to come across the area in 1824, soon followed by Thomas McAlister and his wife, who worked Mr Warby's station *Darbalara* in the early 1830s.[148] In the next decade others settled in the fertile valley, prompting the surveying of a town site in 1848. The village was washed away in 1852, and therefore proclaimed a town much later, in 1880.[149] Tumut was proclaimed a municipality in 1887 but was later merged into Tumut Shire.[150]

Alluvial goldmining was the area's first industry, followed by agricultural operations including the production of wool and mutton, dairying, timber-getting, and the growing of wheat, maize, fruits, vegetables and tobacco.[151] William Briddle grew tobacco on *Rosevale* throughout the latter colonial period, but by 1889 a thousand Chinese gardeners were growing most of the state's crop.[152] The British Australia Tobacco Co. took over plantations at Tumut in 1904.[153]

[144] *Evening News*, 3 Jun 1901, p. 4.

[145] Australian Bureau of Statistics 2016 'Population of Gadara', *2016 Census QuickStats: Gadara*. Accessed 14 November 2021.

[146] On the Gadara site, Tumut. Retrieved 25 November 2021, from http://nla.gov.au/nla.obj-140782293

[147] Grolier Society, *The Australian Encyclopaedia*…, p. 58.

[148] French, J.D. 'Discovery and Early History of Tumut Valley', Address to Canberra and District Historical Society, 8 Jun 1965.

[149] Simpson, P. *Historical Guide to*…, p. 723.

[150] Grolier Society, *The Australian Encyclopaedia*…, p. 58.

[151] Simpson, P. *Historical Guide to*…, p. 723.

[152] NSW Heritage Office, *Regional Histories*…, p. 140.

[153] NSW Heritage Office, *Regional Histories…,* p. 140.

Figure 5-19 Tobacco Plantation, Tumut[154]

Figure 5-20 Harvesting tobacco in 1892[155]

Figure 5-21 Packing and sampling tobacco in 1892[156]

Figure 5-22 Loading tobacco from drying shed into bales and onto dray in 1892[157]

Wondalga

Wondalga is 13 kilometres north of Batlow, on Adelong Creek. Originally known as Middle Adelong, the town was gazetted in 1864, just in time for goldmining and grazing to take hold as the main industries.[158] One of the first alluvial gold prospectors operational "up the creek" [at Wondalga] was Abraham Watson, who in 1858 was working a rich sluicing chain with a number of Chinese employees.[159] Wondalga reef, for which the town was named in 1908, was "…owned by the Purcell family, situated on the summit of the range overlooking the Adelong Creek on one side and Windowie Flat on the other [but] did not yield anything sensationally rich".[160] The Purcell family had settled around Adelong and Wondalga c.1846, initially on a holding on the left bank of the Adelong Creek where they ran sheep, and later erected a homestead.[161] Following goldmining, the grazing industry dominated with some sawmilling occurring from the 1860s until 1879.[162]

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[154] Government Printing Office 1 –15862, Original negative held by State Archives & Records Authority of New South Wales. Feb 1925.

[155] SLNSW 1892 Picturesque Tumut [album of photographs of Tumut, Yarrangobilly and the tobacco industry of the district, presented to Victor Albert George Earl of Jersey by the people of Tumut, Jan 1892] / Kerry & Co., Sydney. PXA 474.

[156] SLNSW 1892 Picturesque Tumut [album of photographs of Tumut, Yarrangobilly and the tobacco industry of the district, presented to Victor Albert George Earl of Jersey by the people of Tumut, Jan 1892] / Kerry & Co., Sydney. PXA 474.

[157] SNSW 1892 Picturesque Tumut [album of photographs of Tumut, Yarrangobilly and the tobacco industry of the district, presented to Victor Albert George Earl of Jersey by the people of Tumut, Jan 1892] / Kerry & Co., Sydney. PXA 474.

[158] Simpson, P. *Historical Guide to…*, p. 804.

[159] *The Gundagai Independent*, 8 Aug 1938, p. 1.

[160] *The Gundagai Independent*, 10 Oct 1938, p. 4.

[161] *The Gundagai Independent*, 10 Oct 1938, p. 4.

[162] Simpson, P. *Historical Guide to…*, p. 804.

Sharp's Creek

Sharp's Creek was a farming and grazing patch, 10 kilometres south of Adelong. In the Adelong gold rushes of the mid 1850s, it was recorded that "About 150 men are at work…In Sharpe's Creek, a few parties are doing moderately well, say about £10 per week per man; but water is getting scarce."[163] By all accounts, gold mining proved fairly unsuccessful and was quickly overtaken by farmers from the Kohl family.[164]

Batlow/Blowering

A few years after Hume and Hovell's 1824 expedition, in the early 1830s, Thomas Boyd settled at *Windowie*, a property north of Batlow in the vicinity of the project footprint. When gold was discovered in the area in 1854, a small settlement called Reedy Creek was established as a supply point and service centre for the miners, and a Mr Batlow surveyed a townsite nearby. Shallow alluvial gold deposits and deep leads were quickly exhausted by European and Chinese prospectors, but farmers found the area better suited to a variety of crops, so the mining supply point was moved and the current township established around 1855.[165] Reedy Flat Post Office opened on 1 August 1873 and was renamed Batlow in 1889.

Thomas Callaway, an English free settler, is said to have been the first to grow apples in the Batlow/Adelong area.[166] The first commercial orchard in Batlow was established in 1895 by Adelong schoolmaster O.C. Barberie, who by 1907 had 5,000 fruit trees.[167] Fruit trees and timber quickly became the main sources of income for the town, and in 1910 the townsite was gazetted.[168]

The *Tumut Advocate and Farmers & Settlers' Adviser* reported on 4 October 1910:

> "There has been great demand for land at Batlow…several blocks changed hands privately… Quite a fair number of new settlers have been introduced into the district from different parts of the State during the past two or three years."[169]

In 1922, the first cool stores in NSW were constructed in the town. The year after, the train line from Gundagai reached the town, facilitating trade with Sydney and beyond. The district supplied troops with dehydrated fruit and vegetables during World War II. Agriculture has now firmly superseded mining and Batlow is a leader in the growing of apples, prunes and other cold climate fruits, with forest reserves of mountain ash and other valuable timbers.[170]

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[163] *The Sydney Morning Herald*, 20 Dec 1856, p. 4.

[164] *Adelong and Tumut Express and Tumbarumba Post*, 17 Aug 1923, p. 1.

[165] Heritage Office, 'Regional Histories…', p. 139.

[166] *The Tumut and Adelong Times*, 24 Oct 1950, p. 8.

[167] Heritage Office, 'Regional Histories…', p. 139.

[168] Heritage Office, 'Regional Histories…', p. 139.

[169] *The Tumut Advocate and Farmers & Settlers Adviser*, 4 Oct 1910, p. 2.

[170] Grolier Society, *The Australian Encyclopaedia*…, p. 456.

Figure 5-23 Tumut River at Blowering, SLNSW (Sep 1920)[171]

Figure 5-24 View from Blowering Road, rich farming flats, SLNSW (Feb 1925)[172]

Figure 5-25 Tumut River from Blowering River, SLNSW (Feb 1925)[173]

Bago State Forest

Just south of Batlow is Bago State Forest. Early gold miners had explored as far as Paddy's River Dam where, in the 1860s and 1870s they established a township, Quartzville. Little evidence remains of the town apart from old mineshafts. The earliest timber operations were by pit sawyers engaged in cutting sluice box timber from the early 1870s.[174]

Bago State Forest was first gazetted as Timber Reserve No. 1961, on 10 June 1878, with an area of 25,900 hectares. After various land resumptions and additions, the reserve was declared a State Forest in 1917. Additions from Crown Land have increased the forest to its present area of 43,014 hectares.[175]

The first sawmill was established in approximately 1879 when Hides' Mill was erected near Pilot Hill. This mill moved to Gilmore Creek, then to Yellowin Creek and then to the 'Alpine Ash Area'. Production

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[171] Government Printing Office 1 – 13592 Retrieved 25 November 2021, from https://digital.sl.nsw.gov.au/delivery/DeliveryManagerServlet?embedded=true&toolbar=false&dps_pid=IE1829256&_ga=2.261261198.2043605646.1637804579-242481119.1620350391

[172] Government Printing Office 1 – 15841, Retrieved 25 November 2021, from https://digital.sl.nsw.gov.au/delivery/DeliveryManagerServlet?embedded=true&toolbar=false&dps_pid=IE1862715&_ga=2.261261198.2043605646.1637804579-242481119.1620350391

[173] Government Printing Office 1 – 15600, Retrieved 25 November 2021, from https://digital.sl.nsw.gov.au/delivery/DeliveryManagerServlet?embedded=true&toolbar=false&dps_pid=IE1797532&_ga=2.261261198.2043605646.1637804579-242481119.1620350391

[174] Hatich, D. 1997 'Bago/Maragle Hardwood Management Area, NSW – A Case Study for Monitoring Ecologically Sustainable Management', *Forest Resources Series,* No. 37, Forest Research and Development Division, State Forests of New South Wales, Sydney, p. 21.

[175] Hatich, D. 'Bago/Maragle Hardwood…', p. 21.

from the many mills has mainly been of high-quality timber to satisfy handle and oar making and other dried and dressed feature timbers.

In 1908 *The Sydney Morning Herald* reported: "The Bago forest reserve is not thrown open yet for selection, but steps will be taken to have it cut up into suitable blocks…the Bago reserve… is very difficult to get rid of timber in its green state, but when ringbarked and the scrub kept down for a while it is comparatively easy. Goats…are a great help to keep down the latter…Most of the soil is volcanic, and very friable."[176]

Logging took place in accessible areas between 1917 and 1939 and was driven by sawmilling interests in the most sound and vigorous trees.[177]

Buddong

Buddong's activities centred around the local sawmill operated by National Timber Co. Ltd.[178] Early pastoralists included occupiers of runs along the Tumut River. The name 'Buddong' is derived from the Buddong Falls and Buddong Creek.[179]

Talbingo

Talbingo Station was taken up around 1848 by William Bridle, an ex-convict and later tobacco farmer of Bombowlee, who had journeyed down Talbingo Mountain in a bullock dray.[180] In 1866, Bridle sold his homestead to Oltmann Lampe, Miles Franklin's grandfather, but today the foundations are submerged under Jounama Pond.[181] Jack Bridle, a descendant, suggests 'Talbingo' to be a corruption of the English word 'tall' and the Aboriginal words 'Binji', 'Binge' or 'Bingo' meaning belly, because Mount Talbingo resembles the big belly of a man lying down.[182]

Figure 5-26 The Lampe Homestead at *Talbingo* with Jounama Creek in the foreground in 1892[183]

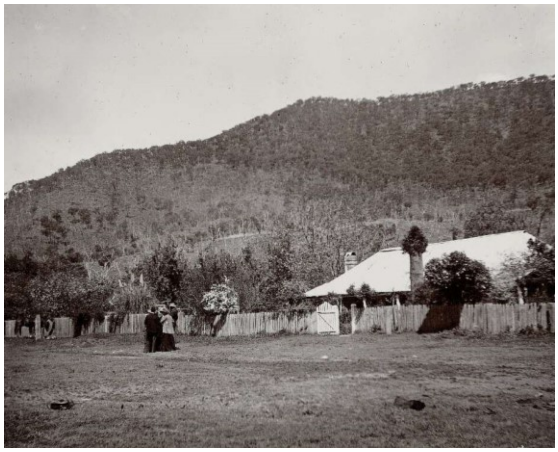

Figure 5-27 *Talbingo* Homestead, Share, Hamnet in 1903[184]

[176] *Sydney Morning Herald*, 25 Jun 1908, p. 5.

[177] Hatich, D. 'Bago/Maragle Hardwood…', p. 21.

[178] Simpson, P. *Historical Guide to*…, p. 120.

[179] *Tumut and Adelong Times*, 6 May 2017, n.p.

[180] French, J.D., 'Discovery and Early History of Tumut Valley', *Address to Canberra & District Historical Society*, 8 Jun 1965, p. 10.

[181] *The Age*, 8 Feb 2004, Retrieved 23 November 2021 from https://www.theage.com.au/lifestyle/talbingo-20040208-gdkq83.html.

[182] Bridle, J. 1979 *My Mountain Country Talbingo: The Story of Its History, the Aborigines, Hume and Hovell, the Kiandra Gold Rush, Early Settlers, Miles Franklin, Talbingo Pub, and the Snowy Scheme*, Miles Franklin Memorial Committee, Talbingo, p. 3.

[183] SLNSW 1892 Picturesque Tumut [album of photographs of Tumut, Yarrangobilly and the tobacco industry of the district, presented to Victor Albert George Earl of Jersey by the people of Tumut, Jan 1892] / Kerry & Co., Sydney. PXA 474.

[184] Talbingo homestead, Tumut, 1903. Retrieved 25 November 2021 from http://nla.gov.au/nla.obj-140614568

Yellowin

Yellowin was established in 1840 by the Wilkinson family, well known in Tumut and Gilmore. John and Thomas Wilkinson built homes at *Yellowin* in the late 1840s, and later became related through marriage to their neighbours, the Bridles. Six or seven hundred local Aboriginal people gathered at the station to assist with shearing and lambing, paid by the Wilkinsons in cattle meat. Aboriginal men would also leave from *Yellowin* to sacred initiation sites in the nearby ranges during bogong moth season.[185]

Nurenmerenmong

Nurenmerenmong was a gold field, worked by Richard Cook and 'another man' in search of gold at Pilot Reef, New Maragle, from 1873 to 1920.[186]

Maragle

Maragle, alongside Maragle Creek, began life as a goldmining patch before graziers moved into the area.[187] A pastoral landscape developed from the late 1830s onwards, involving large-scale clearing of vegetation and the introduction of a range of exotic species.[188] The *Talbingo*, *Yellowin*, *Nurenmerenmong* and *New Maragle* runs encapsulate the route of the transmission line south-east through Bago and Maragle State Forests.[189]

New Maragle was described in 1920 as a "block of rough country on the western slope of Kosciuszko", taken up as a lease by Richard Blackwood in 1873.[190]

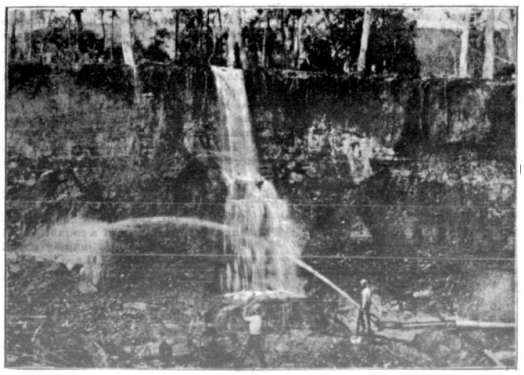

Figure 5-28 Sluicing operations at Heinecke's Claim, Maragle Back Creek, in 1890[191]

Figure 5-29 Sluicing operations of the Union Jack Gold Mining Company at Tumbarumba Creek, demonstrating the extent of environmental destruction along a creek line[192]

[185] French, J.D., 'Discovery and Early…', p. 7.

[186] *Empire*, 13 Sep 1873, p. 4.

[187] Simpson, P. *Historical Guide to*…, p. 462.

[188] Spennemann, D. 2016 'The Junction of Maragle Back Creek and Reedy Creek, Maragle: European Context and Land Use History', *Institute for Land, Water and Society Report,* No. 98, p. 2.

[189] Spennemann, D., 'The Junction of…', p. 8.

[190] Andrews, A. 1920 *The First Settlement of the Upper Murray, 1835–1845*, D.S. Ford Sydney, p. 168.

[191] *Australian Town and Country Journal*, 1 Nov 1890, p. 27

[192] Image courtesy Rex and Ursula O'Brien (Tumbarumba) via Ron Frew, in Spenneman 2016.

5.7.3 Cootamundra-Gundagai Regional Council

Nanangroe

Located near Jugiong, Nanangroe was known as Chidowla till 1895, and is primarily a grazing district. It was settled by Irish farmer Lawrence Joseph Roche with his wife in the 1870s.[193] Their son, John Roche took over business before moving to Sydney as manager of a large wool firm.[194]

Figure 5-30 At Jugiong Point looking across grazing country towards the project footprint[195]

Figure 5-31 At Hume Highway, Jugiong, looking south across grazing country towards the project footprint[196]

Figure 5-32 At Hume Highway, Jugiong, looking across grazing country towards the project footprint[197]

Figure 5-33 At Hume Highway, Jugiong, looking across grazing country towards the project footprint[198]

[193] *The Gundagai Times and Tumut, Adelong and Murrumbidgee District Advertiser*, 29 Jul 1930, p. 2.

[194] *The Tumut and Adelong Times*, 13 Jul 1926, p. 6.

[195] Cazneaux, Harold. *Murrumbidgee Valley at Jugiong, New South Wales, approximately 1935*. Retrieved 25 November 2021, from http://nla.gov.au/nla.obj-140227712

[196] SLNSW Nov 1938 *Hume Highway: cutting in Jugiong Valley looking south,* Government Printing Office 1 – 33240, Retrieved 25 November 2021 from https://archival.sl.nsw.gov.au/Details/archive/110128208.

[197] SLNSW Nov 1938 *Murrumbidgee Valley near Jugiong,* Government Printing Office 1 – 34027. Retrieved 25 November 2021, https://digital.sl.nsw.gov.au/delivery/DeliveryManagerServlet?embedded=true&toolbar=false&dps_pid=IE1952923&_ga=2.194045614.2043605646.1637804579-242481119.1620350391

[198] SLNSW Nov 1938 *Hume Highway: Murrumbidgee Valley, Jugiong,* Government Printing Office 1 – 34031. Retrieved 25 November 2021, https://trove.nla.gov.au/work/235758101?keyword=%22jugiong%22%20nsw&l-availability=y&l-format=Photograph&sortBy=dateAsc

Adjungbilly

Named Tomoorooma till 1899, the Adjungbilly area was dominated by alluvial gold prospectors and graziers. Its population has remained relatively stable, from 119 people in 1901 to 158 people in 2006.[199] The parish of Adjungbilly was originally referred to as Nadjongbilla, from the Wiradjuri word *nadjong*, meaning water, and *billa*, meaning creek, therefore referring to the area's creek with its permanent water supply.[200]

Red Hill Station or *Kiley's Run*

Kiley's Run, also known as *Red Hill Station*, is located two kilometre west of Adjungbilly and 30 kilometres north-east of Tumut. It is within the Red Hill State Forest which is part of the Forestry Corporation of NSW (FCNSW) softwood plantation, the forest is managed by Hume Forests.

The property was listed on the RNE as a historic place however a formal nomination was never made for the property, and it is listed as an Indicative Place. FCNSW has prepared a Conservation Management Plan (CMP) for the property and as a result have undertaken basic restoration and clean-up of the homestead, shearing shed, and other buildings. The CMP found that the property meets the threshold for local heritage significance and is presently in poor condition.[201]

Kiley's Run is an amalgamation of number of early stations including *Spring Creek* and *Mount Misery*. Under Patrick Kiley (b. 1841) the property became the largest station in the Tumut region. The property is known for its association with the Kiley family, who were prominent in the region from the 1840s to the 1920s. A.B. 'Banjo' Paterson's poem *'On Kiley's Run*' is associated with Patrick Kiley and the property, which is of significance to members of the Tumut community. Following the Kiley family, the property became well known for its breeding of Herefords cows. Members of the Wiradjuri community regard *Kiley's Run* as being significant to them as Patrick Kiley, and successive owners, paid Aboriginal workers the same wage as non-Aboriginal workers which was almost unheard of at the time. While the property is physically run down, several buildings remain, and some have been regarded as being of 'technical' or 'historic' significance[202].

Squatting and the start of Kiley's Run

William Kiley was born in County Cork, Ireland in approximately 1806. He arrived in Australia on 19 August on the *Naverino* with his wife Margaret Russell. In 1839 William & Margaret moved to Coolac where their sons William and Patrick were born. Their sons, particularly Patrick, would become known as the founders of *Kiley's Run*.

William's brother Patrick Kiley was sentenced to seven years penal service in NSW. From 1828, after serving his sentence, Patrick was squatting beyond the legal squattage districts. It is unclear the location of the property and the extent to which he moved or remained, as Patrick was illegally occupying the land. In 1840 the property Patrick Kiley occupied was recorded as *Kuragong* in the Lachlan Squatting District[203]. This property has the officially recognised name *Kiley's Hill*. In 1841 Patrick named his property as *Jugiong Creek*, which in later years was named as *Bengaren* and then *Benangaroo*. Patrick remained at this property until 1854 or 1855 when he transferred the run to James Dwyer.[204]

Spring Creek

William and Margaret Kiley moved to *Spring Creek* around 1841 where William would remain until his death[205]. The original holder of the run was Edward Hughes, and in 1842 and 1843 James Lawler paid

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[199] Simpson, P. *Historical Guide to*…, p. 401.

[200] Geographical Names Board 2021 'Adjungbilly', *Place Name Search*. Accessed 16 November 2021.

[201] Giovanelli, P. and O'Keefe, B. 2021 *Kiley's Run CMP*. Curtin, ACT, pp. 71-72; 74-75

[202] Ibid., pp. 70-72.

[203] *New South Wales Government Gazette*, 19 Feb 1840 [Issue No. 10], p. 171.

[204] Giovanelli, P. and O'Keefe, B. 2021 *Kiley's Run CMP*. Curtin, ACT. p. 11.

[205] *Gundagai Times*, 3 March 1882, p. 2.

the licence fee for stock to graze on the land.[206] It has been suggested that Willian Kiley and Edward Hughes settled the property together, however this has not been substantiated.[207] Giovaneli and O'Keefe (2021) report that Patrick Kiley (son of William Kiley) and his extended family worked on the property with or for Edward Hughes and/or the Lawlers. In 1848 this property was recorded as being approximately 16,000 acres with William Kiley taking up the licence.[208] William Kiley had cattle and horses on the property. In 1868 George Peppin rented *Spring Creek* run to depasture sheep.

Mount Misery

Darbalara Station was founded in 1829 or 1830 by William Warby, and passed through several hands, which included the division of a section of the property into the *Mount Misery Run*.[209] In 1869 Patrick Kiley, the son of William & Margaret Kiley, was renting *Mount Misery* with one of his brothers, likely William. By 1871 Patrick Kiley became the leasee of the run which was next to the *Spring Creek* property.[210]

Patrick Kiley's purchase of the *Mount Misery Run* was seen as the start of the *Red Hill Station*.[211] From 1864 to 1874 different areas of the Kiley brothers' runs were leased and transferred to several different parties. *Red Hill Station* was also listed for sale however the property was not sold.

Red Hill Station

From the 1880s onwards, Patrick and William Kiley turned the runs into a profitable pastoral business.

> "They began to raise extensive flocks of sheep, while also continuing to breed cattle, horses and pigs. From the early 1880s onward, they regularly won prizes for their stock and produce at the Tumut Show, the report of the 1882 show glowingly referring to Messrs Kileys' fat cattle as 'simply superb'. In fact, William Kiley and his sons had a butcher's shop in Tumut at which they sold meat from stock raised on their properties. Patrick was also probably earning some rental income from a sawmill, the 'Red Hill Saw and Planing Mills', that exploited the abundant timber on his run." (Giovanelli and O'Keefe 2021, p. 21).

The Kiley brothers used the profits of their businesses to extend their land. In 1875 Patrick Kiley married Margaret Agnes Madigan. By 1877 Patrick was a Magistrate and was also appointed as Justice of the Peace.[212] In 1880 Edward Kiley married Sarah Connolly. By 1882 Patrick and Margaret had four children and it is believed that Edward's family, Patrick's family, and William Kiley Senior were sharing accommodation.[213] In 1882 William Kiley Senior died at the residence on *Spring Hill*. He was described as one of the pioneers of the neighbourhood who was deeply respected and gave liberally to the Roman Catholic Church.[214] The family had a memorial stained-glass window installed in the Catholic Church in his honour.[215]

The Kiley brothers sold *Red Hill* and *Spring Creek* at auction in Tumut on 16 November 1889. Patrick was the purchaser and now owned the runs alone.[216] At this stage their mother and two of their brothers still resided at the Spring Hill homestead.[217]

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[206] Giovanelli, P. and O'Keefe, B. 2021 *Kiley's Run CMP*. Curtin, ACT. p. 12.

[207] Bell, G. 2020 William KILEY (1806–1882). Accessed 29 April 2022 at https://www.bellsite.id.au/gdbtree/HTMLFiles/HTMLFiles_119/P56430.html

[208] *New South Wales Government Gazette,* 30 September 1848 [Issue No. 111 (Supplement)], p. 1366.

[209] Giovanelli, P. and O'Keefe, B. 2021 *Kiley's Run CMP*. Curtin, ACT. pp. 12-13.

[210] Ibid., p. 13; *Gundagai Times,* 'Tumut Police Court' ,19 August 1871, p. 2.

[211] *Adelong and Tumut Express*, 'Memorial Windows', 5 February 1915, p. 2.

[212] *Illawarra Mercury,* 'Local News', 28 Aug 1877, p. 2.

[213]Giovanelli, P. and O'Keefe, B. 2021 *Kiley's Run CMP*. Curtin, ACT, pp. 21-23.

[214] *Gundagai Times,* 'Local News', 3 February 1882, p. 2.

[215] *The Tumut and Adelong Times,* 'Memorial Windows', 8 July 1915, p. 2.

[216] *Gundagai Times,* 'Rifle Shooting', 22 Nov 1889, p. 2.

[217] Giovanelli, P. and O'Keefe, B. 2021 *Kiley's Run CMP*. Curtin, ACT. p. 22

The economic success of the property was tied to the falling and rising wool prices.[218] While the property initially suffered financial hardship, by the early 1900s Patrick had become a wealthy man. He used his wealth to expand the property and built a hall, a tennis court, a billiard room, and bedrooms for his children. The hall Patrick built was initially erected for the shearers, but was primarily used to host balls including an annual fundraising ball for Tumut Hospital.[219]

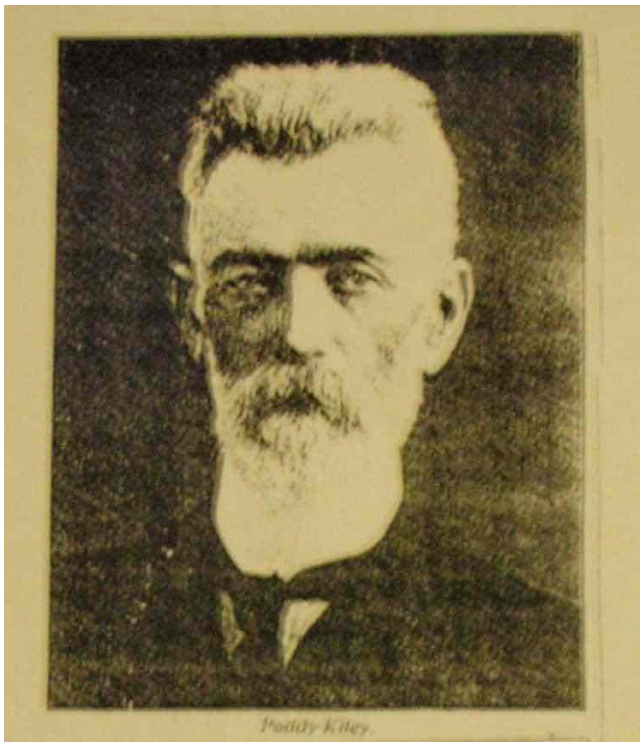

Figure 5-34 Patrick 'Paddy' Kiley – Bell, G. (2020) *Patrick J KILEY (1885 -)*[220]

Patrick and Margaret had four sons and five daughters together. Margaret predeceased Patrick in 1911 at the age of 63.

> "… thus passed away one of the finest types of human life our district was possessed of – ladylike in disposition, kind-hearted and charitable in the extreme, a devoted and loving wife, a self-denying an don mother, a true follower of her Church, and one of the most hospitable ladies in our district."[221]

In September 1914 Patrick Kiley sold the *Red Hill* property directly to Frederick Campbell. The sale listed the property as being 21,000 acres with 10,000 mixed sheep, 320 cattle, and 50 horses.[222] Upon selling the property, Patrick had several different send-offs, one of which was reported in the *Adelong and Tumut Express and Tumbarumba Post* (5 February 1915, p. 3). The article noted that Patrick Kiley had been a resident since 1842 and was an old pioneer and settler who had laboured under difficult conditions and made vast improvements upon his holdings. The author described his improvements on *Red Hill* as a life-long task and described the struggle Patrick faced in the last years of the property with rabbits, drought, taxes, and an increase in working cost, as a cause of losing half of his profits each year. Over the evening Patrick was presented with a handsome inscribed tantalus.

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[218] Ibid., p. 23.

[219] *The Tumut and Adelong Times, 'Brungle',* 4 Dec1903, p. 2.

[220] Accessed 2 May 2022 at https://www.bellsite.id.au/gdbtree/HTMLFiles/HTMLFiles_95/P57742.html

[221] The Tumut and Adelong Times, 'Gone to Rest', 10 February 1911, p. 2.

[222] *The Sydney Stock and Station Journal,* 11 Sept 1914, p. 13.

> "Mr Kiley, replying, said he was grateful to those attending to say good-bye to him on his leaving the district, and for the nice and useful present. He now felt some regrets at leaving old friends with who he had been associated all his life… He thanked them heartily for the present, and would treasure it as a memento of old friends, whom he had been amongst so many year. When he looked round the room he saw friends of over 40 years' standing, including Messrs Beale, Weeden, Dear and M'Namara. His transactions with these and other business people were always satisfactory. He knew they wished him well; their attendance was evidence of that. Words failed him to express his grateful feelings." [223]

Patrick's other send-off was by 60 local Aboriginal people who gathered at the gate of the property on his final day. Included in Patrick's workers at Red Hill were approximately 20 Aboriginal workers, mostly from the Brungle Aboriginal Mission which was near *Kiley's Run*. Patrick was known to employ Aboriginal people at the same rate of pay as white workers. Patrick was well regarded by his Aboriginal workers and employed them at the same rate of pay and under the same working conditions as his other workers which was uncommon at the time. He also employed Aboriginal women for housework and laundry at the property which was similarly uncommon. Patrick found the women to be cheerful workers and the men to be highly skilled stockmen whom he regarded with great admiration.[224] This left a lasting impression and following owners of the property similarly paid Aboriginal workers a fair rate.

Three years after leaving *Kiley's Run*, Patrick Kiley died at the age of 76. His obituary highlighted the role Patrick had in the community.

> "The melancholy tidings caused quite a shock on being received in Tumut, where the deceased was one of the best known and most honored citizens that had ever resided here."[225].

'On Kiley's Run' – Banjo Paterson

Banjo Paterson's 1890 poem *On Kiley's Run* looks at *Kiley's Run* and Patrick Kiley with rosy retrospection. The poem tells the story of 'Old Kiley' and his idyllic homestead, moving from the heyday of the property to the financial hardship and death of the protagonist, and finished with the demise of the property with its sale and name change. While the description of the property in the poem matches the real *Kiley's Run*, the poem is a fiction.[226] The depiction of 'Old Kiley' seems to match Patrick Kiley, Patterson portrays him as a kind man who cared deeply for his property and those who worked on it and suffered from financial hardships. However, unlike his namesake, Patrick did not die of a 'broken heart' on the property. The final verse of the poem is entirely fiction, as the property was also not owned by an Englishman who changed its name to 'Chandos Park Estate'. Paterson wrote that, "'*On Kiley's Run*' was the story of a station or rather of many stations rolled into one."[227] Banjo Paterson wrote about the property from experience. His father managed properties near *Kiley's Run* and it is believed that he spent time at the property and wrote some of his poems there.[228] In 1902 Paterson visited the property and presented Patrick with a signed book of his poems.

However, some regard there to be no relationship between the poem and the property, with the homestead instead referring to Banjo Paterson's childhood home.[229] Additionally, Paterson had a fondness for the name 'Kiley' which he used in several other poems, including a novel. Strengthening this argument is that the reports of Banjo Paterson visiting the property come from Jack Kiley, who was Patrick's grandson. Jack heard the story from his father who heard it from Patrick himself, and therefore there is the possibility that the relationship was created or exaggerated.

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[223] Adelong and Tumut Express and Tumbarumba Post, 'Send-off and Presentation to Mr Patrick Kiley', 5 February 1915, p. 3.

[224] McGovern, T. 25 June 1986 'Bush folk outrages at sale of Kiley's Run for forest'.

[225] The Tumut and Adelong Times, 'Obituary', 20 December 1917, p. 2

[226] Semmler, C. and Paterson, A.B. 1984 *The Banjo of the bush: the life and times of A.B. 'Banjo' Paterson*. 2nd ed. University of Queensland Press, St Lucia.

[227] Paterson, A.B. 'Banjo' 28 December 1938 *Sydney Mail*, 'Looking Backwards'.

[228] Wickman and Associates 1996 *Red Hill Station (Kiley's Run) Aboriginal Site Survey*. Aboriginal site survey.

[229] Pierce, P. et al. 1987 *The Oxford Literary Guide to Australia*. Oxford University Press, Melbourne.

Regardless, the local community strongly associate the property with the poem and believe that Banjo Paterson's observations are inspired by the homestead, landscape, and family.[230] One of The Gundagai Museum's special exhibits includes the shirt and coat "…*worn by Banjo Patterson's [sic] Kiley of Kiley's Run"* (refer to Figure 5-35).[231]

Figure 5-35 Patrick Kiley's Shirt at the Gundagai Museum – Wood, J. (2018) *William and Patrick Kiley of Kiley's Run*[232]

Red Hill after the Kileys

Frederick Campbell purchased *Red Hill Station* from Patrick Kiley in 1914. Campbell continued Kiley's legacy of paying Aboriginal workers a fair wage as well as his use of the shed for fund raising balls.[233] Unfortunately for Campbell and the station manager Donald Gillespie, they had also inherited Patrick Kiley's rabbit infestation. *The Tumut Advocate and Farmers and Settlers' Adviser* (8 July 1924, p. 2) reported that there were 77 million rabbits on the run and that it had been completely overrun when the property was purchased. While Gillespie was managing *Kiley's Run*, the property won 300 prizes at the Tumut and Gundagal Shows. Gillespie retired as the station manager after a decade and was replaced in 1924 with George Campbell. Fredrick Campbell attempted to sell the property at auction on Friday 3 April 1925 but was unsuccessful.[234]

T.A. Field Ltd purchased the property in 1926 with the Campbell family retaining 3,000 acres for Christina Campbell.[235] T.A. Field Ltd was established in 1923 by brothers Thomas Alfred Field and Herbert Field as a wholesale meat business.[236] Following on from the Kiley and Campbell families, the

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[230] Claoue-Long, A. 1989, 17 October 'Kiley's Run or Red Hill Station'.

[231] Australian Museums and Galleries (no date) *Gundagai Historical Museum*. Accessed 29 April 2022, at https://aumuseums.com/nsw/south-eastern/gundagai-historical-museum

[232] Accessed 2 May 2022 at https://discover.hubpages.com/education/kileysrun

[233] *The Tumut Advocate and Farmers and Settlers' Adviser,* 'Gilmore', 9 June 1925, p. 6.

[234] *Adelong and Tumut Express and Tumbarumba Post,* 'Local and General', 9 April 1925, p. 1.

[235] John Armes and Associates and Architects and Heritage Consultants (1996) *Red Hill (Kiley's Run) Adjungbilly Conservation Management Plan*. Yass, NSW.

[236] Sears, J.S. 1996 *Field, Thomas Alfred (1874–1944)*, *Australian Dictionary of Biography,* National Centre of Biography, Australian National University. Accessed 28 April 2022 at https://adb.anu.edu.au/biography/field-thomas-alfred-10176/text17979

Fields also had fundraising balls, and at some point replaced the woolshed where they had previously been thrown.[237] Thomas Alfred Field continued the use of *Red Hill* as a sheep station as well as for producing meat. The Kiley family had themselves been producing Hereford cattle from 1864.[238] Under the Fields' ownership, *Kiley's Run* achieved high status in the Australian Stud Industry, the welcome sign at the property even announced '*Red Hill*: Home of the Herefords'.

> "This was a high class registered herd used for the production of purebred bulls to be registered. was also a source of bulls in Bert Field's commercial herd elsewhere. The Field family was prominent in the meat industry" – Papers of Frank Johnston (1955) 'Book 18, 1966, WAT: USA; Water resources, livestock, agriculture, Card 15 handwritten note on back'.[239]

Figure 5-36 '*Red Hill*: Home of the Herefords' sign[240]

T.A. (Jack) Field was responsible for the development of Hereford breeding on the property. In 1834 Thomas Alfred Field senior's three sons divided his assets, with Herbert Field acquiring the property and Jack Field managing it. Jack Field was so successful in the use of modern technology on the property and breeding Herefords that a short documentary was made by the Commonwealth Department of Information entitled 'Australian Graziers look to the Future'.[241] Herbert Field took over the running of the property from Jack following his death in 1955.

The property was sold in 1967 to Noble Frank Lowndes.[242] The Lowndes family would be the last family to own the property although no members of the family resided there, preferring instead to have

[237] *The Gundagai Independent,* 'Saturday's Big Fire', 20 January 1927, p. 3.

[238] McGovern, T. 25 June 1986 'Bush folk outrages at sale of Kiley's Run for forest'.

[239] John Armes and Associates and Architects and Heritage Consultants 1996 *Red Hill (Kiley's Run) Adjungbilly Conservation Management Plan*. Yass, NSW, p. 56.

[240] John Armes and Associates and Architects and Heritage Consultants 1996 *Red Hill (Kiley's Run) Adjungbilly Conservation Management Plan*. Yass, NSW, p. 56.

[241] Giovanelli, P. and O'Keefe, B. 2021 *Kiley's Run CMP*. Curtin, ACT. p. 27.

[242] John Armes and Associates and Architects and Heritage Consultants 1996 *Red Hill (Kiley's Run) Adjungbilly Conservation Management Plan*. Yass, NSW.

managers run the property. By the 1980s the property was reported as being rundown and in dire need of fund for it to be restored.[243]

'Battle for Red Hill begins'

In 1986 *Kiley's Run* was sold to the NSW Forestry Commission for softwood plantation. This was extremely controversial, particularly as the sale was made 36 hours prior to the property selling at auction.[244] In response to the sale, the Kiley's Run Preservation Committee was formed, which was renamed to The Friends of Kiley's Run in 1987. James Hawthorn, president of the committee, expressed the community's anger and explained the following reasons for this anger:

1. the sale was a waste of taxpayers' money as the property was sold for $1 million more than its value
2. members of the community were unable to bid on the property themselves
3. residents were worried about pine plantations destroying viable agricultural land
4. concern over the effect of pine plantations on rates, road, schools, and local and seasonal employment
5. the property is part of Australia's history and heritage which they believed was in real danger of being lost[245].

John A. Kiley, a descendant of the Kiley family, was so frustrated that he wrote a letter on 24 July 1989, to Prime Minister Bob Hawke to plead his case.[246] In addition to the above concerns, John was particularly concerned with the destruction of eucalypts causing the death of native animals, birds, and reptiles. He reported that the last manager has resigned as he was so disgusted in the killing of native animals which was happening in the thousands. John Kiley also mentioned the importance of the property to the Aboriginal people from *Brungle* station. Additionally, members of the community were concerned that the sale set a concerning precedent that the NSW Forestry Commission could take any land it liked "…and tell the whole primary producing industry to go to hell".[247]

In 1986 the Kiley's Run Preservation Committee collected 600 signatures protesting the sale, including from farmers outside the community[248]. The Committee was 'slow and relentless' in their efforts to preserve the property. While ultimately they were unsuccessful in preventing the sale of the property, the group had a lasting impact. As a result of their work an exclusion zone was placed around the homestead, graves, and woolshed on the property, and instead of the area being used for pine plantation it was set aside for grazing[249]. This area is known as the *Kiley's Run* catchment and the exclusion zone was intended to "…preserve the vegetation and hydrological characteristics, and historical and visual values, of the site."[250]

In 1996–97 an Aboriginal site survey was done on the property and a CMP was written for the Friends of Kiley's Run[251].

Present

In 2021 the NSWFC reported that interim work had started on the property and a Conservation Management Plan (CMP) was created.[252] The NSWFC has a schedule of work in place to undertake

[243] *Tumut and Adelong Times,* 1 August 1986, p. 5.

[244] Power, J. 19 June 1986 'Red Hill sold to Foresty', *Financial Review*.

[245] Foster, M. 3 July 1986 'Group fights to preserve Kiley's Run', *Canberra Gazette*.

[246] Kiley, J.A. 1989 'Kiley's Run' (letter).

[247] McGovern, T. 1986, 25 June 'Bush folk outrages at sale of Kiley's Run for forest'.

[248] *Canberra Times,* 'Battle for Red Hill begins', 11 July 1986; McGoverne 1986 *John A. Kiley: citizen*.

[249] Wickman and Associates 1996 *Red Hill Station (Kiley's Run) Aboriginal Site Survey*. Aboriginal site survey.

[250] Major, E.J., Cornish, P.M. and Whiting, J.K. 1998 Red Hill Hydrology Project Establishment Report Including a Preliminary Water Yield Analysis.

[251] John Armes and Associates and Architects and Heritage Consultants 1996 *Red Hill (Kiley's Run) Adjungbilly Conservation Management Plan*. Yass, NSW; Wickman and Associates 1996 *Red Hill Station (Kiley's Run) Aboriginal Site Survey*. Aboriginal site survey.

[252] Haley, K. 2021, 21 January 'Interim works begin on Kiley Homestead', *Tumut and Adelong Times*.

basic restoration and protection of the property and is in the process of compiling a Section 170 register for various heritage sites across the estate which will include *Kiley's Run*.

5.7.4 Yass Valley Council

Greendale

Greendale is pleasantly situated on Felled Timber Creek, after which it was named from 1881–1920. A mining boom occurred with the discovery of gold in 1859, the periods between 1874–1889 and 1930–1941 being especially active. Other industries were wheat, dairying, wool, vineyards and apple orcharding.[253] Today it has a population of around 100.

Coolalie

Coolalie was previously known as Manton's Creek and Manton's Swamp, where, in 1833, Frederick Manton was grazing sheep for wool on 900 acres.[254] Manton's land encapsulated a large swathe of the Yass Plains, for which he was allocated convict Patrick Rochford and his partner Eliza as well as ploughs &c.[255] Other early residents of the Yass Plains as listed in the 1835 Postal Directory were George Davis, Henry O'Brien, Charles Fowler, James Ross, Edward Abraham, Edward Ryan, and the Dutton family at *Hardwick*.[256] In 1858, Mr Druitt was prospecting for alluvial gold in the area.[257] Today, Coolalie's population is mainly engaged in sheep grazing.

Figure 5-37 W Brindle (1960) Photograph of Pastoral – Exhibitions and shows – Winning entry*[258]

*Note: A. Day and Son of Echo Stud, Coolalie, NSW, in the Stonehaven Cup event at the Macarthur Sheep Show, Sydney, June 1960

Bango

Bango, at 13 kilometres north-east of Yass was also traversed by Hume and Hovell in the early 1820s. The town was named after Alexander Grieves and his son Mathew James Grieves' run *Bango*, where,

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[253] Simpson, P. *Historical Guide to…*, p. 320.

[254] *The Sydney Gazette and New South Wales Advertiser*, 4 Jul 1833, p. 1.

[255] *New South Wales Government Gazette*, 'Return of All Male Convicts Assigned and Transferred…', 12 Dec 1832, p. 459.

[256] *Yass Tribune-Courier*, 1 Aug 1935, p. 1.

[257] *The Yass Courier*, 6 Nov 1858, p. 2.

[258] Image Number A1200:L35534, National Archives of Australia, Retrieved 25 November 2021 from https://recordsearch.naa.gov.au/SearchNRetrieve/Interface/DetailsReports/PhotoDetail.aspx?Barcode=11658456

in 1887, they were farming, running stock and growing potatoes.[259] The original slab homestead was variously amended and appended to, but in 1952 was accidentally burnt down.[260]

Yass

Hamilton Hume and William Hovel reached Yass Plains in October 1824, on the second day of their traverse to Port Phillip. They named the fertile agricultural and pastoral country 'McDougall's Plains'. However, the town Yass, as it is now known, was named for the Aboriginal word meaning 'running water' – *Yarh/Yahr*. A post office was established in 1835 and the town gazetted in 1837. By 1866, Yass had a hospital, mechanics institute, four banks, a courthouse, several public buildings and many businesses. It became well known for its fine merino wool industry.[261]

Bowning

The project footprint crosses the Hume Highway near Bowning, 14 kilometres west of Yass. The earliest Europeans to visit Bowning were Hume and Hovell, who mentioned Bowning Hill, at 796 metres high, in their 1824 journal. It was described five years later by Captain Charles Sturt as "a remarkable hill called Pounie" suggesting that Bowning is a corruption of the Aboriginal word meaning 'big hill'.[262] A Cobb and Co Coaching Station was built between 1850 and 1870 to cater to those travelling in search of gold. A school was founded in 1849, but was later destroyed. At the 2016 Census, Bowning and the surrounding area had a population of 573.

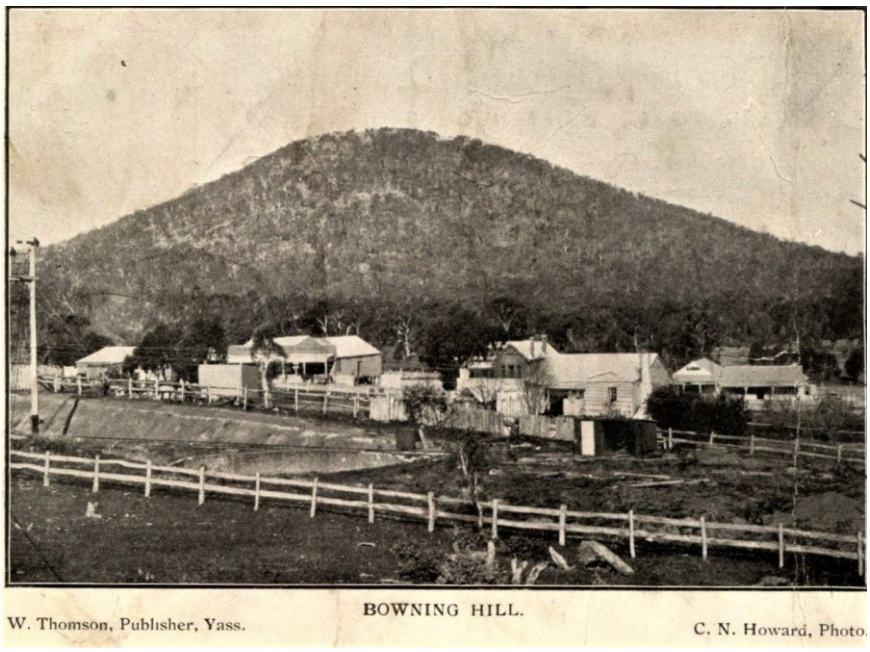

Figure 5-38 1906 Postcard with photograph of Bowning Hill and village[263]

Woolgarlo

Edward B. Green was recorded in 1845 as holding the licence for depasturing stock at the *Woolgarlo* and *Bogolong* runs, and for around 15 years this was the only activity in the area. [264] In 1860, the estate was offered for sale at auction and described as: "cattle property, 13 miles from Yass, …it has an extended frontage to the Yass River, and is watered by sundry creeks and waterholes…the country is

[259] *The Yass Courier*, 7 Jun 1887, p. 2.

[260] *Yass Tribune-Courier*, 13 Mar 1952, p. 2.

[261] Grolier Society of Australia 1977 *The Australian Encyclopedia*, Vol. 9, Halstead Press, Sydney, p. 526.

[262] O'Leary, S. 2018, 16 Nov 'Our History, A remarkable hill, "Pounie"', *Yass Tribune*. Retrieved 20 November 2021 from https://www.yasstribune.com.au/story/5759823/a-remarkable-hill-pounie/

[263] Thomson, W. (1906) *Bowning Hill,* Retrieved 23 November 2021 from Aussie~mobs on Flickr, https://www.flickr.com/photos/hwmobs/33624284501/in/photostream/

[264] *Sydney Morning Herald*, 19 Mar 1845, p. 3.

fattening and admirably adapted to cattle…with [it] will be sold 450 cattle."[265] Woolgarlo was also the site of a copper, lead and silver mine purchased by Sydney businessmen Renny, Trennery, and Thorne in 1865 – silver was scarce, but Woolgarlo produced the first pig lead cast in NSW, which proved fairly profitable for the town.[266]

Bookham/Talmo

The general grazing area which now encompasses the village of Bookham was originally called Bogolong, but its name was changed in 1839 when a design for the village at Cum**bookam**bookinah near Bogolong was drawn up, and that name shortened either through general usage or by design.[267] Bookham Post Office opened on 1 September 1864 but was closed in the 1990s. At the 2016 Census, Bookham had a population of 161 people.

Talmo, another town in the vicinity of Bookham and the project footprint, was the name of a pastoral run adjacent to *Chidowla/Nanangroe* run, around eight kilometres south of Bogolong (Bookham).

5.7.5 Upper Lachlan Shire Council

Bannaby

Bannaby was, and still is, primarily a farming and grazing district. At the 2016 Census, it had a population of 36.[268] The area is synonymous with John Hillas, who was then James Macarthur's estate overseer.[269] The Hillas family operated their run *Hillasmount* from 1826.[270] *Bunnaby* Homestead was constructed by John and George Hillas from 1828 to 1840, for which the town is named.[271]

Cross Station

*Cross Stati*on at Bannaby was settled by Robert Whipp, an engineer, and his wife, Ann Callaghan, around 1846.[272] Robert had arrived in NSW on 30 May 1832 on board *Marianne*, leaving Port Jackson for Goulburn on 14 January 1832.[273] Robert began working for John Hillas at Bannaby, while squatting on the surrounding land – The Whipps paid a 'dummy' to block land from genuine selectors while they saved up enough to buy it back.[274] After Robert died at age 64 on 29 September 1888, *Cross Station* passed to his first son, also named Robert.[275] Robert jnr. eventually added more portions to his holding and in the 1920s constructed a homestead and sheds.[276]

Project footprint south of Taralga

When Throsby traversed south of Taralga in 1819, he described the view across the Upper Lachlan towards Taralga as "clear and good" and the land as "beautiful forest country, very thin of timber…admirably adapted to either grazing or agriculture".[277] Around 1820, brothers James and William Macarthur had already established the large pastoral holding, *Arthursleigh*, across the

[265] *Empire*, 24 Nov 1860, p. 7.

[266] *Sydney Morning Herald*, 7 Nov 1865, p. 5.

[267] NSW Roads and Maritime Services 2013 *The Old Hume Highway: History Begins with a Road*, NSW Roads and Maritime Services, p. 72.

[268] Australian Bureau of Statistics 2016 'Population of Bannaby', *2016 Census QuickStats: Bannaby*. Accessed 14 November 2021.

[269] Wheaton, F.F. 1923 'The Discovery and Early Settlement of the Taralga District', *JRAHS,* Vol. IX, No. 1, June, pp. 8-9.

[270] Heritage Council of NSW, 'Upper Lachlan Shire Community Heritage Study 2007-2008', Prepared for Upper Lachlan Shire Council, p. 189.

[271] Heritage Council, 'Upper Lachlan…', p. 189.

[272] Ancestry.com 2014 *Australia, Births and Baptisms*, 1792-1981 [database on-line]. Ancestry.com Operations, Inc., Provo, UT, USA:

[273] Ancestry.com 2007 *New South Wales, Australia, Unassisted Immigrant Passenger Lists*, 1826-1922 [database on-line]. Ancestry.com Operations, Inc., Provo, UT, USA.

[274] *Goulburn Post*, 5 Mar 2019, 'Taralga News: Seat honours Rose Handley'. Accessed 21 November 2021 from https://www.goulburnpost.com.au/story/5937917/a-seat-fit-for-a-matriach/

[275] Goulburn Evening Penny Post, 23 Jun 1936, p. 2.

[276] Goulburn Evening Penny Post, 6 June 1925, p. 3.

[277] Wheaton, F.F., 'The Discovery and…', p. 4.

Cookbundoon River east of Taralga.[278] *Cookbundoon* was the traditional Aboriginal name for the area, whose pastures proved very profitable and led to the Macarthurs becoming squatters on adjoining land. James Macarthur, Captain Lachlan McAlister and John Hillas journeyed from *Arthursleigh* to Taralga c.1824, travelling through the heritage study area.

Thomas Howe, T.H. Moore, and Thomas H. Scott also held land in the area by 1829. The 1828 Census of NSW reveals settlers were in residence in the Taralga area although these numbers were small. A decade later, McAlister had established an estate of 16,320 acres south of Taralga near the project footprint, known as *Strathaird*, after his father's estate in Skye.[279] Prominent landowners continued to develop their wool producing properties and tenant farmers instigated dairying and agriculture.

The village of Taralga was established as a private town on land donated by James Macarthur in 1843.[280] Convict labour was used to clear and develop the land for the Macarthur family and their employees. By 1843, Taralga village consisted of two houses, an orchard and one small area of land cleared sown to wheat. By the 1850s significant development had occurred and the town was officially established in 1858.[281] Many of Taralga's extant sandstone and basalt buildings were constructed during the period 1860–1880.

Primary industries were sheep, beef, dairying, potatoes, berries, vineyards and marble cutting from a nearby quarry. The dairying industry was supported by several local factories and over 160 farms in the district. Butter factories operated at Richlands, Yalbraith, Myrtleville and Taralga.

Chatsbury

Chatsbury lies about 22 kilometres south of Taralga on the project footprint, and at the 2016 Census, had a population of 91.[282] The Chatsbury Stud was originally owned by Sir Charles Cowper, five times Premier of NSW.[283] His son, also named Charles, Sheriff of NSW, was squatting at *Chatsbury* after leaving school until 1857, when he left for the Kiandra Gold Rush.[284] In about 1884, *Chatsbury* was acquired by Henry Carr, a pioneer of the Binda district.[285] A report in 1931 states:

> "Since 1908, it has been considerably reduced in size, and now covers 6,700 acres of freehold land. It is very highly improved, large areas of new pasture – rye, clover, and other grasses – have been laid down, and the practical experience of many years is to be seen…[on] Chatsbury, which consists of hills, slopes, and valleys, a flock of 7,000 comeback sheep are run, as well as a fair number of cattle...".[286]

Millers Hill and Back Arm Nature Reserve

The project footprint just south of Back Arm Nature Reserve and Millers Hill is located approximately 21 kilometres north of Goulburn and near areas designated to Pejar Local Aboriginal Land Council and the Gundungurra Indigenous Land Use Agreement. The area is a mosaic of cleared, semi-cleared and some forested rural lands.[287]

[278] Heritage Council, 'Upper Lachlan…', p. 168.

[279] Wheaton, F.F., 'The Discovery and…', pp. 8-9.

[280] Simpson, P. 2020 *Historical Guide to New South Wales*, Australian Scholarly, North Melbourne, p. 680.

[281] Simpson, P. *Historical Guide to*…, p. 680.

[282] Australian Bureau of Statistics 2016 'Population of Chatsbury', *2016 Census QuickStats: Chatsbury,* accessed 14 November 2021.

[283] *Australian Town and Country Journal*, 9 Feb 1884, p. 25.

[284] *Clarence and Richmond Examiner*, 2 May 1893, p. 3.

[285] *Goulburn Evening Penny Post*, 7 Mar 1939, p. 4.

[286] *The Australasian*, 29 Aug 1931, p. 34.

[287] NSW National Parks & Wildlife Service 2014 'Statement of Management Intent: Back Arm Nature Reserve', pp. 1-2.

Woodhouselee

Woodhouselee is a grazing district that lies about 25 kilometres north-west of Goulburn. At the 2016 Census, it had a population of 15.[288] *Woodhouselee* was a name given by William Lithgow to his pastoral estate, after a town outside his alma mater the University of Edinburgh.[289] Lithgow's *Woodhouselee* estate was advertised as comprising:

> "…farms, 60 in number… from 20 to 100 acres each, have[ing] ample frontages (of good water in all seasons) to the Wollondilly River, the Stony Creek, Grey's Creek, Pegar Creek, as well as other splendid water holes, making it…the best watered estate in that neighbourhood, as a proof of this, there are at…present…six flocks of sheep depasturing upon it."[290]

In 1853, the Land was described as:

> "alluvial,…of the richest quality, capable of producing to perfection any quantity of grain; some parts…are undulating, so others again rise into fertile ridges…exactly suited to the purpose of the Grazier or Farmer. The timber is suitable for every purpose, and those who prefer stone will find it available. The village is laid out in allotments…There are 4 reserves for places of public worship, a market-place, Court House, School, Watch-house, Water Reserve, and 5 acres…for a Cemetery."[291]

Figure 5-39 Typical undulating farming country at Pejar Dam in 1977[292]

Figure 5-40 Typical undulating farming country at Pejar Dam in 1977[293]

Crookwell

Extensive settlement of the Crookwell area followed closely after exploration by Hume, Throsby, Meehan and Oxley in 1817–1820. Surveyor Meehan camped at Grabben Gullen in April 1820 and noted that the morning was "very fine, with a light frost". Squatters had placed overseers in outposts around Crookwell before 1828 when it was marked on a map as "road to Crookwell River or Kyama". The original town site was known as 'Brooklands' after one of the early settlers, as Crookwell was not officially named until Surveyor Armstrong surveyed the village on 13 August 1860.[294]

Between 1840 and 1860 the early settlers of Crookwell began to clear the area and establish their squatting runs. Robert's Inn was operating by 1867. Crookwell became the administrative centre of its wheat-growing district in the 1860s and by 1880, had a hotel, bank, courthouse, police-station,

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[288] Australian Bureau of Statistics 2016 'Population of Chatsbury', *2016 Census QuickStats: Chatsbury.* Accessed 14 November 2021.

[289] *The Goulburn Herald and County of Argyle Advertiser*, 22 Jun 1853, p. 5.

[290] *The Goulburn Herald and County of Argyle Advertiser*, 22 Jun 1853, p. 5.

[291] *The Goulburn Herald and County of Argyle Advertiser*, 26 Feb 1853, p. 5.

[292] SLNSW Aug 1977, Pejar Dam, Government Printing Office 3 – 35220.

[293] SLNSW Aug 1977, Pejar Dam, Government Printing Office 3 – 35222.

[294] Heritage Council, 'Upper Lachlan…', p. 88.

progress association, brickworks and two flourmills. Locals operated a tannery, cordial factory, two chemists, saddler, butcher and blacksmiths.[295]

Bannister

Called Gullen Flat until 1907, Bannister is primarily a farming and grazing district. However, a local butter factory run by Isaac Shepherd saw the dairy industry develop. The population in 2011 was 333.[296]

Dalton

Dalton is located 28 kilometres north-east of Yass, alongside Oolong Creek. 'Wesley Vale', as it was previously known, was settled by John Armstrong jnr. in 1847 and surveyed by him 14 years later in 1861. The name was derived from the family name of the wife of then Governor of NSW.[297] The town was gazetted in 1862 and the first lots sold in the same year.

5.8 The Snowy Mountains Scheme

Plans to divert the water of the Snowy River had been in place since at least 1884, by then NSW Surveyor-General, P.F. Adams. Almost 40 years later, in 1920, William Corin, Chief Electrical Engineer with the NSW Department of Public Works, proposed the construction of a hydro-electric power station on the Snowy.

The Snowy Mountains Hydro-electric Development League was formed in 1936 to promote the utilisation of hydro-electric power, but a report by the NSW Government the following year suggested that a hydro-power station would only be viable if it could provide power to Sydney, at a capacity of 250,000 kilowatt. The government established the Snowy River Investigation Committee in 1944, who recommended the diversion of the Snowy River at Jindabyne to join the Murrumbidgee River north of Cooma, therefore boosting irrigation downstream on that river.

These competing local, state and federal interests prompted the establishment of the Commonwealth and States Snowy River Committee in 1944. The Commonwealth was keen to pursue O.T. Olsen's 1946 recommendation of a project that would generate *both* hydro-electricity *and* water for irrigation, in the context of post-war reconstruction.

Two years later in 1948, the final plan was accepted, detailing two distinct projects:

- The northern project would divert the Eucumbene, upper Tooma and upper Murrumbidgee Rivers under the Great Dividing Rangeland, via the Tumut River, to the middle section of the Murrumbidgee;

- The southern project would divert the upper Snowy River east under the Great Dividing Range to the Murray River.

Continued reluctance of states to embrace the Scheme caused the Commonwealth to enact the Snowy Mountains Hydro-Electric Power Act on 7 July 1949, giving it total control over the project. The Act also conceived the Snowy Mountains Authority (SMA).

Much of Scheme's area encapsulated the 500,000 hectare Kosciuszko State Park, established by the NSW Parliament in 1944 to protect the mountain catchments from damage by stock grazing, and to conserve land for public recreation. At the time the Scheme was commenced, no explicit provision was made for the protection of the Park during construction. The original scheme was therefore modified in the mid-1950s (with no loss of output), allowing a more flexible use of the Snowy and Murrumbidgee waters.

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[295] Heritage Council, 'Upper Lachlan…', p. 90.

[296] Simpson, P. *Historical Guide to…,* p. 34.

[297] *Goulburn Herald*, 20 Aug 1862, p. 2.

As many as 60,000 European Displaced Persons became directly involved with the Snowy Mountains Scheme post-World War II. Camps were set up at Jindabyne and near Kiandra as bases for road construction teams, who completed over 1,600kilometres of roads and tracks.

Some 120 work camps and towns were built by the SMA over the 25 years of the Scheme, housing an estimated 100,000 men and many families. At the peak of construction, in 1959, there were 7,300 people working on the Scheme, overwhelmingly male. Camps ranged in size from survey camps for a few men in army-surplus tents, to large townships such as Cooma with 1,500 men housed in 700 prefabricated timber huts. Large townships were created both to re-house those displaced by dam construction, at Adaminaby and Jindabyne, and to be centres for Authority operations, as at Cabramurra, Khancoban, and Talbingo. Many residents were compulsorily removed from their land, leading to a strong sense of injustice among locals.

Preliminary Scheme works included detailed trigonometric and geological surveying, as well as detailed hydrological study of the nature of stream flows across the Snowy. Guthega Dam and Power Station were constructed first by Norwegian firm, I.F. Selmer, during 1951–1955. Next, to satisfy the NSW irrigation interests along the Murrumbidgee, the SMA gave precedence to the Snowy-Tumut development which commenced in 1955. While international companies won all the first round of contracts, the second round saw the Australian Theiss Brothers company winning the Tooma Dam and Tooma-Tumut tunnel contracts. They went on to construct approximately one-quarter of Scheme infrastructure, with many other Australian firms benefiting from the stimulus caused by steady work. The Snowy-Tumut development was completed progressively from 1959 (Tumut-1 Power Station) until 1973 (Tumut-3 Power Station). The Snowy-Murray development, much reduced from the initial design, was commenced in 1962, and all major components were completed by 1969.

5.8.1 Conservation

The move for the protection of the Snowy Mountains catchments from grazing related erosion, was championed by Soil Conservation Commission's E.S. Clayton, whose lobbying of the Premier and Minister of Lands was influential in the establishment of the Kosciusko State Park in 1944. Clayton worked closely with the SMA in campaigning for cessation of grazing in the 'High Country'. In 1958, the campaign succeeded in preventing the renewal of leases in the high-altitude areas (above 1,370 metres), but it was not until 1969 that grazing was finally abolished within the rest of the Park. Rehabilitation and revegetation of the High Country started in 1959, but increased considerably by 1962. Native plant propagation trials started in 1967, and were implemented from 1969. The overall area needing revegetation extended from Mt Kosciuszko to the Bulls Peak area 35kilometres to the north, and 10kilometres east to the Ramshead and Perisher Ranges. By this time, Kosciuszko State Park had been renamed Kosciuszko National Park under the *National Parks and Wildlife Act 1967* and was managed by the National Parks and Wildlife Service formed under that legislation. The Scheme's major impacts on Kosciuszko National Park also involve its current management under a comprehensive Plan of Management prepared under the *National Parks and Wildlife Act 1974*. In 1977 Kosciusko State Park was declared a World Biosphere reserve under the UNESCO Man and the Biosphere program.[298]

[298] Australian Heritage Register, 1/5/345/1.

6 PHYSICAL CONTEXT

6.1 Landscape context

Australia's landscapes have been classified into bioregions as part of a national and regional framework for conservation planning and assessment (National Parks and Wildlife Service 2003). The classification system is based on physical environmental attributes including climate, lithology, geology, landforms and vegetation (Thackway and Cresswell 1995). These large, geographically distinct areas of land have been further refined into more localised and homogenous geomorphological units known as subregions (Department of Agriculture, Water and the Environment, n.d.). The project footprint extends through different bioregions, from the South Western Slopes through the Australian Alps and the South Eastern Highlands.

Within the South Western Slopes Bioregion, the project footprint extends through the Wagga Wagga City, Cootamundra-Gundagai Regional and Yass Valley LGAs, as well as partly within the Snowy Valleys LGA. This bioregion consists of foothills and isolated ranges comprising the lower inland slopes of the Great Dividing Range and is dominated by a subhumid climate. Geology, soils and vegetation are complex and diverse but typified by granites and meta-sediments, texture contrast soils and a variety of eucalypt woodland.

To the east and south, the project footprint extends across the Yass Valley, Upper Lachlan Shire and Snowy Valleys LGAs that are located within the South Eastern Highlands Bioregion. This bioregion covers the dissected ranges and plateau of the Great Dividing Range that are topographically lower than the Australian Alps, which lie to the south-west. It extends to the Great Escarpment in the east and to the western slopes of the inland drainage basins. Native grasslands are found on heavy textured soils in valleys, lower slopes and broader plains between 560 and 1,200metres in altitude and are extensive on the dry plains of the Monaro Tablelands.

Further to the south within the Snowy Valleys LGA, the project footprint extends across the Australian Alps bioregion. This small bioregion is dominated by a montane climate, with no dry season and a mild summer and contains a patch of alpine climate characterised by no dry season and a cool summer. This bioregion constitutes the highest section of the Great Dividing Range and the landscape is characterised by peaked ranges and broad forested valleys.

6.1.1 South Western Slopes

The South Western Slopes Bioregion is a large area of foothills and ranges comprising the western fall of the Great Dividing Range to the edge of the Riverina Bioregion. A very wide range of rock types is found across the bioregion, which is also affected by topographic and rainfall gradients that decrease toward the west. These physical differences have an impact on the nature of the soils and vegetation found across the bioregion. Inland streams pass across the slopes in confined valleys with terraces and local areas of sedimentation. Geology, soils and vegetation are complex and diverse but typified by granites and meta-sediments, texture contrast soils and a variety of eucalypt woodlands.

The bioregion lies wholly in the eastern part of the Lachlan Fold Belt which consists of a complex series of north to north-westerly trending folded bodies of Cambrian to Early Carboniferous sedimentary and volcanic rocks. Granites are common and mostly located in large scale upfolded bodies of rock. Granite landscapes occur either as central basins surrounded by steep hills formed on contact metamorphic rocks, or as high blocky plateau features with rock outcrops and tors. Hilly landscapes developed on the sedimentary and volcanic rocks are controlled by structural features (bedding and faults) and typically form lines of hills extended along the strike of more resistant rocks such as quartzite. The valleys between ranges are either in granite or generally softer rocks such as shale, phyllite or slate.

The overall pattern of soils in these landscapes is one where shallow, stony soils are found on the tops of ridges and hills. Moving downslope, texture contrast soils are the norm with subsoils derived from the underlying weathered rock and the topsoils being a homogenised surface mantle of coarser material derived from all parts of the slope. On valley floors subsoils have drabber colours indicative of poor drainage and they may accumulate soluble salts. Dryland salinity is widespread. Alluvial sands and loams are more common than clays in most parts of the landscape but alluvial clays become more

important nearer to the Riverine Plain. Over the Quaternary, soils in these landscapes have accumulated a considerable quantity of windblown silt and clay from western NSW.

6.1.2 South Eastern Highlands

The South Eastern Highlands Bioregion covers the dissected ranges and plateau of the Great Dividing Range that are topographically lower than the Australian Alps, which lie to the south-west. It extends to the Great Escarpment in the east and to the western slopes of the inland drainage basins. The bioregion continues into Victoria. The substrate is formed of Palaeozoic granites, metamorphosed sedimentary rocks and Tertiary basalts. The highlands are part of the Lachlan fold belt that runs through the eastern states as a complex series of metamorphosed Ordovician to Devonian sandstones, shales and volcanic rocks intruded by numerous granite bodies and deformed by four episodes of folding, faulting and uplift. The general structural trend in this bioregion is north-south and the topography strongly reflects this. There are four centres of Tertiary basalt flows.

In the Devonian, the region was open sea accumulating fine sediment now represented by shales, sandstone and volcanic sediments in a series of parallel troughs such as at Tumut, Hill End, and from Captains Flat to Goulburn. The whole rock sequence is highly mineralised and contains many large base metal and gold deposits of economic importance.

In the Tertiary, volcanic activity was widespread and there are large areas of associated river sands and gravels in the mid-Shoalhaven valley.

Topographically, the dominant features of the bioregion are plateau remnants, granite basins with prominent ridges formed on contact metamorphic rocks and the western ramp grading to the South Western Slopes. Streams cutting through the bioregion are deeply entrenched with only a few terrace features. Valleys are narrow and there is little Quaternary sediment except in the numerous lake basins of the Monaro province.

Soils vary across the bioregion in relation to altitude, temperature and rainfall. On the Palaeozoic slates, sandstones and volcanics, mottled red and yellow texture contrast soils, with red earths are found. On the granites, shallow red earths occur on ridges, yellow texture contrast soils on all slopes and deep coarse sands in alluvium. On Tertiary basalts, shallow red-brown to black stony loams exist, with alluvial loams and black clays in swampy valley floors Some of the tertiary sands in the mid-Shoalhaven deep have been worked into low dunes under a past climate and now have deep siliceous sand or yellow earth profiles.

6.1.3 The Australian Alps

The Australian Alps Bioregion constitutes the highest section of the Great Dividing Range, and contains Australia's highest mountain, Mt Kosciuszko (2,228 metres). The landscape is characterised by peaked ranges, and broad, forested valleys, and is the only true alpine environment in NSW. The upper surfaces of the granite blocks have a low relief and form an environment of high plains where cold air drainage has a major impact on vegetation patterns. Stream patterns have also been affected by the geology. The soils of this bioregion reflect the extreme climatic gradient across the ranges. The lowlands consist mainly of texture contrast soils, grading to uniform, organic soils and peats at the highest elevations.

6.2 Land use

The heritage study area has been subject to varying degrees of disturbance by historical activities. The native vegetation was variably cleared in the historic period and is now a mixture of open pasture, and open forest.

6.3 Previously recorded sites within the project footprint

There are five heritage listed items that have curtilages that are located partially within the project footprint. The data was obtained in June 2020 and databases re-checked in April, June 2021 and September 2022. Table 6-1 lists historic items and Section 6.3.1 to 6.3.4 provides a description of the heritage listed items.

Two of these items are on the RNE. The RNE was closed in 2007 and is no longer a statutory list. All references to the RNE were removed from the EPBC Act on 19 February 2012. The RNE is now an archive of information rather than a statutory list. Kiley's Run (Place ID 16005), is 'indicative' on the RNE and is not listed on any other register. Derringullen Creek Area (Place ID 1078) is registered on the RNE and is also listed on the Yass Valley LEP. The listed curtilages for both areas overlap but are not the same. The RNE listed curtilage is larger than the LEP listed curtilage; the RNE listed curtilage is within the project footprint, whereas the LEP listed curtilage is in the heritage study area only.

Table 6-1 Previously recorded historic items within the project footprint

Site name	Item ID	Category	Significance	LGA	List
Ivydale Woolshed	I73	Historic	Local	Wagga Wagga City	LEP
Stone Ruin	I71	Historic	Local	Wagga Wagga City	LEP
Elizabeth Nugent grave on College Creek	I202	Historic	Local	Wagga Wagga City	LEP
Kiley's Run	16005	Historic/ Intangible	Indicative on the RNE	Cootamundra-Gundagai Regional	RNE
Derringullen Creek Area	1078	Natural	Registered on the RNE	Yass Valley	RNE

6.3.1 *Ivydale* Woolshed, Gregadoo

Ivydale woolshed is located at 9 Ivydale Road, Gregadoo, Lot 2, DP 333046. It is listed on the *Wagga Wagga LEP 2010* (item I73). The property is 80 metres from the project footprint and the woolshed itself is approximately 900 metres from the project footprint. This item is within the transmission line portion of the project footprint.

Figure 6-1 View to *Ivydale* homestead, north from the current transmission line

Figure 6-2 View to the homestead, north-east from Ivydale Road

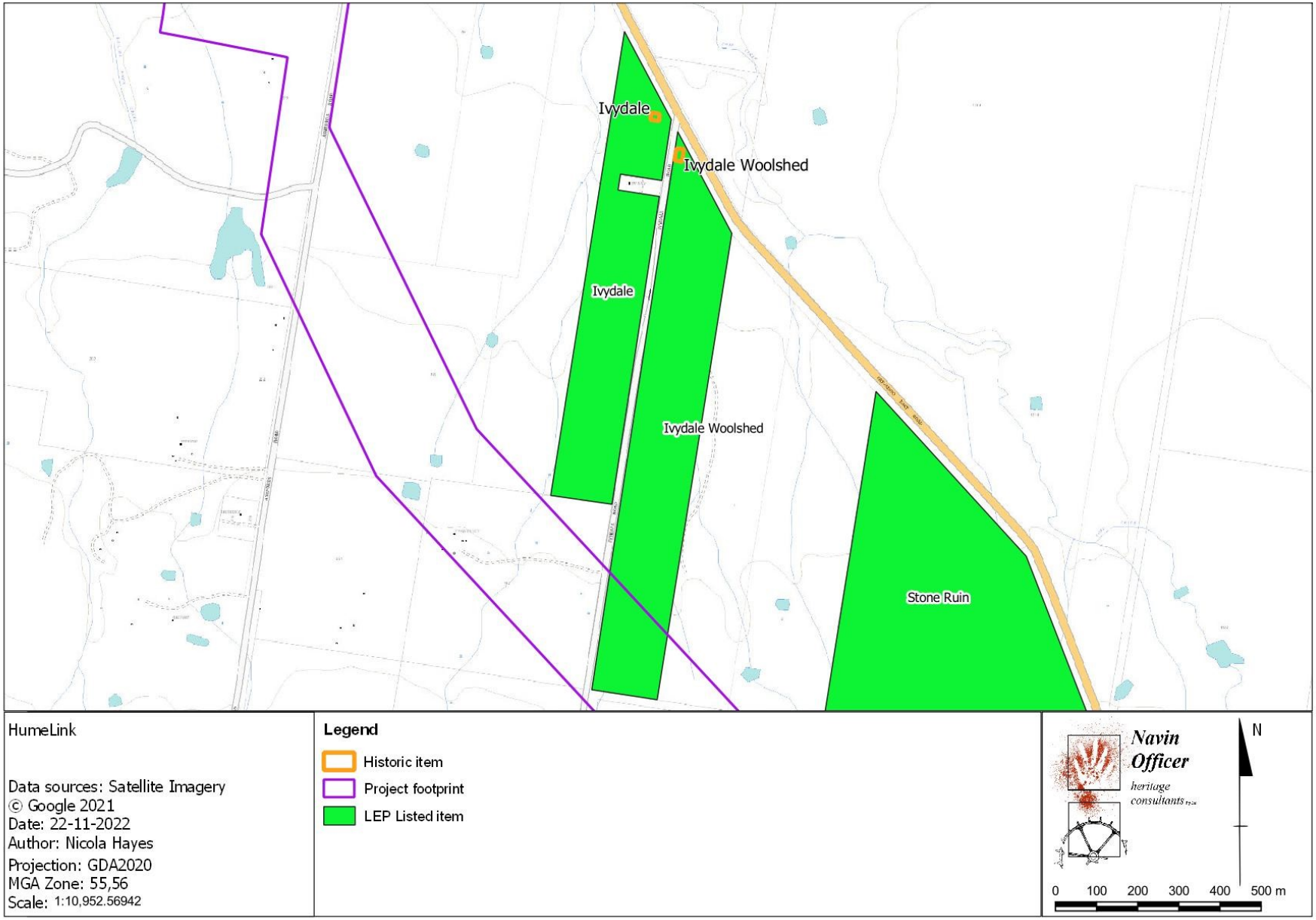


Figure 6-3 Location of *Ivydale*, *Ivydale* woolshed and the project footprint

6.3.2 Stone Ruin

Stone Ruin is located at 1149 Gregadoo East Road, Gregadoo. It is listed on the *Wagga Wagga LEP 2010* (item I71). The property is traversed by the project footprint but the Stone Ruin is approximately 500 metres east of the project footprint on Gregadoo East Road (refer to Figure 6-6). This item is within the transmission line portion of the project footprint.

The item is described as a two-room cottage of granite blocks with a brick chimney. This cottage is a remnant of a selector's cottage, built following the Selection Act of 1874.

Figure 6-4 Stone Ruin image from Wagga Wagga City Council Rural Heritage Study 2000[299]

[299] *Freeman 2000 : Vol 2, Part 2*

Figure 6-5 Stone Ruin, looking west from Gregadoo Road

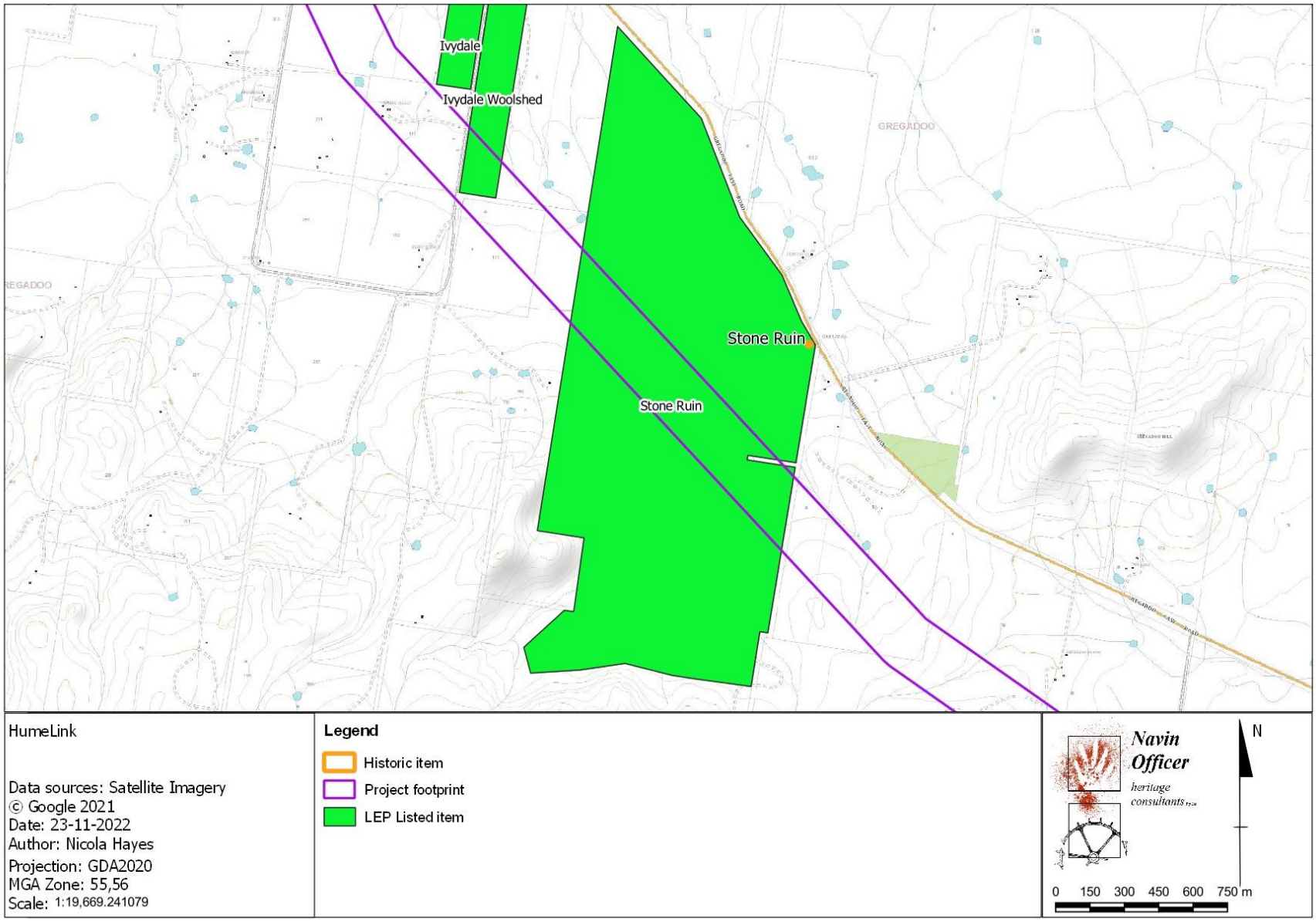


Figure 6-6 Location of Stone Ruin and the project footprint

6.3.3 Elizabeth Nugent grave on *College Creek*

The Elizabeth Nugent grave on *College Creek* is located at 1615 Humula Road, Tarcutta, NSW. It is listed on the *Wagga Wagga LEP 2010* (item I202). The property is traversed by the project footprint but the grave is approximately 430 metres north-east of the project footprint (refer to Figure 6-8). This item is within the transmission line portion of the project footprint.

The item is described as a broken stone headstone that reads “Died/J 20 1864/Elizabeth Nugent/ aged 74 years”. Another square stone, set into cement, reads “Elizabeth Nugent/Born 1790/Died 20.10.1864/ aged 74 years RIP”.

Figure 6-7 Elizabeth Nugent’s Grave, marked by red fuel can

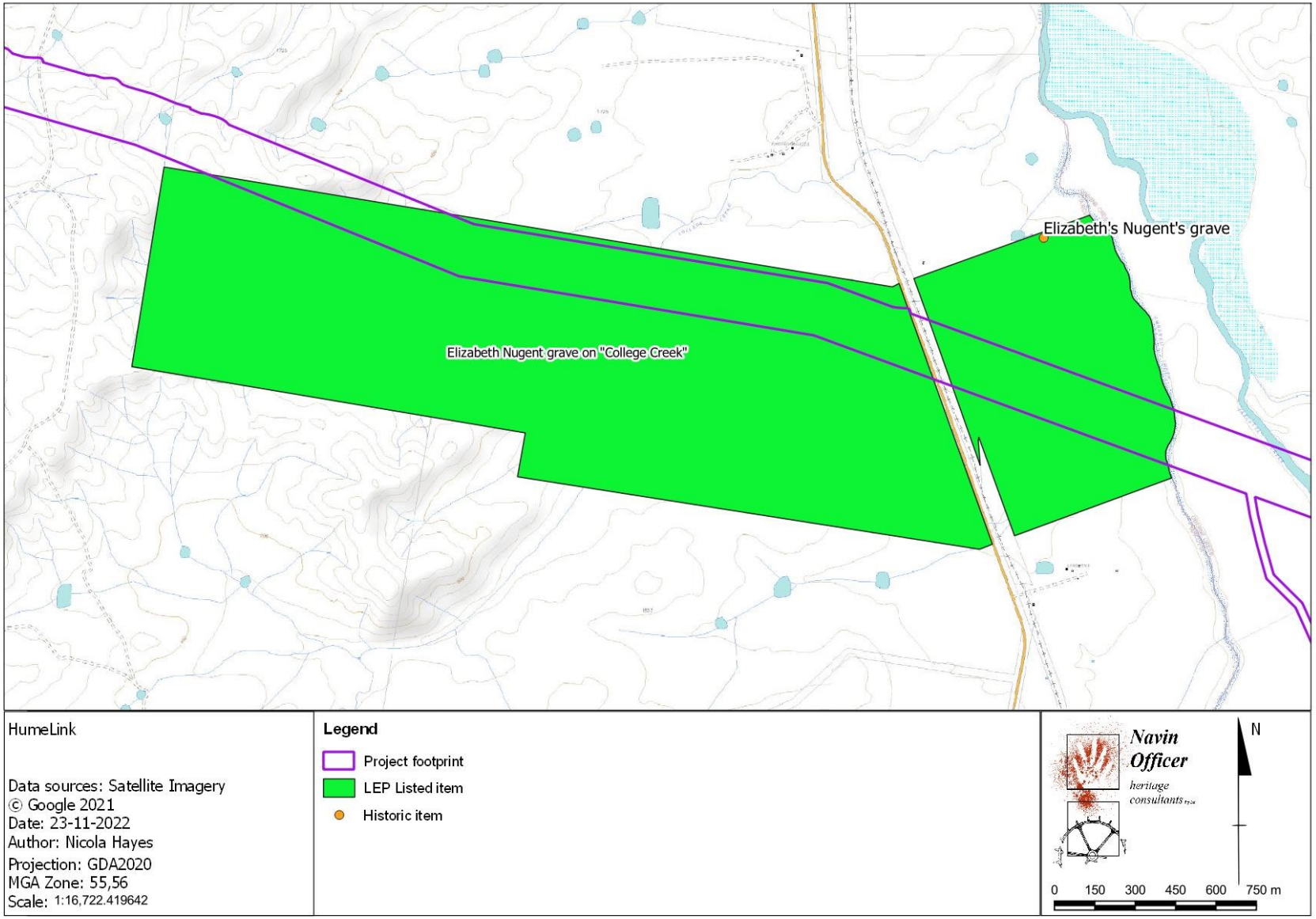


Figure 6-8 Location of Elizabeth Nugent Grave and the project footprint

6.3.4 Kiley's Run

Kiley's Run, also known as *Red Hill Station*, is located two kilometres west of Adjungbilly and 30kilometres north-east of Tumut. It is within the Red Hill State Forest which is part of the FCNSW softwood plantation. The forest is managed by Hume Forests.

The site consists of shearers' quarters, woolshed and homestead. These items are located at least 200 metres west of the project footprint. This item is within the transmission line portion of the project footprint.

FCNSW has prepared a CMP for the property in response to its historic value and as a result have undertaken basic restoration and clean-up of the homestead, shearing shed, and other buildings. The CMP found that the property meets the threshold for local heritage significance and is presently in poor condition (Giovanelli and O'Keefe, 2021). Section 5.7.3 above outlines a history of *Kiley's Run*.

Charlie Taylor from FCNSW provided the following comments:

> "Following on from the CMP, a schedule of works to undertake basic restoration and protection to the homestead buildings has been prepared and I am currently seeking a suitable building contractor to progress the high priority works".

Works completed to date have included fencing, regrowth tree removal and clean-up of the homestead and shearing shed and other buildings sites, including weed spraying and removal.

FCNSW is also in the process of compiling a Section 170 register for various heritage sites across the estate, with this site to be included for review.

Figure 6-9 Recent photo of *Kiley's Run* (provided by Charlie Taylor of FCNSW)

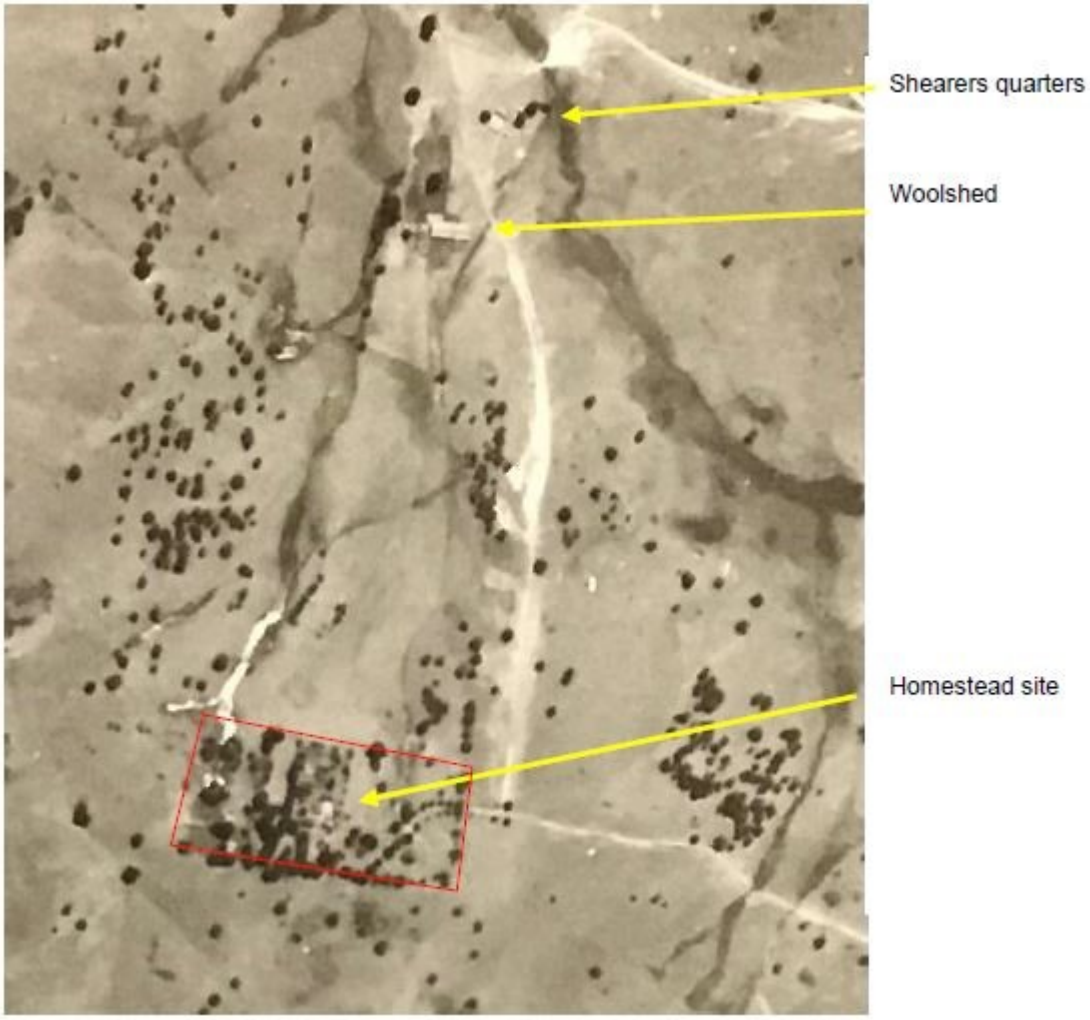


Figure 6-10 1944 aerial image with *Kiley's Run* buildings marked (from Giovanelli and O'Keefe 2021, p. 35)

Figure 6-11 2022 aerial image with *Kiley's Run* buildings marked

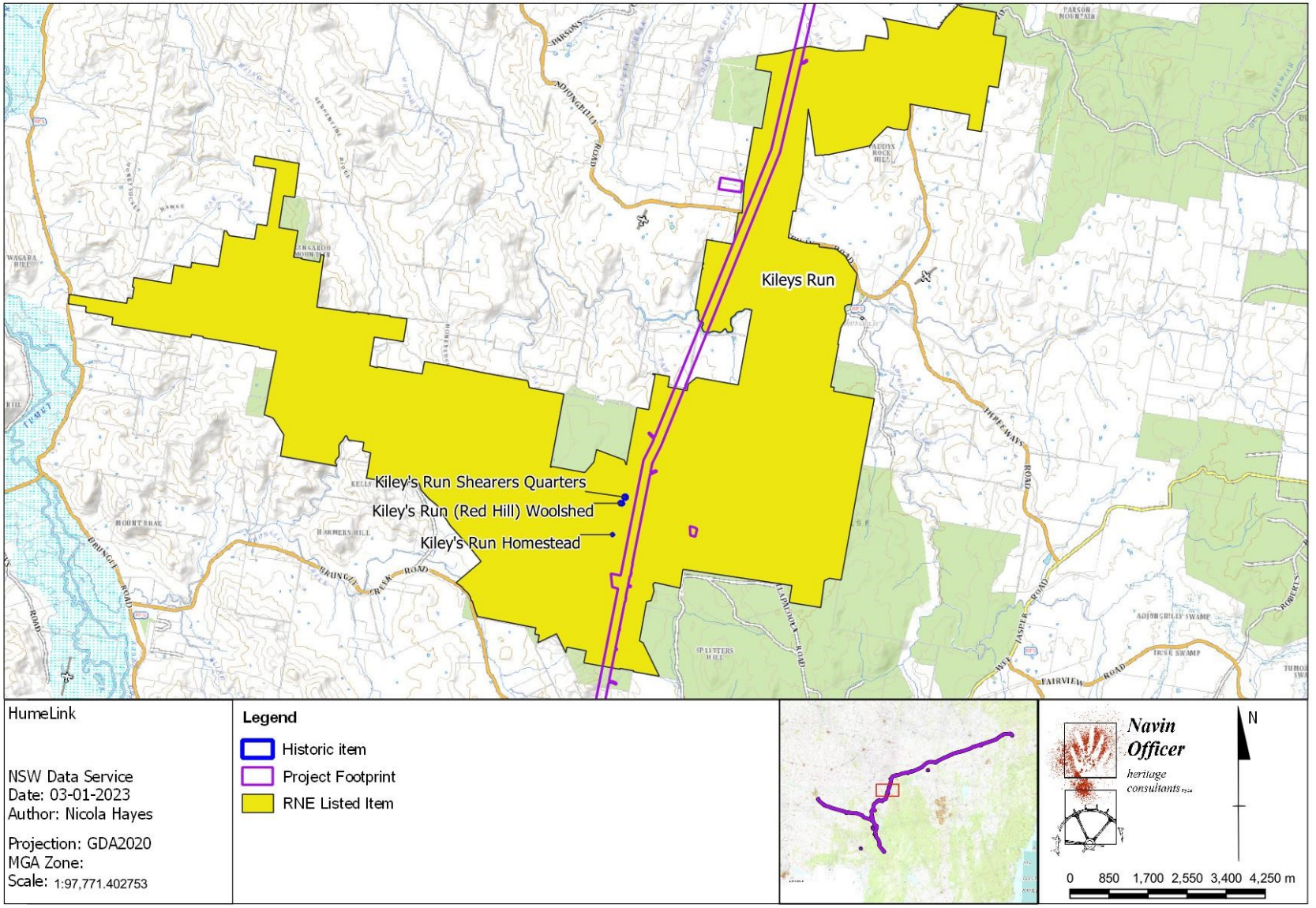


Figure 6-12 Location of *Kiley's Run* and the project footprint

6.3.5 Derringullen Creek Fossil Site

Derringullen Creek Area (Place ID 1078) is registered on the RNE and is also listed as the Derringullen Creek Fossil Area on the Yass Valley LEP (Place ID A299). The listed curtilages for both areas overlap but are not the same. The RNE listed curtilage is larger than the LEP listed curtilage; the RNE listed curtilage is within the project footprint, whereas the LEP listed curtilage is in the heritage study area only (refer to Figure 6-13). This item is within the transmission line portion of the project footprint.

The Derringullen Creek section is one of the State's classic fossiliferous sites. The area includes the type sections of the Tullerah sandstone member and the Gum's Road limestone member of the Silverdale formation, and the Excursion Creek sandstone member, Laidlaw formation. The site has considerable educational value.

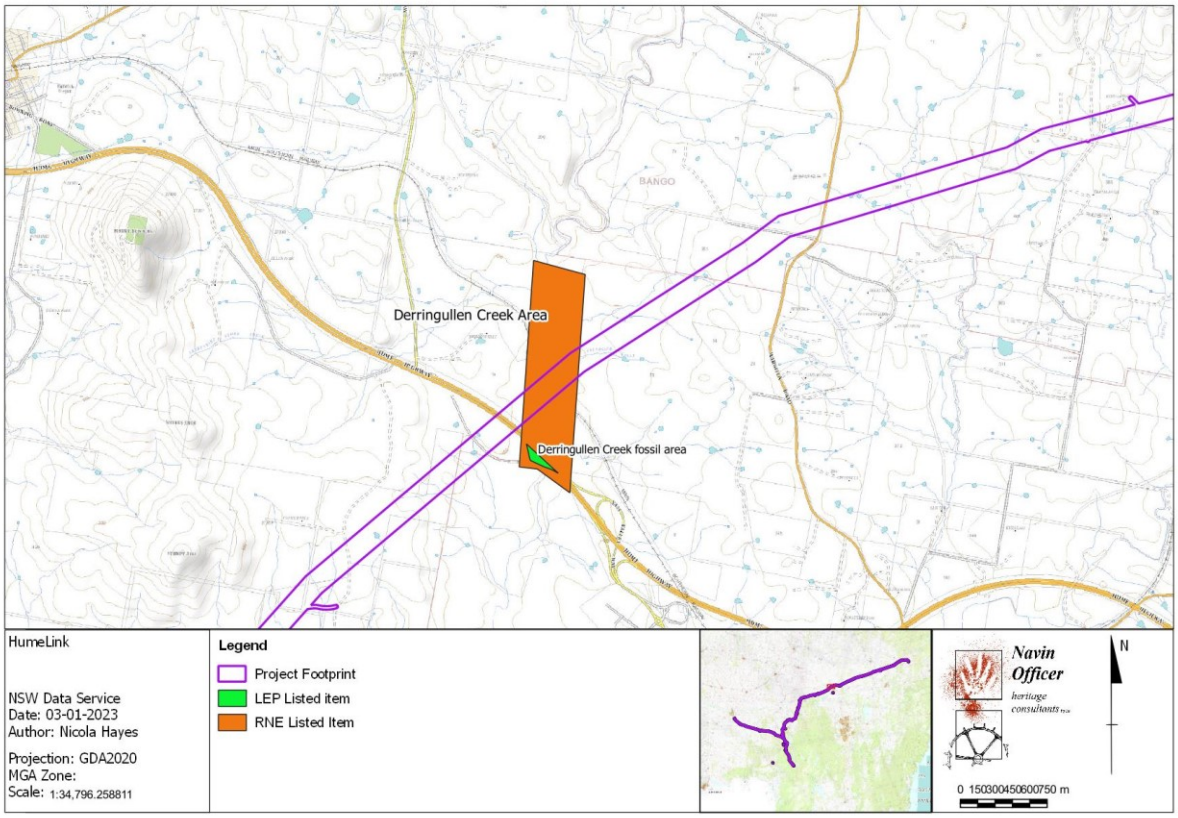


Figure 6-13 Derringullen Creek Fossil Site

6.4 Survey results

Four potential historic items have been identified to date during the field survey.

Table 6-2 Historic items recorded during field assessment

Site Name	LGA
Historic Site 1: Sheep dip and well	Yass Valley
Historic Site 2: Chimney	Yass Valley
Historic Site 3: Modified tree 1	Upper Lachlan
Historic Site 4: Modified tree 2	Upper Lachlan

6.4.1 Historic Site 1: Sheep dip and well

Location (GDA2020 / MGA Zone 55):
Primary address: Black Range Road, Bowning
Real Property Description: Lot 2 DP754149
Type of item: Built – Farming and Grazing – Sheep Dip/Sheep Wash
Built – Farming and Grazing – Well

Figure 6-14 Well and Sheep Dip – topographic map

Description:

This potential historic item comprises a hand-dug well, sheep dip and associated footings. The items are partially within the project footprint. This item is within the transmission line portion of the project footprint.

The well is located approximately 3 metres from an acacia tree. The well is covered by corrugated iron, and timbers. The well has been disturbed by burrowing animals.

The inground sheep dip is constructed of concrete and local stone and is approximately 6.25 metres by 5 metres in an 'L' shape. Approximately 7 metres south-east of the sheep dip there is evidence of

the footings of a structure comprised of cut stone. Scatters of old glass were also located in the vicinity of this item.

Figure 6-15 Well, looking north

Figure 6-16 Well, looking north

Figure 6-17 Sheep dip, looking north

Figure 6-18 Sheep Dip structure, view east

Historical Information:

In 1855, Gilbert Patterson Wilson purchased Portion 31, Parish of Yass (33 acres) near the village reserve at the confluence of Derringullen Creek with the Yass River. He held interests in property to the west and north, including Portions 1a and 13a within the village reserve (15 acres and 22 acres, respectively); a 100-acre conditional purchase (Portion 130); and 52-acre additional conditional purchase (Portion 131) (refer to Figure 6-19). Annotations on the Crown Plan indicate Portion 31 consisted "principally of good open undulating forest land, partly adapted for cultivation, there is no permanent water […]."[300] A dry creek, and road to Bogolong and Port Phillip, are shown in the south-east corner of the land (refer to Figure 6-20).

Patterson Wilson (1806-1896) was born in Drunquin, County Tyrone, the son of John, a schoolmaster, and Jane Smith. He arrived in Sydney on the *Crescent* as a government assisted immigrant in 1840, with his wife Hannah (Campbell) Wilson and three children. His immigration record indicates he could read and write, and his calling (occupation) is listed as a labourer.[301] He was met by the Rev. Cartwright, a Church of England clergyman from Goulburn,[302] who reportedly employed him for many years as a teacher at Church Schools in Goulburn and later Yass.[303] He took up residence (date unknown) at *Longfield*, Derringullen Creek,[304] where he lived until his death in 1896.[305,306]

The property was purchased by John Charles Hope Betts of *Cowridge*, Yass, a local grazier in 1969,[307] and is still held by a member of the Betts family.

The features recorded during the survey are at a scale that is not easily discernible on aerial photographs; however, historical imagery dating from 1973–2020 indicates that this general area has historically been characterised by open paddocks/fields and used for grazing (refer to Figure 6-19 to Figure 6-25).

[300] Crown Plan 214-1495.

[301] FamilySearch. 2019. 'Patterson Wilson, 1840'. Australia, New South Wales, Index to Bounty Immigrants, 1828–1842 [Online Database].

[302] State Archives & Records. 2106. 'Crescent, Reel 2668, [4/4781]'. Assisted Immigrants (Digital) Shipping Lists. 11 February 1840.

[303] *Yass Tribune-Courier,* 'Obituary', 15 June 1936.

[304] FamilySearch. 2019. Ibid.

[305] *Yass Tribune-Courier,* 'St. Clement's', 24 March 1938.

[306] Ancestry.com 2010 'Patterson Wilson'. Australia, Death Index, 1787–1985 [Online Database].

[307] Book 2478 No. 943.

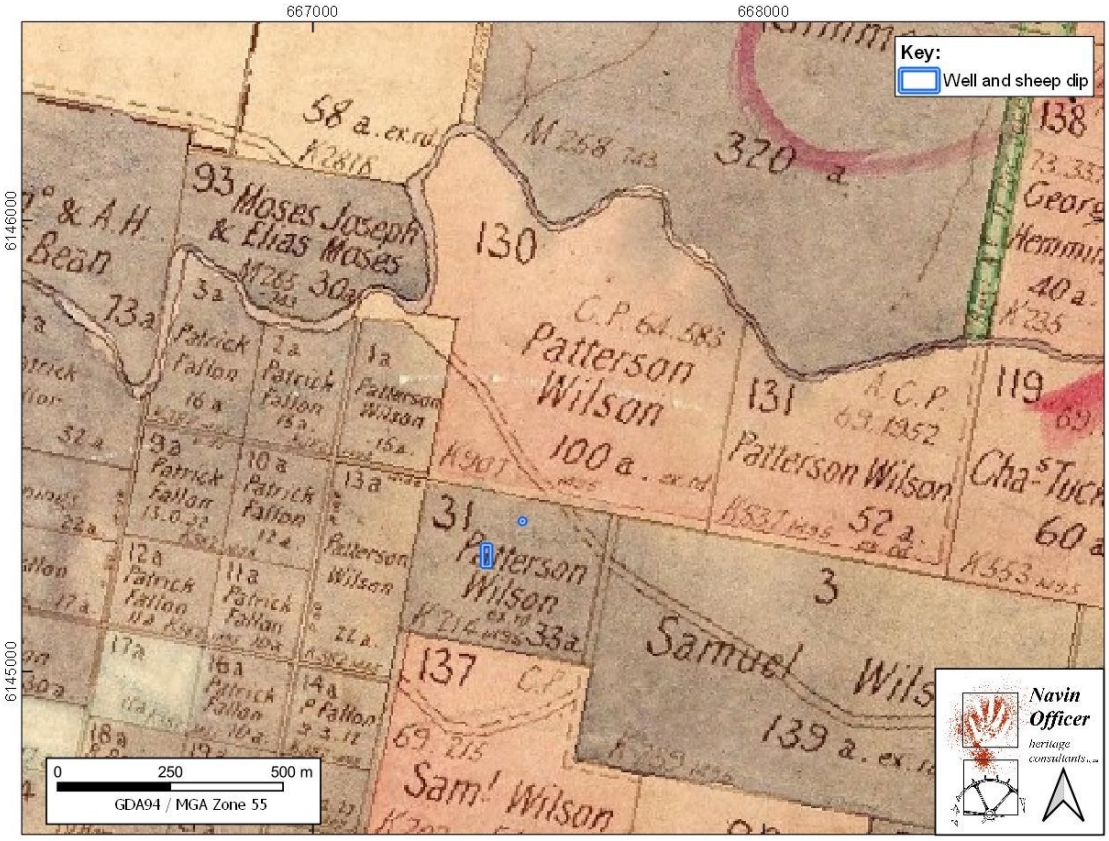


Figure 6-19 Detail from map of the Parish of Yass, County of King, 2nd Edition, Sheet 1 (1929) (LRS HLRV)

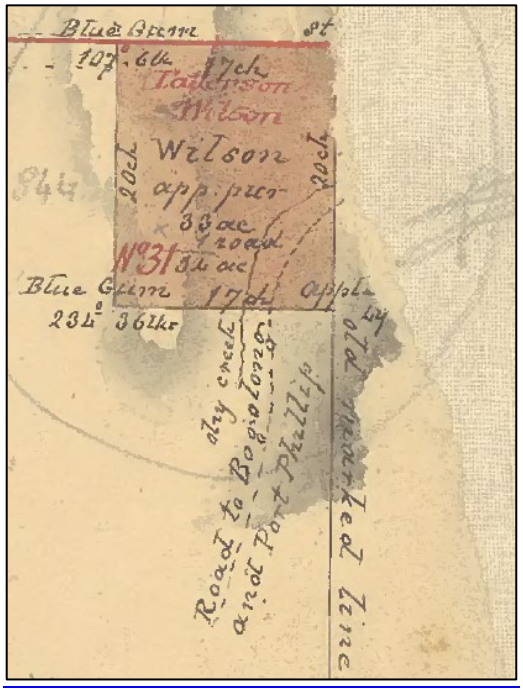


Figure 6-20 Detail from Crown Plan 214-1495 (1855), showing Portion 31

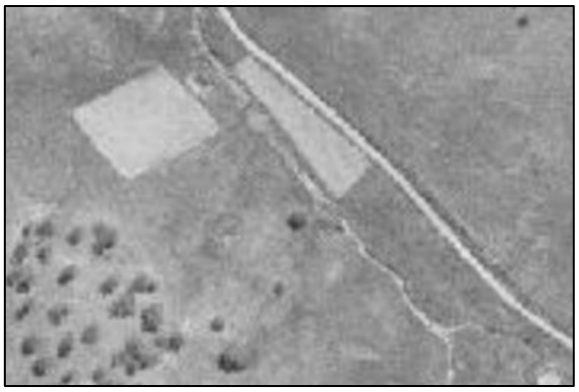


Figure 6-21 Detail from 1973 aerial ('Sheet 8628 Yass, Film 2133, Run R3, Frame 5111, B&W Scale 1:81000'. 1973. Historical Imagery, Spatial Services)

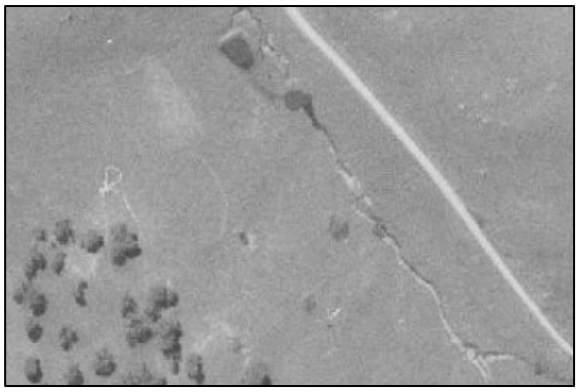


Figure 6-22 Detail from 1983 aerial ('Sheet 8628 Yass, Film 3326, Run R5, Frame 232, B&W Scale 1:40000'. 1983. Historical Imagery, Spatial Services)

Figure 6-23 Detail from 1994 aerial ('Sheet 8628 Yass, Film 4182, Run R4, Frame 102, Colour Scale 1:50000'. 1994. Historical Imagery, Spatial Services)

Figure 6-24 Detail from 1997 aerial ('Sheet 8628 Yass, Film 4393, Run R9, Frame 38, Colour Scale 1:25000'. 1997. Historical Imagery, Spatial Services)

Figure 6-25 Detail from 2020 aerial ('Yass, ADS_SC, 2/03/2021' SIX Maps, Spatial Services)

Archaeological Potential:

This location, in particular the well, has some potential to contain archaeological deposits. However, the background research undertaken has not ascertained the potential age of this item nor any association with the history of the property.

6.4.2 Historic Site 2: Brick Chimney

Location (GDA2020 / MGA Zone 55): -
Primary address: Cooks Hill Road, Bango
Real Property Description: Lot 9 DP754099
Type of item: Archaeological – Terrestrial

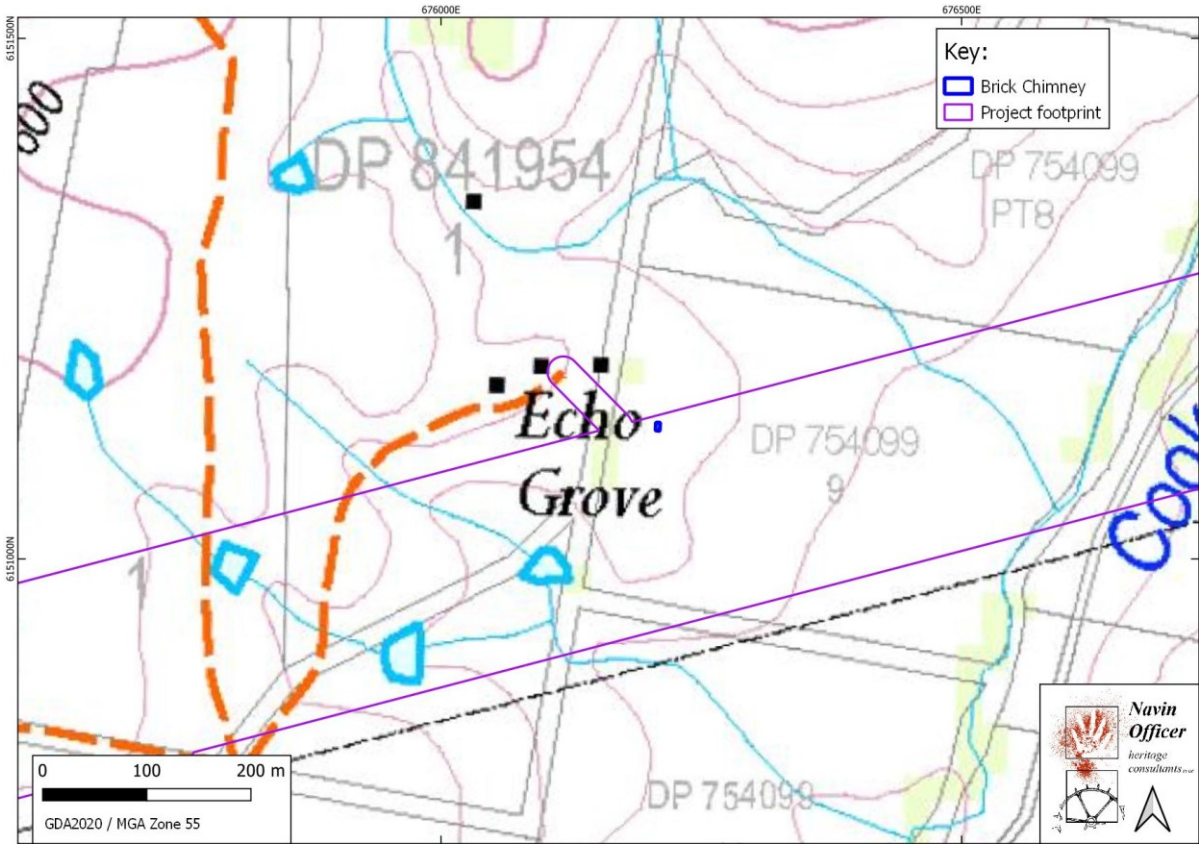


Figure 6-26 Brick Chimney – topographic map

Description:

The site consists of a dilapidated fireplace with an iron firepit and scattered bricks. The site inspection identified a brick and sandy mortar fireplace (refer to Figure 6-27). The item is within the project footprint. This item is within the transmission line portion of the project footprint.

It is dilapidated but largly intact with the bricks likely to date to from late 19th Century to early 20th Century. There is some plaster remaining in the interior of the fireplace. The site also includeds bricks scattered around an area of 10 square metres and an ironfirepit, located eight metres south of the fire place. The site is in very poor condition. The fireplace is located near the western boundary of the property, which is currently distinguishable by a row of trees.

Figure 6-27 View looking north to the fireplace

Figure 6-28 View looking north of the iron pit and fireplace

Historical Information:

Portion 9, Parish of Bango near Yass, a suburban lot of 30 acres at the Western Branch of Bango Creek was listed for auction after the Proclamation of 20 May 1851[308].The original grantee is listed as Julia Cook. The adjacent properties' original grantees also have the surname Cook such as Ruth Cook, Eliza Cook, and John Cook. Several other adjacent properties had "J.H.; S.G. & Catherine Cooke" listed as the original grantee who requested permission to enclose a road along the western boundary of the property which was granted on 18 January 1932[309]. The fireplace is located on the western boundary of the property alongside this boundary, separating it from the adjacent property.

A road was requested along-side this property boundary by S.G.B., J.H. & Catherine Cooke and granted on 18 January 1932. The eastern boundary along the property is now named Cook's Creek. It is likely that a person with the surname Cook was squatting in this region before purchasing this land when it came on sale.

Archaeological Potential:

As the site location is not connected to any known people or places it is unlikely to be of any archaeological potential.

6.4.3 Historic Site 3: Modified tree 1

Location (GDA2020 / MGA Zone 55): *740334.485, 6173010.191*
Primary address: Woodhouselee Road, Woodhouselee
Real Property Description: Lot 2 DP1087717
Type of item: Survey marker tree

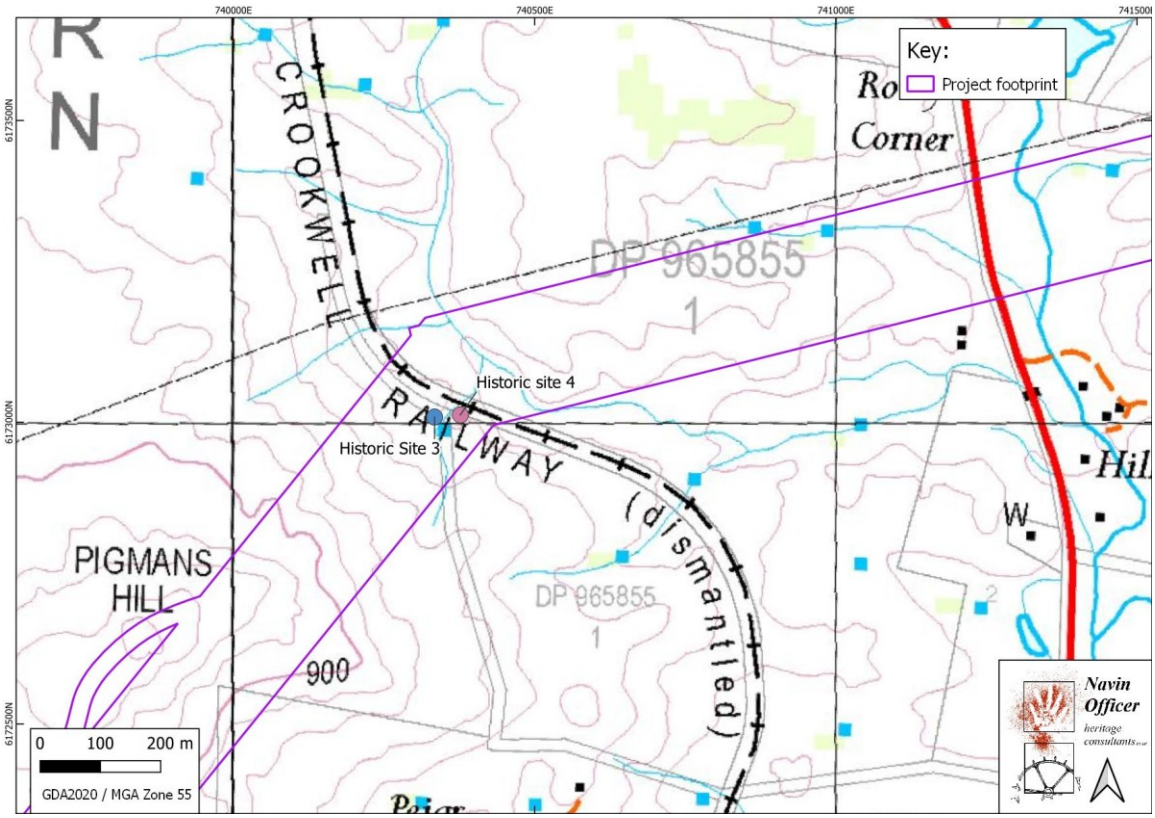


Figure 6-29 Survey marker trees Historic Sites 3 and 4 – topographic map (DFSI 2018)

[308] *New South Wales Government Gazette*, 20 May 1851.

[309] Map of the Parish of Bango, County of King, 2nd Edition, Sheet 1 (1901) (Land Registry Services Historical Land Records Viewer (LRS HLRV)); Map of the Parish of Bango, County of King, 5th Edition, Sheet 1 (1939) (Land Registry Services Historical Land Records Viewer (LRS HLRV)).

This site is a modified tree located on a mid-slope of a mid-valley where the surrounding canopy is in the range of four to ten metres high. The item is within the project footprint. This item is within the transmission line portion of the project footprint. The tree is marked with survey blazes and are likely associated with the survey of the Crookwell Railway Line and adjacent property boundaries.

The tree is described as:

Species: Eucalypt

Estimated Height: 10 metres

Girth cm: 138 centimetres

Condition: Very poor, dead tree.

Aspect: North

Length of scar excluding regrowth: 50 centimetres

Length of scar including regrowth: 63 centimetres

Width of scar excluding regrowth: 21 centimetres

Width of scar including regrowth: 38 centimetres

Height of scar from base of scar: 4 centimetres

Height of base of outer scar (outside regrowth): NA

Features: Axe/hatchet marks, large/small borer holes/tracks

Checklist:

Tree is endemic to area? Yes

Scar does not extend to the ground? No

Scar made with axe? Yes

Scar condition: Good

Conclusion: A European survey marker tree

Scar

View of tree, facing south

6.4.4 Historic Site 4: Modified tree 2

Location (GDA2020 / MGA Zone 55): *740377.260, 6173013.751*
Primary address: Woodhouselee Road, Woodhouselee
Real Property Description: Lot 1 DP965855
Type of item: Survey marker tree

This site is a modified tree located on a mid-slope of a mid-valley where the surrounding canopy is in the range of between four to ten metres high. The item is within the project footprint. This item is within the transmission line portion of the project footprint. The tree is marked with survey blazes and are likely associated with the survey of the Crookwell Railway Line and adjacent property boundaries.

The tree is described as:

Species: Eucalypt

Estimated Height: 10–15 metres

Girth cm: 190 centimetres

Condition: Very poor, dead tree, major crown limbs missing

Aspect: West

Length of scar excluding regrowth: 79 centimetres

Length of scar including regrowth: 112 centimetres

Width of scar excluding regrowth: 42 centimetres

Width of scar including regrowth: NA

Height of scar from base of scar: NA

Height of base of outer scar (outside regrowth): NA

Features: axe/hatchet marks, core wood missing, original scar surface whole/partly missing, large/small borer holes/tracks

Checklist:

Tree is endemic to area? Yes

Scar does not extend to the ground? No

Scar made with axe? Yes

Scar condition: Very poor

Conclusion: A European survey marker tree.

View of tree facing south

Scar

6.5 Analysis of historical heritage survey and discussion

The background research and archaeological survey has found that the potential for historic sites generally across the heritage study area and within the project footprint is low. The paucity of historical archaeological sites found within the historic heritage survey area is not surprising. The project footprint has been designed to avoid areas of human habitation including towns and residences, as such the potential to find items of historic significance is low. In addition, most items of heritage significance will have been described and recorded previously by local councils and local historians – again, therefore the potential to find unrecorded historic items in considered to be relatively low.

7 HERITAGE SIGNIFICANCE

7.1 Assessing heritage significance

This report assesses the significance of each item recorded during the field assessment for its cultural significance. *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* defines cultural significance as “aesthetic, historic, scientific, social or spiritual value for past, present or future generations” (Australia ICOMOS, 2013). Assessing the cultural significance of a place involves identifying the range of values that are present and assessing them against relevant criteria, in order to define why a place is important and inform future planning and management.

The publication *Assessing Heritage Significance* (NSW Heritage Office, 2001) provides the procedural basis for assessment of heritage significance of an item or place. This is achieved by evaluating the place or item’s significance in reference to specific criteria that can be applied at a national, state or local level. The criteria are:

> ***Criterion (a)*** *An item is important in the course, or pattern, of NSW’s cultural or natural history (or the cultural or natural history of the local area)*
>
> ***Criterion (b)*** *An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW’s cultural or natural history (or the cultural or natural history of the local area)*
>
> ***Criterion (c)*** *An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area)*
>
> ***Criterion (d)*** *An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons*
>
> ***Criterion (e)*** *An item has potential to yield information that will contribute to an understanding of NSW’s cultural or natural history (or the cultural or natural history of the local area)*
>
> ***Criterion (f)*** *An item possesses uncommon, rare or endangered aspects of NSW’s cultural or natural history (or the cultural or natural history of the local area)*
>
> ***Criterion (g)*** *An item is important in demonstrating the principal characteristics of a class of NSW’s cultural or natural places; or cultural or natural environments (or a class of the local area’s cultural or natural places; or cultural or natural environments.).*

These criteria are used to assess the heritage significance of each item. This report also identifies if the historic item meets the heritage significance criteria at a local or state level. Each item is also given a statement of significance which summarises the significance of that item.

Different components of a place may make a different relative contribution to its heritage value. For example, loss of integrity or condition may diminish significance. In some cases, it is constructive to note the relative contribution of an item or its components. Table 7-1 provides a guide to ascribing grades of significance to different components of a place.

Table 7-1 Gradings of significance (NSW Heritage Office, 2001, p. 11)

Grading	Justification	Status
Exceptional	Rare or outstanding item directly contributing to an item's local or state significance.	Fulfils criteria for local or state listing
High	High degree of original fabric. Demonstrates a key element of the item's significance. Alterations do not detract from significance.	Fulfils criteria for local or state listing
Moderate	Altered or modified elements. Elements with little heritage value, but which contribute to the overall significance of the item.	Fulfils criteria for local or state listing
Little	Alterations detract from significance. Difficult to interpret.	Does not fulfil criteria for local or state listing
Intrusive	Damaging to the item's heritage significance.	Does not fulfil criteria for local or state listing

7.1.1 Assessing historical archaeological significance

Many, although not all, historic items have the potential to have associated archaeological deposits the significance of which may not always be obvious from visual inspection of land surfaces. The historical archaeological assessment identifies the probable extent, nature and integrity of known and potential historical archaeological resources and provides an assessment of the potential significance of archaeological relics. It is based on a review of the historical context of the project area, information obtained from historical maps, plans and aerial photographs, and general observations made during the field investigation.

A summary of historical archaeological potential is provided for each site identified, in accordance with the identified phases of historical development, the types of historical archaeological resources or features which may be present, the integrity of the remains, and the potential for archaeological remains to survive. The intactness (or surviving condition) of potential archaeological remains has been assessed as follows:

- High – Potential archaeological remains associated with a particular historical activity are likely to survive intact.
- Moderate – Potential archaeological remains associated with a particular historical activity may survive but are likely to have been subject to some disturbance.
- Low – Potential archaeological remains associated with a particular historical activity are unlikely to survive.

Historical archaeological significance refers to the heritage significance of known and potential archaeological resources. The aim of an archaeological significance assessment is to identify whether these resources are of cultural value and meet the definition of a 'relic' under the Heritage Act (that is, if they are of state or local heritage significance). A statement of archaeological significance summarising the heritage values of an archaeological site can then be used as the basis for determining appropriate management options (Heritage Branch, Department of Planning, 2009, p. 2).

The document *Assessing Significance for Historical Archaeological Sites and 'Relics'* (Heritage Branch, Department of Planning NSW, 2009) clarifies how the evaluation criteria above relate to historical archaeological sites and provides a series of questions for each criterion that assist the assessment of relics. By using this guideline archaeological sites or 'relics' can be assessed and compared with other sites. The criteria include:

- Archaeological Research Potential (current NSW Heritage Criterion E)
- Associations with individuals, events or groups of historical importance (NSW Heritage Criteria A, B & D)
- Aesthetic or technical significance (NSW Heritage Criterion C)
- Ability to demonstrate the past through archaeological remains (NSW Heritage Criteria A, C, F & G).

7.2 Heritage significance of items recorded during survey

7.2.1 Historic Site 1: Sheep dip and well

This potential historic item comprises a hand-dug well, sheep dip and associated footings. This location, in particular the well, has some potential to contain archaeological deposits. However, the background research undertaken has not ascertained the potential age of this item nor any association with the history of the property. It is unlikely that this site will meet any of the criteria for heritage significance.

7.2.2 Historic Site 2: Chimney

This potential historic item comprises a a brick and sandy mortar fireplace. Background research undertaken has not ascertained the potential age of this item nor any association known people or places. It is unlikely that this site will meet any of the criteria for heritage significance.

7.2.3 Historic Site 3: Modified tree 1

Survey marker trees are increasingly rare and uncommon within the landscape, however this tree is in poor condition and is unlikely to provide detail regarding the provenance, age, and function of this specific item. It is unlikely that this site would meet any of the criteria for heritage significance.

7.2.4 Historic Site 4: Modified tree 2

Survey marker trees are increasingly rare and uncommon within the landscape, however this tree is in poor condition and is unlikely to provide detail regarding the provenance, age, and function of this specific item. It is unlikely that this site will meet any of the criteria for heritage significance.

8 ASSESSMENT OF IMPACTS

Using the assessment of historic heritage significance, the project is considered, and an impact assessment made. The impact assessment for the project has considered total direct harm, partial direct harm, potential direct harm and indirect impacts on heritage. The assessment is completed considering a worst-case scenario, it is likely that the final impacted area will be much smaller than the project footprint assessed.

The construction activities and components are outlined in Chapter 2. The project components and activities that have been assumed to have the potential to cause direct impacts in the project footprint include:

- clearing of vegetation
- transmission line structure installation
- proposed Gugaa 500 kV substation construction
- Bannaby 500 kV substation and Wagga 330 kV substation modifications
- telecommunications hut construction
- new and upgraded access track and road construction
- installation of buried cabling from the 500 kV transmission line structures to Rye Park Wind Farm substation
- worker accommodation facility and construction compound establishment.

The project components could impact historic items in the following ways:

- Total direct harm or disturbance to all surface and/or subsurface features could result at an item. This would generally result in a total loss of heritage value at a site. An example of a direct impact for the project is the installation of transmission line structures.
- Partial direct harm or disturbance, where direct impacts would occur to only some of the surface and/or subsurface features, could result at an item. Partial direct harm generally results in partial loss of value at a site. An example of a partial direct harm would be where part of a site is impacted due to the installation of an access track or transmission line infrastructure.
- Potential direct harm or disturbance (total or partial) could result at an item, where direct impacts are occurring adjacent to sites, or where vegetation clearance/maintenance requires the use of heavy machinery to be active near sites. Such impacts would likely be inadvertent.
- Indirect impacts, including to the views to and from historic items, could impact historic items. Indirect impacts could include impacts from vegetation clearance and visual impacts to cultural values and views.

Impacts during construction would be managed through the project Heritage Management Plan (HMP) prepared as part of the Construction Environmental Management Plan (CEMP). All items identified in the project footprint are of low heritage significance (refer to Table 8-1).

Following construction, project operation should have minimal to no impacts to heritage if standard operational procedures are implemented. If procedures are not implemented, there is a risk of inadvertent or accidental impacts to historic items from activities such as:

- vegetation clearing/trimming within the easement
- access track maintenance
- transmission line structure and line maintenance including heavy machinery placement
- stormwater drainage systems maintenance.

Impacts during operation would be managed through relevant Transgrid systems and procedures.

8.1 Heritage impact assessment

8.1.1 Impact to historic items within the project footprint

The project aims to avoid historic items as a first principle. Impacts to historic items and historic sites identified during this assessment are discussed below and summarised in Table 8-1. Refer to Figure 8-1 Sheets 1–4 for mapping of these historic items.

Indirect impacts, depending on the site type, site context, and its archaeological and cultural significance, may not result in a loss of heritage value. Indirect impacts may occur to areas beyond the project footprint; however, the impact would be dependent on several factors, including spatial extent of the site, nature of the site, depth of deposits, and the work being conducted adjacent to these areas. Whilst the number of sites potentially indirectly impacted have not been quantified, construction and operation planning and management for the project would ensure that indirect impacts that could potentially result in a loss of heritage values due to physical disturbance would not occur (including physical disturbance from surface water drainage or other mechanism).

Any future changes and refinement to design including transmission line structure positions and access track alignments, which would be confirmed during detailed design, would consider the location of historic items, and direct or indirect impacts would be avoided in the first instance.

Table 8-1 Summary of indicative impacts to historic sites

Site name	Significance	Impact to item	Would project impact the significance of an item?	Can significance be protected through mitigation?
Historic Site 1: Sheep dip and well	Nil	Item located partially within the project footprint. This item is within the transmission line portion of the project footprint. Part of this item may be directly impacted by the project.	No as the item has no heritage significance	N/A
Historic Site 2: Chimney	Nil	This item is located wholly within the project footprint. This item is within the transmission line portion of the project footprint. The whole of this item may be directly impacted by the project.	No as the item has no heritage significance	N/A
Historic Site 3: Modified tree 1	Nil	This item is located wholly within the project footprint. This item is within the transmission line portion of the project footprint. The whole of this item may be directly impacted by the project.	No as the item has no heritage significance	N/A

Site name	Significance	Impact to item	Would project impact the significance of an item?	Can significance be protected through mitigation?
Historic Site 4: Modified tree 2	Nil	This item is located wholly within the project footprint. This item is within the transmission line portion of the project footprint. The whole of this item may be directly impacted by the project.	No as the item has no heritage significance	N/A
Ivydale Woolshed	Local	The heritage listed curtilage of this item is partially within the project footprint, however Ivydale Homestead is approximately 900 m from the project footprint. This item is within the transmission line portion of the project footprint.	No	N/A
Stone Ruin	Local	The heritage listed curtilage of this item is partially within the project footprint, however the Stone Ruin itself is approximately 500 m east of the project footprint. This item is within the transmission line portion of the project footprint.	No	N/A
Elizabeth Nugent grave on *College Creek*	Local	The project footprint impacts the listed curtilage however the exact location of the historic item is 430 m north-east of the project footprint. This item is within the transmission line portion of the project footprint.	No	N/A
Kiley's Run	Indicative on the RNE	The heritage listed curtilage of this item is partially within the project footprint, however the historic item itself is outside of the project footprint. This item is within the transmission line portion of the project footprint.	No	N/A
Derringullen Creek Fossil Area	Registered on the RNE	The RNE listed curtilage of this item is partially within the project footprint, however the LEP listed portion of the historic item itself would be located outside of the project footprint. This item is within the transmission line portion of the project footprint.	No	N/A

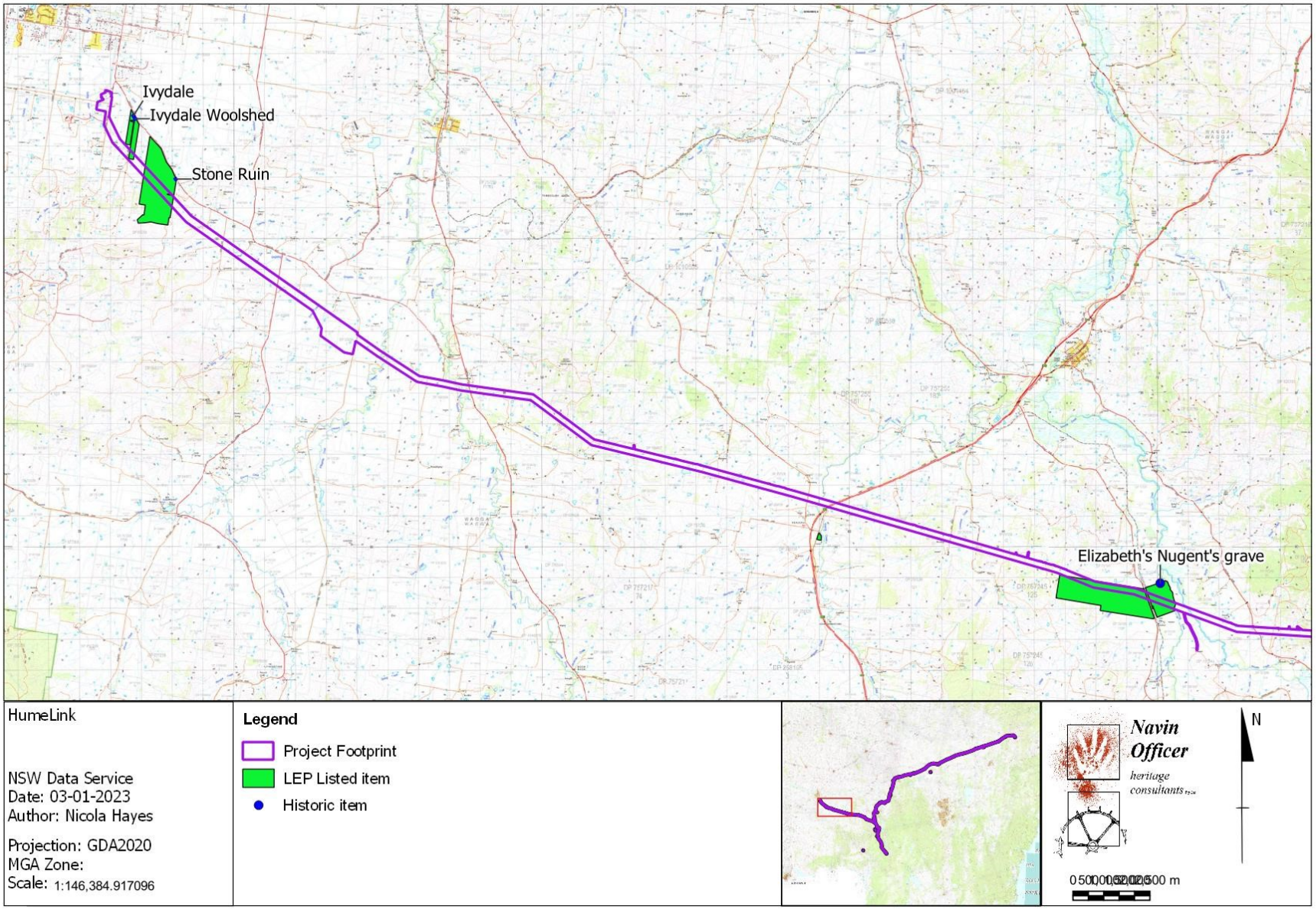


Figure 8-1 Potential development impacts (Sheet 1)

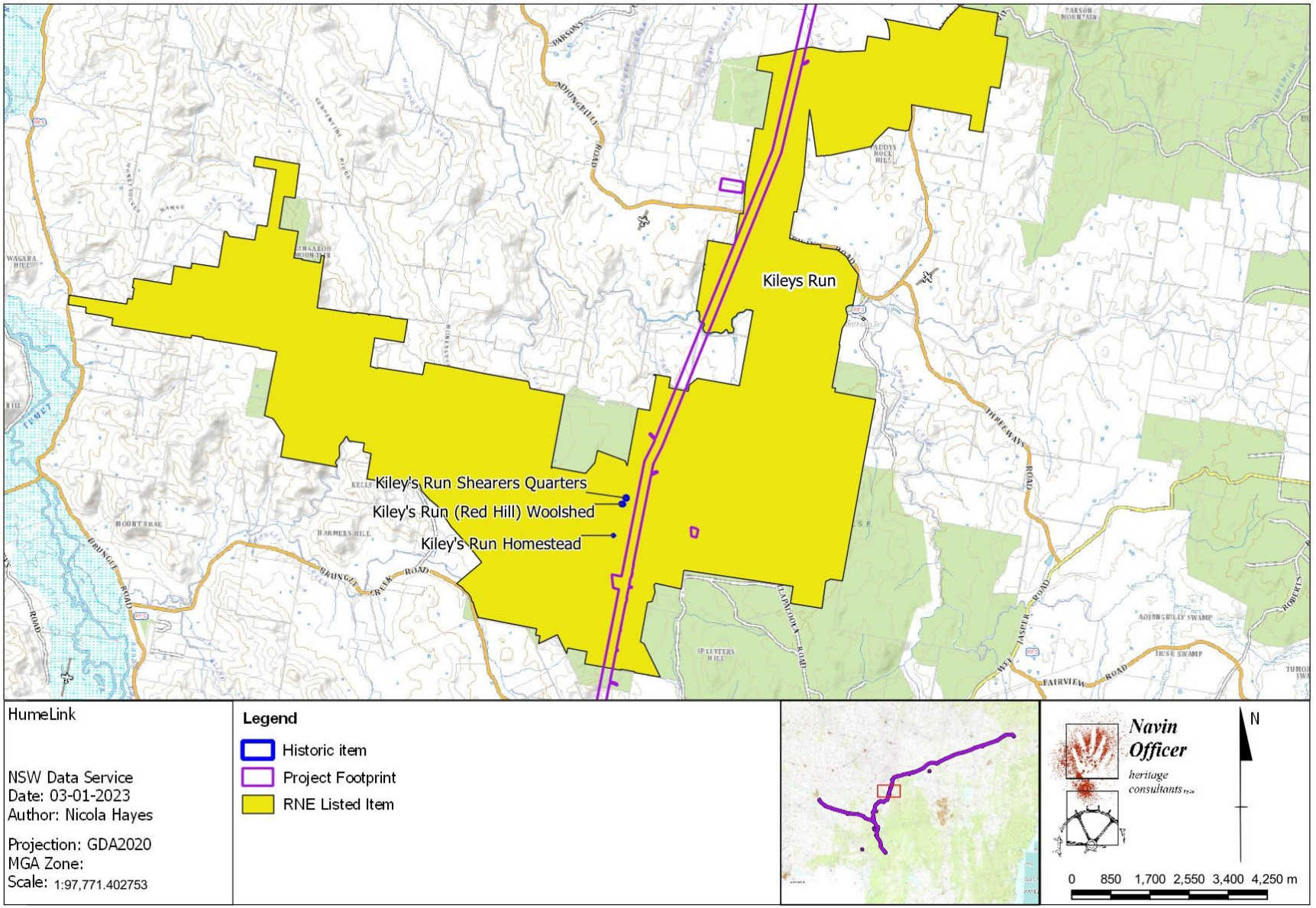


Figure 8-1 Potential development impacts (Sheet 2)

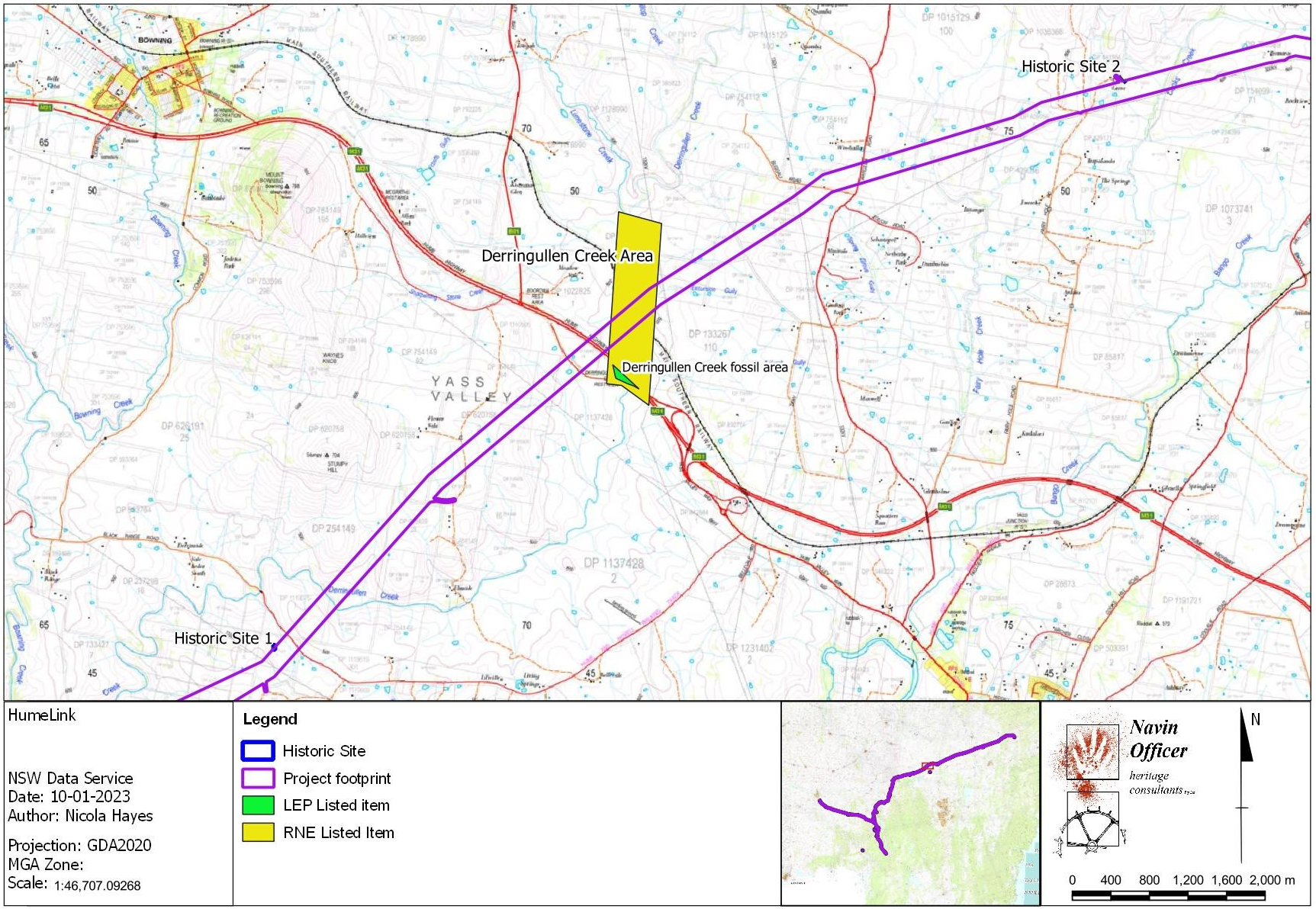


Figure 8-1 Potential development impacts (Sheet 3)

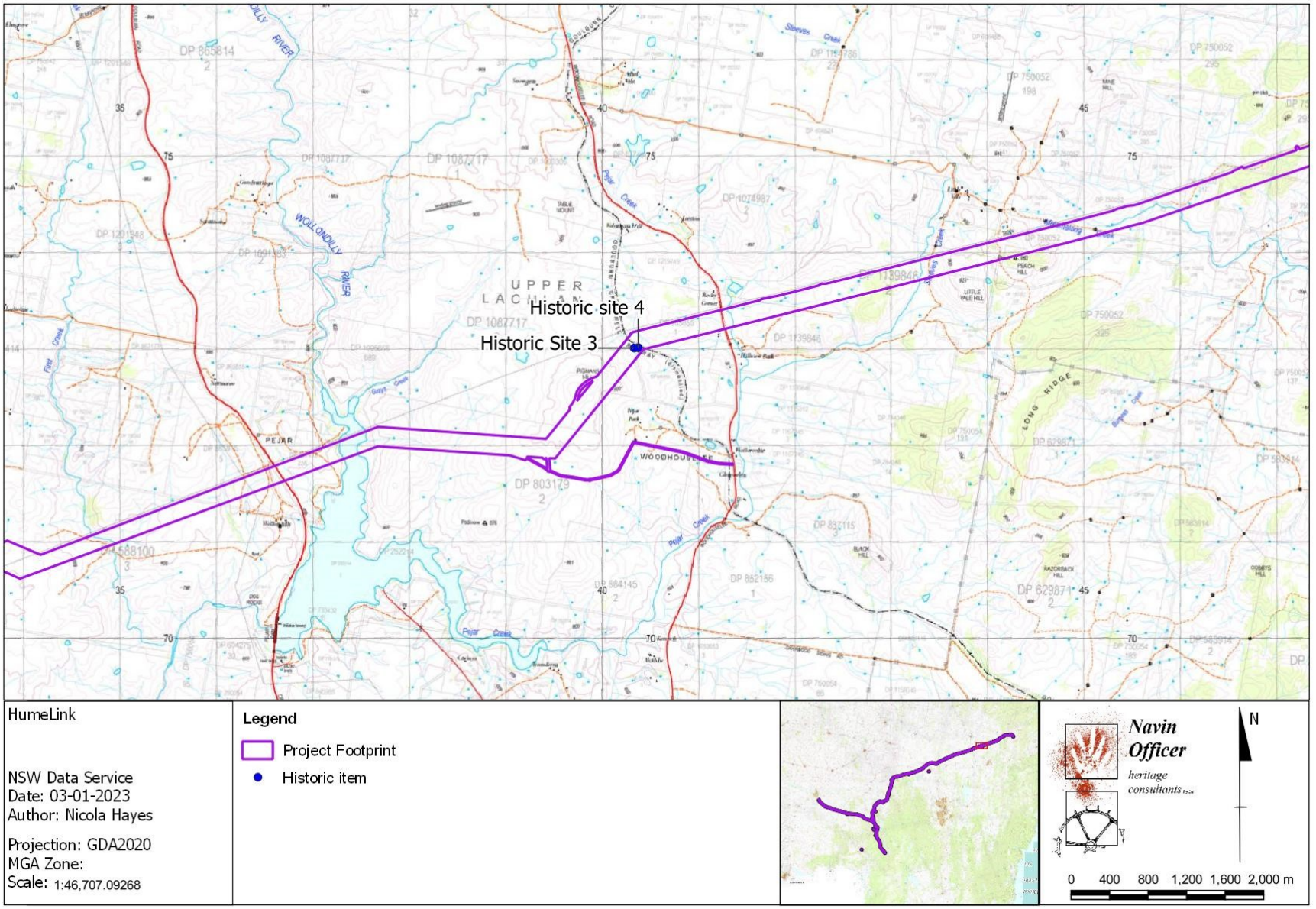


Figure 8-1 Potential development impacts (Sheet 4)

8.1.2 Impact to historic items in the heritage study area and outside the project footprint

A total of twenty-two historic items including nineteen listed for their local heritage significance, one item listed for its state heritage significance and two items listed for their national heritage significance occur within the heritage study area and outside of the project footprint.

The two nationally listed heritage items are: The Snowy Mountains Scheme and the Australian Alps National Parks and Reserves. The heritage values and the potential impact on the heritage values of these two heritage items are summarised in Table 8-2 and Table 8-3 respectively.

The Snowy Mountains Scheme has been assessed as nationally significant against six criteria as summarised in Table 8-2. The full listing and statement of significance is included in Attachment 2.

Table 8-2 The Snowy Mountains Scheme- impact to heritage values

Criterion	Heritage value	Potential impact of project
Criterion A Events, Processes	Unprecedented civil engineering project. Major impetus in the development of Australia's engineering expertise and industrial relations environment in the post-war period Multicultural co-operation- Australia's commitment to accept approximately 60,000 European Displaced Persons	The project will not have an impact on the engineering features nor diminish its legacy as multi-cultural project.
Criterion B Rarity	Rare example of an engineering program of enormous complexity and scale Rare engineering features	The project will not impact any of the engineering features
Criterion D Principal characteristics of a class of places	Exemplar as a currently operating, intact hydro-electric scheme	The project will not impact the hydroelectric scheme
Criterion F Creative or technical achievement	One of the engineering wonders of the world	The engineering wonder is encapsulated within the boundary of the heritage listed item and the project is located outside the boundary of this heritage listed item.
Criterion G Social value	Strongly symbolic for large parts of the Australian community, especially by the thousands of former Snowy workers and their families.	The project will have no impact on the social value of the heritage item.
Criterion H Significant people	Association with Sir William Hudson and Olav Olsen	The project will have no impact on this value.

The Australian Alps National Parks and Reserves has been assessed as nationally significant against five criteria which are summarised in Table 8-3. The full listing and statement of significance can be found in Attachment 3.

Table 8-3 The Australian Alps National Parks and Reserves

Criterion	Heritage value	Potential impact of project
Criterion A Events, Processes	**Glacial and Periglacial Features** **Fossils** **Karst** **Biological Heritage** **Moth Feasting** **Transhumant Grazing** **Scientific Research** **Water Harvesting** **Recreation**	The project poses no impact to this value, the evidence for which all occur within the boundary of the heritage item. The closest physical disturbance arising from the project is at least 80 m from the boundary of the heritage item.
Criterion B Rarity	**Landscape and Topography** **Glacial and Periglacial Features** **Fossils** **Alpine and Sub-alpine Ecosystems** **Eucalypt Flora Community**	The project will have no bearing on the rarity of this heritage item.
Criterion D Principal characteristics of a class of places	North-East Kosciuszko Pastoral Landscape	This criterion is represented within the boundary of the heritage item. The project passes through a forested landscape and does not impact the northeast Kosciusko pastoral landscape. Therefore, there is no likelihood of impact on this value.
Criterion E Aesthetic characteristics	Powerful, spectacular, and distinctive landscape. mountain vistas, including distinctive range-upon-range panoramas, snow covered crests, slopes and valleys, alpine streams and rivers, natural and artificial lakes, the snow-clad eucalypts and the high plain grasslands, summer alpine wildflowers, forests and natural sounds evoke strong aesthetic responses.	The project will have low visual impact to the aesthetics values of the heritage item. To consider the potential impact on significant vistas a separate study (see Technical Report 8 – Landscape Character and Visual Impact Assessment) was undertaken. That study considered vistas from several lookouts identified in the landscape and visual study area. That study concluded that none of the viewpoints are located in proximity to the project or in a location where the project would pose a visual intrusion into the significant views.

Criterion	Heritage value	Potential impact of project
Criterion G Social value	The AANP is widely recognised by Australians as the 'high country' and many community groups have a special association with the AANP for social and cultural reasons.	The project will not diminish the social value of the heritage item.
Criterion H Significant people	**Baron Ferdinand von Mueller** **Eugen von Guerard** **Andrew Barton 'Banjo' Paterson** **Elyne Mitchell and poet David Campbell**	The project has no impact on the connection of the heritage item to significant people.

The potential for impact to the heritage values of all heritage places within proximity to but outside the project footprint is summarised in Table 8-4. Of these there would be no impact to the heritage significance of 20 of these items. There may be indirect visual impact from the project on three items due to their proximity to the project footprint, and the possibly proximity of transmission line structures and the associated vegetation clearance. They are the Tarlo River National Park (including the Tarlo River National Park -1991 boundary), and the Australian Alps National Parks and Reserves.

The heritage values of the nationally listed Australian Alps National Parks and Reserves are considered in Table 8-3 above. The project footprint is 80 metres from the Australian Alps National Parks and Reserves and due to this proximity, the proposal is assessed as likely to have a low visual impact to the aesthetics values of the heritage item and no impact to the other values for which is it recognised.

The project footprint is 10 metres from the Tarlo River National Park which is listed as a property of local heritage value. The state heritage inventory listing for this heritage item does not include an assessment against heritage criteria. The project footprint incorporates a 200 metre wide corridor, within which a transmission line easement (generally 70 metres wide) would be established. Even if the easement selected was along this project footprint boundary the structure would be aligned along the centreline approximately 35 metres from the project footprint boundary. There is no direct impact on the physical attributes of the heritage item. The indirect visual impact to the significance of the park is assessed to be negligible.

Table 8-4 Summary of impacts to historic items in the heritage study area and outside of the project footprint

Item name	Significance	Distance from project footprint	Impact to item	Would project impact the significance of an item?
Snowy Mountains Scheme	National	80 m	The project footprint is located in proximity to this item however none of the heritage values associated with this item will be impacted. The closest project component is the project transmission line.	Nil
Australian Alps National Parks and Reserves	National	80 m	The project footprint is located in close proximity to this item; there may be indirect visual impact from the project on this item for example from vegetation clearance and the proximity of transmission line structures. The closest project component is the project transmission line.	Negligible. The visual impact on this item was assessed in a separate report: *Technical Report 8 – Landscape Character and Visual Impact Assessment* which concluded that there would be low visual impact to the aesthetic values of this item. No other identified heritage values of this item will be impacted.
Hillas Farm Homestead and Outbuildings	State	375 m	There would be no impact to this item from the project. The closest project component is the project transmission line.	No
Ivydale (I72)	Local	920 m	There would be no impact to this item from the project. The closest project component is the project transmission line.	No
Tennis Court	Local	860 m	There would be no impact to this item from the project. The closest project component is the project transmission line.	No
Old Batlow Co-operative Canning Office	Local	140 m	There would be no impact to this item from the project. The closest project component is the Memorial Avenue Compound (C14).	No

Item name	Significance	Distance from project footprint	Impact to item	Would project impact the significance of an item?
Batlow Hotel Building	Local	400 m	There would be no impact to this item from the project. The closest project component is the Memorial Avenue Compound (C14).	No
Batlow Newsagent (former Batlow Post Office)	Local	360 m	There would be no impact to this item from the project. The closest project component is the Memorial Avenue Compound (C14).	No
Public School Batlow Technology School	Local	200 m	There would be no impact to this item from the project. The closest project component is the Memorial Avenue Compound (C14).	No
Former State Bank Building	Local	360 m	There would be no impact to this item from the project. The closest project component is the Memorial Avenue Compound (C14).	No
Uniting Church	Local	330 m	There would be no impact to this item from the project. The closest project component is the Memorial Avenue Compound (C14).	No
The Old Nurses Quarters	Local	400 m	There would be no impact to this item from the project. The closest project component is the Memorial Avenue Compound (C14).	No
Batlow Masonic Centre	Local	240 m	There would be no impact to this item from the project. The closest project component is the Memorial Avenue Compound (C14).	No
Batlow Museum (former Church)	Local	400 m	There would be no impact to this item from the project. The closest project component is the Memorial Avenue Compound (C14).	No
Batlow Literary Institute	Local	160 m	There would be no impact to this item from the project. The closest project component is the Memorial Avenue Compound (C14).	No
Roman Catholic Church/Convent	Local	200 m	There would be no impact to this item from the project. The closest project component is the Memorial Avenue Compound (C14).	No
Anglican Church	Local	240 m	There would be no impact to this item from the project. The closest project component is the Memorial Avenue Compound (C14).	No

Item name	Significance	Distance from project footprint	Impact to item	Would project impact the significance of an item?
Aberlour and stables	Local	810 m	There would be no impact to this item from the project. The closest project component is the Yass substation Compound (C10).	No
Coolalie limestone kilns and quarry	Local	130 m	There would be no impact to this item from the project. The closest project component is the project transmission line.	No
Derringullen Creek fossil area	Local	170 m	There would be no impact to this item from the project. The closest project component is the project transmission line.	No
Bunnaby Homestead	Local	900 m	There would be no impact to this item from the project. The closest project component is the project transmission line.	No
Tarlo River National Park Tarlo River National Park (1991 boundary)	Local	10 m	The project footprint is located in close proximity to this item; there may be indirect visual impact from the project on this item. The closest project component is the project transmission line. However, the environmental and biodiversity values of the protected area are encapsulated within the park boundaries and there will be no physical impact on those values.	Negligible The visual impact on this item was assessed in a separate report: *Technical Report 8 – Landscape Character and Visual Impact Assessment* which concluded that there would be low visual impact on this item.

8.2 Cumulative impacts

The cumulative impact assessment was prepared in accordance with *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022). Assessing cumulative impacts involves the consideration of the proposed impact in the context of existing developments and past destruction of heritage sites, as well as the population of heritage sites that still exist in the region of interest (Godwin 2011). The assessment of cumulative impacts also considers projects that are currently under development, or at the planning state that may also influence the assessment of this project's potential impacts. The concept of assessing cumulative impacts aims to avoid discussing the impact of a development in isolation and aims to assess the impact in terms of the overall past and future degradation of a region's heritage resource.

Searches for relevant projects were carried out in March 2023 and included the following data sources:

- DPEs Major Projects register
- DPEs Southern Regional Planning Panel project register
- NSW Independent Planning Commission project register
- EPBC Act Public Portal
- Transport for NSW Projects Map.

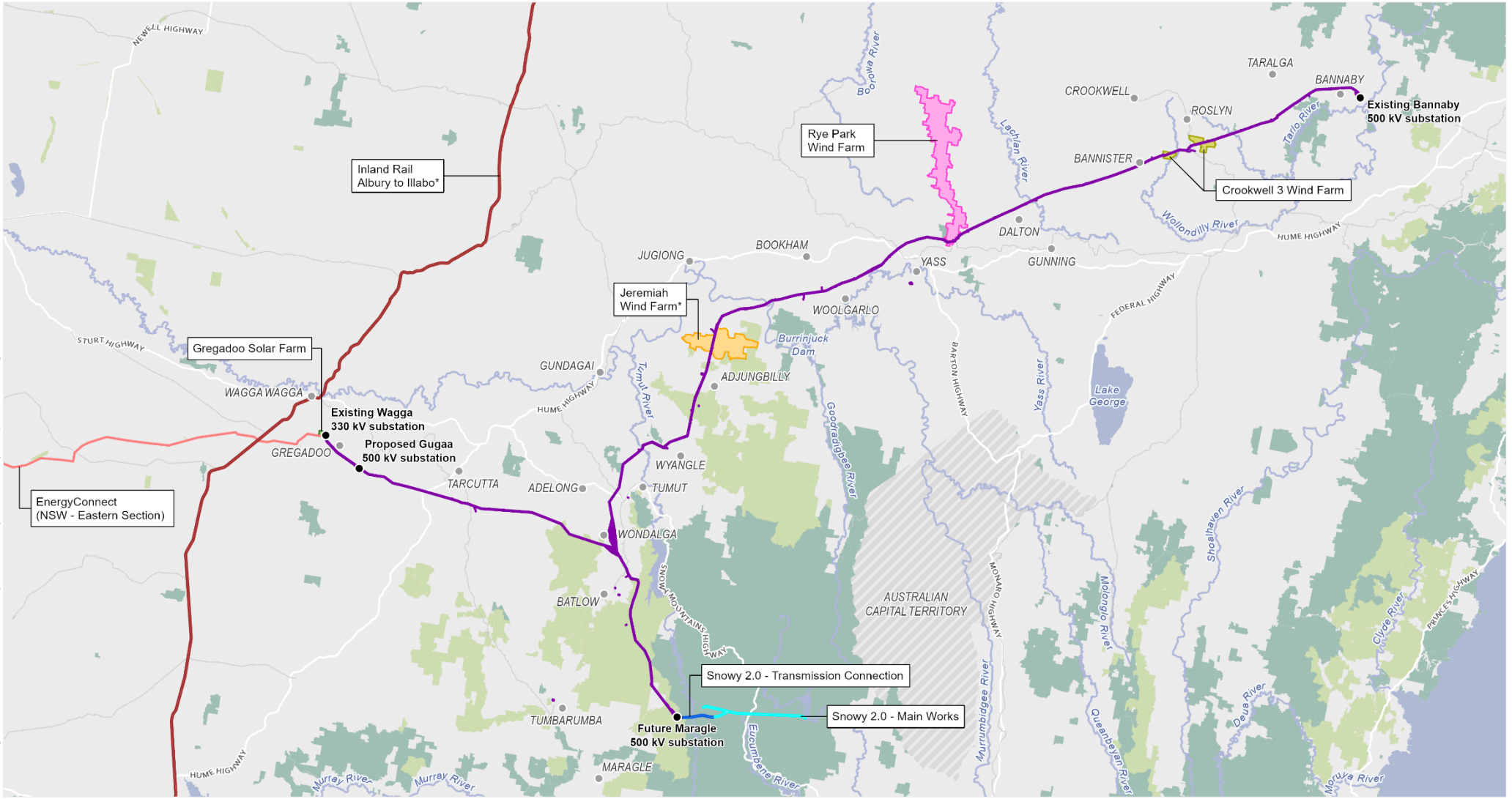
Based on the above searches, the following projects are to be considered in the cumulative impact assessment for potential historic heritage impacts (refer to Figure 8-2):

- EnergyConnect (NSW – Eastern Section)
- Gregadoo Solar Farm
- Jeremiah Wind Farm
- Rye Park Wind Farm
- Victoria to NSW Interconnector West (VNI West) - location to be finalised
- Snowy 2.0 – Transmission Connection
- Snowy 2.0 – Main Works
- Inland Rail – Albury to Illabo
- Crookwell 3 Wind Farm.

Table 8-5 outlines these projects in relation to their impact on historic heritage.

8.2.1 Summary

The project footprint has not been historically subject to high levels of impact from residential, commercial, or government development. Impacts on historic items would be partial in most cases, rather than total, resulting in items being preserved within the new transmission easement. Compared to other relevant projects the number of historic sites impacted by the HumeLink project is low. None of the historic items identified in the HumeLink project footprint overlap with other projects and therefore would not result in an increase in the impacts to those items. Conversely there are no items identified within other project areas that overlap with the HumeLink project footprint. Therefore, the cumulative impacts from the project on heritage of the region is assessed as low.



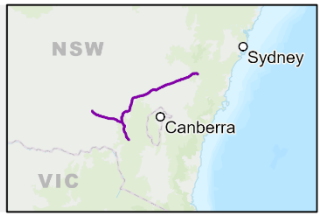
C:\Users\Virgil.Robinson\Documents\ArcGIS\Projects\FutureProjects\FutureProjects.aprx\31-07-23\Virgil.Robinson

Project footprint
National park and reserve
State forest
Waterbody
Waterway
Major road
Railway
Substation

Relevant future projects

Crookwell 3 Wind Farm
EnergyConnect (NSW - Eastern Section)
Gregadoo Solar Farm
Inland Rail Albury to Illabo*
Jeremiah Wind Farm*
Rye Park Wind Farm
Snowy 2.0 - Main Works
Snowy 2.0 - Transmission Connection

*Note: Subject to approval



Source: *Aurecon, Transgrid, Spatial Services (DCS), ESRI Basemap*

1:925,000
0 20 40 km

Projection: GDA 1994 MGA Zone 55

FIGURE 8-2: Relevant future projects

Table 8-5 Cumulative impacts

Project	Details	Status	Distance/ Interface	Timing	Comparison of historic heritage impacts
EnergyConnect (NSW – Eastern Section)	The project includes a new transmission line connecting the existing Buronga substation and existing Wagga 330 kV substation, and construction of the new Dinawan 330 kV substation (170 km west of Wagga Wagga). The new transmission line comprises: ○ 375 km of new 330 kV double circuit transmission line and associated infrastructure between the Buronga substation and the proposed Dinawan 500 kV substation ○ 162 km of new 500 kV double circuit transmission line (operated at 330 kV) and associated infrastructure between the proposed Dinawan 500 kV substation and the existing Wagga 330 kV substation ○ Connection of the proposed transmission lines to the proposed Dinawan 330 kV substation Construction of a new 330 kV substation around 30 km south of Coleambally, referred to as the proposed Dinawan 500 kV substation Upgrade and expansion of the Wagga 330 kV substation to accommodate the new transmission line connectors including ○ Installation of new line bays ○ Relocation and upgrade of existing bays and associated electrical and civil works The project also involves associated infrastructure (optical repeater structures),	EIS approved 2022	HumeLink and EnergyConnect (NSW – Eastern Section) both require upgrades of the existing Wagga 330 kV substation	Early 2023–late 2024 Upgrade and expansion of the existing Wagga 330 kV substation as part of EnergyConnect (NSW – Eastern Section) to be complete by August 2024	Five historic items have been assessed as having local heritage significance in the vicinity of the EnergyConnect (NSW – Eastern Section) project. However, none of these would be negatively impacted by the EnergyConnect (NSW – Eastern Section) project. None of these places are near the HumeLink project. As there is no overlap in the historic sites for the two projects and HumeLink would have negligible impact on historic sites and listed items, the increase in cumulative heritage impact would therefore be negligible.

Project	Details	Status	Distance/ Interface	Timing	Comparison of historic heritage impacts
	new and/or upgrade of access tracks as required and ancillary works to support construction Key impacts identified in the EIS include biodiversity, Aboriginal heritage, visual amenity during operation, noise impacts during construction and operation, dust impacts (amenity) during construction, impacts to road conditions and social impact during construction. Controlled action under EPBC Act				
Gregadoo Solar Farm	Access to site from Boiling Down Road, Gregadoo Key assessment issues for the project included the compatibility of the proposed land use, the potential impacts on amenity (visual, traffic) and the potential impact to surface water resources.	EIS approved 2018 Modification 2 approved 2021	On land adjacent the existing Wagga substation. Gregadoo Solar Farm is proposed to connect to existing Wagga substation on the northern side of substation.	Construction expected to commence mid-2023 9 months to construct	There are no known historic items within the Gregadoo Solar Farm project footprint. There is no overlap in the historic sites for the two projects and HumeLink would have negligible impact on historic sites and listed items. The increase in cumulative heritage impact would therefore be negligible.
Jeremiah Wind Farm	The project is located approximately 29 km east of Gundagai around the Adjungbilly area The project proposes a 65 turbine wind farm with a maximum tip height of 300 m, battery energy storage system and associated ancillary infrastructure Key issues from the scoping report include noise and vibration, landscape and visual amenity, traffic and transport, biodiversity, Aboriginal cultural heritage, non-Aboriginal heritage, water use and impacts on water quality, hazards and risks and social and economic.	EIS in preparation	Transmission lines between Gugaa 500 kV substation and Bannaby 500 kV substation, and future Maragle 500 kV substation and Bannaby 500 kV substation go through the Jeremiah Wind Farm development area	Project approval anticipated in 2023 Construction expected to be 24–30 months	There were no known historic items identified at or near the Jeremiah Wind Farm project footprint. There is no overlap in the historic sites for the two projects and HumeLink would have negligible impact on historic sites and listed items. The increase in cumulative heritage impact would therefore be negligible.

Project	Details	Status	Distance/ Interface	Timing	Comparison of historic heritage impacts
	Controlled action under EPBC Act				
Rye Park Wind Farm	The project is located to the west of Rye Park, to the north-west of Yass and south-east of Boorowa Modified project includes maximum 80 wind turbines with a maximum tip height of 200 m. The project also includes construction of associated infrastructure (substations, operation and maintenance facilities) and upgrades to local roads A 330 kV switching station is proposed to the north of the HumeLink transmission line at Bango. Main project impacts relate to visual amenity, noise, biodiversity and traffic and transport Modification 2 has reduced the overall biodiversity impacts of the approved project and assessments have identified two new areas of Aboriginal cultural heritage.	EIS approved 2017 Modification 1 approved 2021 Modification 2 preparation 2022	Transmission lines between Gugaa 500 kV substation and Bannaby 500 kV substation, and future Maragle 500 kV substation and Bannaby 500 kV substation go through the southern end of the wind farm project boundary at Bango (near Bango Nature Reserve). HumeLink includes the connection of optical ground wire (OPGW) from the HumeLink 500 kV transmission line into the Rye Park 330 kV switching station auxiliary services building (the Rye Park Wind Farm substation).	Under construction since Dec 2021 with commissioning scheduled for June 2023 Original EIS suggested an 18-24 month construction period	There are no known historic items at or near the Rye Park Wind Farm. There is no overlap in the historic sites for the two projects and HumeLink would have negligible impact on historic sites and listed items. The increase in cumulative heritage impact would therefore be negligible.

Project	Details	Status	Distance/ Interface	Timing	Comparison of historic heritage impacts
Victoria to NSW Interconnector West (VNI West)	The project involves targeted interconnector expansion between Victoria and NSW to address transmission network limitations, and improve supply reliability VNI West is still in scoping/market modelling phase to assess the technical and economic viability of expanding transmission interconnector capacity between Victoria and NSW Several options have been developed with new interconnector corridors connecting to the existing Wagga 330 kV substation	Scoping/market modelling phase Underwriting agreement with Commonwealth Government April 2022	VNI West may require connection at the existing Wagga 330 kV substation (depending on preferred option) The current scope that interfaces with HumeLink includes a new double circuit transmission line between Wagga 330 kV substation and proposed Gugaa 500 kV substation to extend the EnergyConnect lines, upgrade above lines to 500 kV and at Gugaa a cut in line 51 and one additional transformer.	Construction proposed to commence in 2026 with commissioning by 2028.	There are two historic heritage items in the HumeLink project footprint between the Wagga 330 kV substation and the proposed Gugaa 500 kV substation. The curtilages of these items would be impacted by the HumeLink and potentially (subject to final location) the VNI West project, but the items themselves would not be. Therefore, there would be no increase in cumulative impact from these projects.
Snowy 2.0 - Transmission Connection	New transmission connection between the proposed Snowy 2.0 pumped hydro and generation project to the existing high voltage transmission network. A new substation located within Bago State Forest (future Maragle 500 kV substation) and adjacent to Transgrid's existing Line 64 that forms a 330 kV connection between Upper and Lower Tumut switching stations Upgrade and widening of an existing access road of Elliot Way to the substation including the construction of new driveways into the 330 kV and 500 kV switchyards	EIS approved 2022	HumeLink to connect to the future Maragle 500 kV substation being constructed as part of the Snowy 2.0 - Transmission Connection project	Construction expected to begin in late 2023 with expected completion by end of 2025	There are 20 items of historic heritage within the Snowy 2.0 - Transmission Connection project area. Of those, 10 were located within the Snowy 2.0 Transmission Connection disturbance area. One item is assessed as having heritage significance under the NSW Heritage Significance Criteria. There is no overlap in the historic sites for the two projects and HumeLink would have negligible impact on historic sites

Project	Details	Status	Distance/ Interface	Timing	Comparison of historic heritage impacts
	Two new 330 kV overhead double-circuit transmission lines from the Snowy 2.0 cable yard to the new substation Short overhead 330 kV transmission line connection (approximately 300 m in length) comprising both steel lattice structures and pole structures as required between the substation and Line 64 Construction of access tracks to the transmission structures, and upgrade to existing tracks where required Ancillary works to support construction Key impacts identified in the EIS include biodiversity, Aboriginal and non-Aboriginal heritage, potential impact to water quality, erosion and sedimentation and contamination risks (from Naturally Occurring Asbestos (NOA)), temporary impacts on traffic and access, dust generation, noise and vibration impacts, visual amenity impacts and socio-economic impacts during construction Controlled action under EPBC Act Note that Amendment Report for the project has resulted in less disturbance than that described in the EIS. However, a wider asset protection zone and substation footprint is provided for the future Maragle 500 kV substation.				and listed items. The increase in cumulative heritage impact would therefore be negligible.

Project	Details	Status	Distance/ Interface	Timing	Comparison of historic heritage impacts
Snowy 2.0 - Main Works	The project includes an underground pumped hydro power station and ancillary infrastructure. Main works at Talbingo Reservoir site include excavated rock placement, portal construction and tunnelling, access roads and ancillary facilities for emplacement activities and tunnelling support Key impacts identified in the EIS for Talbingo Reservoir site include water quality and aquatic ecology impacts, temporary impacts to visual and recreational values and impacts associated with clearing and excavation to facilitate construction Modification 1 relates the Main Access Tunnel and Marica areas of the project (further east than Talbingo Reservoir site). Controlled action under EPBC Act	EIS approved 2020 Modification 1 approved 2022	Talbingo Reservoir site is approximately 5 km east of transmission lines between the future Maragle 500 kV substation and Bannaby 500 kV substation	Construction began in October 2020 with expected completion by 2026	There are the 563 historic items recorded for this project. Of these 178 are located within the Snowy 2.0 footprint. There is no overlap in the historic sites for the two projects and HumeLink would have negligible impact on historic sites and listed items. The increase in cumulative heritage impact would therefore be negligible.

Project	Details	Status	Distance/ Interface	Timing	Comparison of historic heritage impacts
Inland Rail – Albury to Illabo	Upgrade 185 km of rail track from Albury to Illabo The upgrade of rail track passes through Wagga Wagga Key issues could include workforce availability and accommodation capacity around Wagga Wagga during peak construction periods with a large influx of workers using short-term accommodation during the scheduled rail possessions in March and September 2024. Without mitigation, this demand would have an impact on the local economy when short-term accommodation demand is high. A workforce accommodation strategy would be prepared to manage demand on local accommodation and detailed construction planning would look to scheduling opportunities to minimise the peak demand on the short-term accommodation market.	EIS exhibited between 17/08/22 and 28/09/22 Responding to submissions	Roughly 9 km north-west of existing Wagga 330 kV substation	Construction is proposed to commence in early 2024 and is expected to take about 16 months.	A total of 42 registered historic items (including several substantial groups of items) are located within the inland rail – Albury to Illabo enhancement sites. A further 86 items are located within 200 m of the inland rail – Albury to Illabo proposal and the railway corridor more broadly. An additional three unregistered potential historic items were identified (including one archaeological site). Overall, the likely impacts from Inland Rail – Albury to Illabo were assessed as being moderate to minor. There is no overlap in the historic sites for the two projects and HumeLink would have negligible impact on historic sites and listed items. The increase in cumulative heritage impact would therefore be negligible.
Crookwell 3 Wind Farm	16 wind turbines up to 157 m in height, connected to the grid via the 330 kV transmission line Key issues include biodiversity impacts, visual amenity and operational noise. Given timing, there could be potential for “construction fatigue” type impacts related to construction noise and construction traffic management.	Addendum EIS approved 2019	The HumeLink project footprint traverses the Crookwell 3 wind farm site.	Detailed design and pre-construction activities are being carried out with main construction work expected to take about 18 months once commenced	There are no known historic items at or near the Crookwell 3 Wind Farm. There is no overlap in the historic sites for the two projects and HumeLink would have negligible impact on historic sites and listed items. The increase in cumulative heritage impact would therefore be negligible.

9 MANAGEMENT OF IMPACTS

9.1 Overview of approach

The mitigation measures to manage potential historical heritage impacts of the project during the detailed design, construction and operational phases are listed in Table 9-1.

A Heritage Management Plan (HMP) will be developed as part of the CEMP to manage heritage impacts during construction of the project that would outline the mitigation measures and the methods to be used to mitigate impact. This would include fencing of sites during construction and the methodology for additional heritage surveys. The HMP would document the locations of known historic items within 10 metres of the construction activities and the relevant protocols to be followed to avoid and manage any potential harm to the items. The HMP would be communicated to all relevant construction workers prior to construction commencing in that area.

9.2 Avoidance and minimisation of impacts

Five heritage listed items and four newly recorded historic items are within the project footprint. For five of these items only the listed curtilage is within the project footprint with the historic item itself outside of the project footprint. The project aims to avoid historic items as a first principle with infrastructure being sited through detailed design to avoid sites. Four sites (Historic Sites 1 to 4) have been assessed to have no heritage significance and pose no constraints to the project.

A Heritage Management Plan (HMP) will be developed for the project that will outline the mitigation measures and the methods to be used to mitigate impact. This will include fencing of sites during construction and the methodology for additional heritage surveys. The HMP will be communicated to all relevant construction personnel prior to construction commencing in that area.

9.3 Summary of mitigation measures

Table 9-1 provides a summary of the mitigation measures currently identified to be required for the project, based on the impact assessment.

Table 9-1 Summary of mitigation measures

Impact	Mitigation measures	Timing	Relevant location
Unexpected finds	If at any time during construction, any items of potential historic heritage archaeological significance, or human remains are discovered, they will be managed in accordance with an unexpected finds protocol that is aligned with the protocol in Attachment 1 of *Technical Report 3 – Historic Heritage Impact Assessment Report*.	Construction	All locations
Impact to unsurveyed areas	Additional heritage surveys will be carried out prior to ground disturbing activities in areas which were previously inaccessible and/or where only visual inspection has been undertaken. Whether or not historic items are found, a letter report will be prepared by a heritage specialist for all additional surveyed areas that documents the findings.	Detailed design	All locations (outside of the previously surveyed heritage survey area)

Impact	Mitigation measures	Timing	Relevant location
	Where historic items are located and would be impacted, a draft survey addendum report/s to this report will be prepared for the survey areas. The report(s) will: > detail findings of the survey activities > detail where test excavation is required > outline any additional mitigation strategies beyond those required. Final reports will be provided Heritage NSW for their information prior to the commencement of ground disturbing activities in these locations.		
Post construction impacts to heritage items	Features/items of heritage significance that would remain in-situ within the transmission line easement and along access tracks will be mapped and recorded within GIS systems managed by Transgrid to reduce the potential for inadvertent impacts to occur during maintenance activities.	Operation	All permanent works

10 CONCLUSION

There are five heritage listed items, three listed on LEPs and two on the RNE that have curtilages that are located partially within the project footprint, they are:

- Ivydale Woolshed
- Stone Ruin
- Elizabeth Nugent grave on College Creek
- Kiley's Run
- Derringullen Creek Area.

Nineteen historic items listed for their local heritage, one item listed for its state heritage significance and two items listed for their national heritage significance occur within the heritage study area and outside of the project footprint. Of these twenty-two items there would be no impact to the heritage significance of 20 of these items. There may be indirect visual impact from the project on two items. The two places on the NHL partly within the heritage study area, but not within the project footprint are the Australian Alps National Parks and Reserves and the Snowy Mountains Scheme. None of the heritage values associated with the Snowy Mountains Scheme will be impacted by this project. The impact to the heritage significance of the Australian Alps National Parks and Reserves is assessed to be negligible. The visual impact on this item was assessed in a separate report: Technical Report 8 – Landscape Character and Visual Impact Assessment which concluded that there would be low visual impact to the aesthetic values of this item. No other identified heritage values of this item will be impacted. The impact to the heritage significance of the locally listed Tarlo River National Park is assessed to be negligible. The visual impact on this item was assessed in a separate report: *Technical Report 8 – Landscape Character and Visual Impact Assessment* which concluded that there would be low visual impact on this item.

Four potential historic items were identified during the field survey. They are located wholly or partially within the project footprint; however, they have been assessed and are unlikely to meet any of the criteria for heritage significance.

A potential historic item was identified by a landowner. The field survey and background research did not find evidence of the potential site, so no heritage significance assessment was carried out for this site and it has not been included in this assessment.

There are therefore five historic items with assessed historic heritage significance located partially within the project footprint. The assessment has found that the project would not impact the significance of these items. In all cases only the historic item curtilage is within the project footprint whilst the historic item itself is located outside of the project footprint.

The project aims to avoid historic items as a first principle, with infrastructure being sited through detailed design to avoid sites. The mitigation measures proposed will serve to manage many impacts to sites including protocols to avoid sites during construction and unanticipated discovery protocols.

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ATTACHMENT 1

UNEXPECTED FINDS PROTOCOL

Protocol to follow if Aboriginal object(s) or historical relics (other than human remains) are encountered

In the event that object(s) which are suspected of being Aboriginal object(s) or relic(s) are encountered during development work, then the following protocol will be followed.

- Cease any further excavation or ground disturbance, in the area of the find(s):

    1. the discoverer of the find(s) will notify machinery operators in the immediate vicinity of the find(s) so that work can be temporarily halted, and

    2. the site supervisor and the Principal will be informed of the find(s).

- Do not remove any find(s) or unnecessarily disturb the area of the find(s).

- Ensure that the area of the find(s) is adequately marked as a no-go area for machinery or further disturbance, and that the potential for accidental impact is avoided.

- Note the location and nature of the finds, and report the find to:

    1. relevant project personnel responsible for project and construction direction and management, and

    2. report the find to the Heritage NSW.

- Where feasible, ensure that any excavation remains open so that the finds can be recorded and verified. An excavation may be backfilled if this is necessary to comply with work safety requirements, and where this action has been approved by Heritage NSW. An excavation that remains open should only be left unattended if it is safe and adequate protective fencing is installed around it.

- Following consultation with the relevant statutory authority Heritage NSW and, where advised, any other relevant stakeholder groups, the significance of the finds should be assessed, and an appropriate management strategy followed. Depending on project resources and the nature of the find(s), this process may require input from a consulting heritage specialist.

- Development works in the area of the find(s) may re-commence, if and when outlined by the management strategy, developed in consultation with, and approved by the relevant statutory authority.

- If human skeletal material is encountered, the protocol for the discovery of human remains should be followed (refer attached).

Protocol to follow in the event of the discovery of suspected human remains

The following protocol will be actioned if suspected human material is revealed during development activities or excavations.

- All works must halt in the immediate area of the find(s) and any further disturbance to the area of the find(s) prevented.
    - The discoverer of the find(s) will notify machinery operators in the immediate vicinity of the find(s) so that work can be halted; and
    - The site supervisor and the Principal/Project manager will be informed of the find(s).
- If there is substantial doubt regarding a human origin for the remains, then consider if it is possible to gain a qualified opinion within a short period of time. If feasible, gain a qualified opinion (this can circumvent proceeding further along the protocol for remains which are not human). If conducted, this opinion must be gained without further disturbance to the find(s) or the immediate area of the find(s). (Be aware that the site may be considered a crime scene that retains forensic evidence). If a quick opinion cannot be gained, or the identification is positive, then proceed to the next step.
- Immediately notify the following of the discovery:
    - the local Police (this is required by law)
- Co-operate and be advised by the Police and/or coroner with regard to further actions and requirements concerning the find area. If required, facilitate the definitive identification of the material by a qualified person (if not already completed).
- In the event that the Police or coroner instigate an investigation, construction works are not to resume in the designated area until approval in writing is gained from the NSW Police.
- In the event that the Police and/or Coroner advise that they do not have a continuing or statutory role in the management of the finds then proceed with the following steps.
- If the finds are not human in origin but are considered to be archaeological material relating to Aboriginal occupation then proceed with Protocol for the discovery of Aboriginal objects (other than human remains).
- If the finds are **Aboriginal or probably Aboriginal in origin**:
    - Heritage NSW archaeologist or Aboriginal Heritage Officer
    - representative(s) from the registered Aboriginal parties (RAPs), and
    - the project archaeologist (if not already notified).
    - ascertain the requirements of Heritage NSW, the Project Manager, and the views of the Aboriginal Focus Group (AFG), and the project archaeologist;
    - based on the above, determine and conduct an appropriate course of action. Possible strategies could include one or more of the following:
        1. avoiding further disturbance to the find and conserving the remains *in situ*
        2. conducting archaeological salvage of the finds following receipt of any required statutory approvals

3. scientific description (including excavation where necessary), and possibly also analysis of the remains prior to reburial

4. recovering samples for dating and other analyses, and/or

5. subsequent reburial at another place and in an appropriate manner determined by the AFG.

- If the finds are **non-Aboriginal in origin**:

  - ascertain the requirements of the Heritage Branch, Project Manager, and the views of any relevant community stakeholders and the project archaeologist.

  - based on the above, determine and conduct an appropriate course of action. Possible strategies could include one or more of the following:

    1. avoiding further disturbance to the find and conserving the remains *in situ*

    2. conducting archaeological salvage of the finds following receipt of any required statutory approvals

    3. scientific description (including excavation where necessary), and possibly also analysis of the remains prior to reburial

    4. recovering samples for dating and other analyses, and/or

    5. subsequent reburial at another place and in an appropriate manner determined in consultation with the Heritage Office and other relevant stakeholders.

- Construction related works in the area of the remains (designated area) may not resume until the proponent receives written approval in writing from the relevant statutory authority: from the Police or Coroner in the event of an investigation, from Heritage NSW in the case of Aboriginal remains outside of the jurisdiction of the Police or Coroner, and from the Heritage Branch in the case of non-Aboriginal remains outside of the jurisdiction of the Police or Coroner.

ATTACHMENT 2

SNOWY MOUNTAIN SCHEME EPBC ACT LISTING

Commonwealth of Australia Gazette

Published by the Commonwealth of Australia

GOVERNMENT NOTICES

Environment Protection and Biodiversity Conservation Act 1999

INCLUSION OF A PLACE IN THE NATIONAL HERITAGE LIST

SNOWY MOUNTAINS SCHEME

I, Josh Frydenberg, Minister for the Environment and Energy, having considered in relation to the place and the National Heritage values described in the Schedule of this instrument:

(a) the Australian Heritage Council's assessment whether the place meets any of the National Heritage criteria; and

(b) the comments given to the Council under sections 324JG and 324JH of the *Environment Protection and Biodiversity Conservation Act 1999*; and

being satisfied that the place described in the Schedule has the National Heritage values specified in the Schedule, pursuant to section 324JJ of the *Environment Protection and Biodiversity Conservation Act 1999*, include the place and the specified National Heritage values in the National Heritage List.

Dated 10/10/2016

[signed by]

Josh Frydenberg
Minister for the Environment and Energy

SCHEDULE

STATE / TERRITORY
Local Government
Name
Location / Boundary
Criteria / Values

NEW SOUTH WALES

Snowy River Shire Council; Tumbarumba Shire Council; Tumut Council

Snowy Mountains Scheme:

Approximately 460,000ha, Cabramurra, being an area enclosed by a line commencing at the intersection of the Kosciuszko National Park boundary with the south western corner of Lot 13 DP755862 (approximate MGA point Zone 55 596622mE 5977800mN),

- then westerly and southerly via the national park boundary to its intersection with MGA northing 5955860mN (approximate MGA point 601475mE 5955860mN),
- then easterly directly to MGA point 611612mE 5955384mN,
- then south easterly directly to a corner on the boundary of the Kosciuszko National Park at approximate MGA point 626108mE 5952790mN,
- then south easterly via the national park boundary to its intersection with the western boundary of Lot 62 DP756699 (approximate MGA point 627888mE 5952455mN),
- then northerly via the western boundary of Lot 62 to its intersection with the Kosciuszko National Park boundary (approximate MGA point 628051mE 5952951mN),
- then north westerly, generally northerly and generally easterly via the national park boundary to its intersection with the western boundary of Lot 46 DP756725 (approximate MGA point 630994mE 5958893mN),
- then northerly via the western boundary of Lot 46, including crossing the unnamed road reserve between approximate MGA points 630997mE 5958913mN and 631001mE 5958934mN, and northerly and easterly via the western and northern boundaries of Lot 47 DP756725 to the intersection with the southern alignment of the western boundary of Lot 53 DP756725 (approximate MGA point 631938mE 5960633mN),
- then northerly via the southern alignment of the western boundary of Lot 53 and northerly via the western boundaries of Lots 53 & 52 DP756725 to the intersection with the Kosciuszko National Park boundary (approximate MGA point 632069mE 5961243mN),
- then northerly, north westerly and northerly via the national park boundary, including crossing the road reserve of the Alpine Way between approximate MGA points 629572mE 5965053mN and 629573mE 5965101mN, to its intersection with the south eastern bank of the Thredbo River (approximate MGA point 629359mE 5966663mN),
- then north easterly via the south eastern bank of the river and easterly, south westerly, south easterly and generally northerly via the Full Supply Level (FSL) of the Lake Jindabyne shoreline, and including the whole of the Lake Jindabyne dam wall, to its intersection with MGA northing 5980080mN (approximate MGA point 646015mE 5980080mN),
- then westerly directly to the intersection of the Kosciuszko National Park boundary with MGA northing 5980115mN (approximate MGA point 645717mE 5980115mN),
- then northerly and generally north westerly via the national park boundary to its intersection with the southern boundary of Lot 36 DP756696 (approximate MGA point 631007mE 5996564mN),
- then westerly and northerly via the southern and western boundaries of Lot 36, including crossing the two unnamed road reserves between approximate MGA points 1) 630055mE 5997143mN and 630080mE 5997153mN and 2) 631346mE 5999079mN and 631331mE 5999094mN, to the

intersection with the most northerly point of the land parcel (approximate MGA point 631187mE 6000009mN),
- then via the following MGA points consecutively: 631184mE 6000196mN, 631154mE 6000338mN, 631148mE 6000453mN, 631154mE 6000482mN, 631149mE 6000592mN, 631173mE 6000647mN, 631194mE 6000737mN, 631196mE 6000857mN, 631190mE 6001012mN, 631190mE 6001214mN, 631170mE 6001511mN, 631176mE 6001687mN, 631250mE 6001840mN, 631337mE 6001947mN, 631390mE 6001947mN, 631616mE 6001854mN, 631830mE 6001867mN, 631963mE 6001907mN, 632280mE 6002069mN,
- then north easterly directly to the intersection of the western boundary of Lot 27 DP756696 with MGA northing 6002161mN (approximate MGA point 632546mE 6002161mN),
- then southerly via the western boundary of Lot 27 to its intersection with the Kosciuszko National Park boundary (approximate MGA point 632320mE 6001659mN),
- then easterly, generally northerly, south easterly and generally northerly via the national park boundary, including twice crossing the road reserve of an unnamed track between approximate MGA points 1) 633070mE 6001525mN and 633092mE 6001521mN and 2) 633663mE 6003075mN and 633640mE 6003079mN, to its intersection with MGA northing 5999916mN (approximate MGA point 644390mE 5999916mN),
- then via grid east to its intersection with the FSL of the southern shoreline of Lake Eucumbene (approximate MGA point 644400mE 5999916mN),
- then generally north easterly, generally southerly and generally north westerly via the FSL of the southern and eastern shoreline of Lake Eucumbene, and including the whole of the Lake Eucumbene dam wall, to its intersection with MGA northing 6019003mN (approximate MGA point 648334mE 6019003mN),
- then via grid north to its intersection with the Kosciuszko National Park boundary (approximate MGA point 648334mE 6019094mN),
- then easterly and generally north easterly via the national park boundary, including crossing the road reserve of the Snowy Mountains Highway between approximate MGA points 650008mE 6021972mN and 650020mE 6022043mN and the road reserve of Circuits Trail between approximate MGA points 654897mE 6024348mN and 654923mE 6024344mN, to its intersection with the most southerly point of Lot 7001 DP96275 (approximate MGA point 658578mE 6027652mN),
- then north westerly via the south western boundary of Lot 7001 to its intersection with the Kosciuszko National Park boundary (approximate MGA point 656184mE 6030089mN),
- then northerly via the national park boundary to its intersection with the most westerly point of Lot 45 DP756692 (approximate MGA point 656412mE 6037856mN),
- then north easterly and northerly via the western boundary of Lot 45 and northerly via the northern alignment of the western boundary of Lot 45 to its intersection with the southern bank of the Murrumbidgee River (approximate MGA point 657263mE 6039107mN),
- then generally westerly and northerly via the southern and western bank of the river to its intersection with MGA northing 6040179mN (approximate MGA point 655969mE 6040179mN),
- then easterly directly to a corner on the boundary of the Kosciuszko National Park at approximate MGA point 656107mE 6040145mN,
- then easterly via the national park boundary to its intersection with the northern boundary of Lot 70 DP751837 (approximate MGA point 656591mE 6040100mN),
- then north easterly and south easterly via the northern boundary of Lot 70 to its intersection with the Kosciuszko National Park boundary (approximate MGA point 659022mE 6040362mN),
- then north easterly and northerly via the national park boundary to its intersection with the Australian Capital Territory (ACT) border (approximate MGA point 664343mE 6045681mN),
- then westerly and generally northerly via the ACT border to its intersection with the Snowy Mountains Authority Proclaimed Boundary (SMAPB) (approximate MGA point 661210mE 6055296mN),

- then westerly, southerly and generally north westerly via the SMAPB to its intersection with MGA easting 614628mE (approximate MGA point 614628mE 6084904mN),
- then via grid west to its intersection with the western bank of the Tumut River (approximate MGA point 614397mE 6084904mN),
- then south westerly and southerly via the western bank of the river, and including the Blowering Power Station and water channel connecting the station to the Tumut River, to its intersection with the northern alignment of the eastern side of the Blowering Dam Spillway (approximate MGA point 613575mE 6081962mN),
- then southerly via that alignment and southerly via the eastern side of the spillway to its intersection with the FSL of the eastern shoreline of the Blowering Reservoir (approximate MGA point 613715mE 6081643mN),
- then generally southerly via the FSL of the eastern shoreline to its intersection with MGA easting 618243mE (approximate MGA point 618243mE 6063993mN),
- then southerly directly to MGA point 618279mE 6063666mN,
- then southerly directly to the top of the southern end of the Jounama Pondage dam wall (approximate MGA point 618325mE 6063462mN),
- then via grid east to its intersection with the FSL of the western shoreline of the Jounama Pondage (approximate MGA point 618398mE 6063462mN),
- then generally southerly via the FSL of the western shoreline to its intersection with the north western edge of the Tumut 3 Power Station (approximate MGA point 616920mE 6058385mN),
- then south westerly and south easterly around the edge of the power station to its south western corner (approximate MGA point 616927mE 6058354mN),
- then south easterly directly to the top of the western edge of the pressure pipes inlet structure on the headrace channel of the Talbingo Reservoir (approximate MGA point 617180mE 6057945mN),
- then generally southerly via the FSL of the western shoreline of the headrace channel and the Talbingo Reservoir to its intersection with MGA easting 617405mE on the northern boundary of Lot 50 DP1089353 (approximate MGA point 617405mE 6056987mN),
- then westerly and southerly via the northern and western boundaries of Lot 50 to its intersection with the Kosciuszko National Park boundary (approximate MGA point 616867mE 6056262mN),
- then generally westerly, generally southerly and south westerly via the national park boundary to its intersection with a 330kv powerline easement (approximate MGA point 617632mE 6022689mN),
- then south westerly via the powerline easement to its intersection with the Kosciuszko National Park boundary (approximate MGA point 615259mE 6020575mN),
- then easterly, southerly and generally south westerly via the national park boundary to its intersection with MGA easting 604878mE on the middle thread of the Tooma River (approximate MGA point 604878mE 6015855mN),
- then generally westerly via the middle thread of the river to its intersection with the Kosciuszko National Park boundary (approximate MGA point 601721mE 6015711mN),
- then southerly, north westerly and generally southerly via the national park boundary to its intersection with the eastern boundary of Lot 60 DP1197563 (approximate MGA point 598943mE 6001185mN),
- then southerly via the eastern boundary of Lot 60 to its intersection with the Kosciuszko National Park boundary (approximate MGA point 598853mE 6000665mN),
- then southerly, generally easterly and generally southerly via the national park boundary to its intersection with MGA northing 5992526mN (approximate MGA point 602293mE 5992526mN),
- then via grid west to its intersection with the western bank of the Swampy Plain River (approximate MGA point 599074mE 5992526mN),
- then south easterly via the western bank of the Swampy Plain River and the western edge of the Khancoban Pondage spillway, and generally southerly via the FSL of the western shoreline of the Khancoban Pondage and the western bank of the Swampy Plain River to its intersection with MGA northing 5981826mN (approximate MGA point 600912mE 5981826mN),

- then north easterly directly to the corner of the northern and western boundaries of Lot A DP402588 at approximate MGA point 600920mE 5981833mN,
- then north easterly, easterly, southerly and westerly via the northern, eastern and southern boundaries of Lot A and westerly via the western alignment of the southern boundary of Lot A to its intersection with the western bank of the Swampy Plain River (approximate MGA point 600858mE 5981124mN),
- then generally southerly via the western bank of the river to its intersection with MGA northing 5977188mN (approximate MGA point 601074mE 5977188mN),
- then westerly directly to the intersection of the south eastern boundary of Lot 7001 DP94170 with MGA northing 5977226mN (approximate MGA point 599952mE 5977226mN),
- then southerly and westerly via the south eastern and southern boundaries of Lot 7001 and westerly via the southern boundary of Lot 13 DP755862 to the commencement point.

Note: The national park and land parcel boundaries mentioned in this description were current as at 30/08/2016, and the Snowy Mountains Authority Proclaimed Boundary mentioned in this description was current as at 24/09/2002.

Criterion	**Values**
(a) the place has outstanding heritage value to the nation because of the place's importance in the course, or pattern, of Australia's natural or cultural history.	The Snowy Mountains Scheme is an unprecedented civil engineering project stimulated by the will of the post-World War II Commonwealth Government to build a strong Australian economy. The scheme is the most significant project to be undertaken as part of the Post-war Reconstruction program and has become an enduring symbol of Australia's identity as a multicultural, independent, and resourceful country. The Snowy Mountains Scheme was a major impetus in the development of Australia's engineering expertise and industrial relations environment in the post-war period. The Scheme resulted in the development of innovative engineering technology and features that have been adopted as standard practices world-wide, such as the use of rock bolting to strengthen tunnel roofs. In the post-World War II period Australia was asked by the United Nations to accept 100,000 displaced Europeans. The Snowy Mountains Scheme was central to this process with over 100,000 people employed from thirty different countries, including approximately 60,000 European Displaced Persons and migrants employed directly by the Snowy Mountains Authority. The vast workforce that was required to build the Snowy Mountains Scheme required new management practices and the mechanisms implemented by Sir William Hudson permanently changed the nature of industrial relations and workplace conditions in Australia. The Scheme was hailed as a model of multicultural co-operation and integration and provided the opportunity for thousands of migrants to start a new life after the impacts of the war. The majority of those who came to build the Scheme stayed, becoming Australian citizens. These so called New Australians, with their energy and enterprise, would change Australia's social and cultural skyline forever. The Snowy Mountains Scheme is a symbol of Australian achievement and is significant to the nation as the most important single development project related to the Commonwealth's post-war reconstruction program and the effort to build a new and strong nation.
(b) the place has outstanding heritage value to the nation because of the place's possession of uncommon, rare or endangered aspects of Australia's natural or cultural history.	The Snowy Mountains Scheme is a rare example of an engineering program of enormous complexity and scale. Apart from the sheer scale of the site, the Snowy Mountains Scheme also has rare engineering features, such as underground power stations, very large earth-filled dams, and two examples of pumped storage capacity, using off-peak power to top-up supply reservoirs, which are the only known examples of their type in Australia

(d)	the place has outstanding heritage value to the nation because of the place's importance in demonstrating the principal characteristics of: (i) a class of Australia's natural or cultural places; or (ii) a class of Australia's natural or cultural environments.	The Snowy Mountains Scheme is an exemplar as a currently operating, intact hydro-electric scheme that is the largest and most complex example of such schemes in Australia. The Scheme is comprised of significant and well maintained components such as dams, power stations, aqueducts and an extensive tunnel system. The Snowy Mountains Scheme retains all the characteristics of a complex hydro-electric and irrigation scheme with a very high degree of integrity. The technology and features that were used to construct the Snowy Mountains Scheme demonstrate the principal characteristics of a dual hydro-electric and irrigation scheme, with each component an excellent and representative example of its particular type.
(f)	the place has outstanding heritage value to the nation because of the place's importance in demonstrating a high degree of creative or technical achievement at a particular period.	The Snowy Mountains Scheme is widely regarded as one of the engineering wonders of the world. The Scheme is a major engineering feat that is recognised for its technical excellence and innovation. Because many techniques, including some that were developed specifically for the Scheme, had not been used in Australia before, the project had enormous impact on the development in Australia of surveying, hydrology, electrical and civil engineering and construction techniques
(g)	the place has outstanding heritage value to the nation because of the place's strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.	The Snowy Mountains Scheme is strongly symbolic for large parts of the Australian community, and is held in special regard, especially by the thousands of former Snowy workers and their families who lived and worked there.
(h)	the place has outstanding heritage value to the nation because of the place's special association with the life or works of a person, or group of persons, of importance in Australia's natural or cultural history.	The Scheme is significant for the association with Sir William Hudson and Olav Olsen. Hudson, the 'Father of the Snowy', was Commissioner of the Snowy Mountains Authority from 1949-67 and was instrumental in the success of the Scheme as well as the introduction of revolutionary work practices in Australia. Olsen was originally on the Hydro-electric Sub-committee of the Commonwealth-States Technical Committee and was then employed as the Chief Investigating Engineer for the Snowy Mountain Authority. Olsen is credited for the design of many of the innovative practices in engineering that were developed during for the scheme, as well as the general conception of the Snowy Mountains Scheme as a dual irrigation and hydro-electric facility.

ATTACHMENT 3

AUSTRALIAN ALPS NATIONAL PARKS AND RESERVES EPBC ACT LISTING

Commonwealth of Australia Gazette

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SPECIAL

Environment Protection and Biodiversity Conservation Act 1999

INCLUSION OF A PLACE IN THE NATIONAL HERITAGE LIST

I, Peter Robert Garrett, Minister for the Environment, Heritage and the Arts having considered, in relation to the place specified in the Schedule of this instrument -

(a) the Australian Heritage Council's assessment whether the place meets any of the National Heritage criteria; and

(b) the comments given to the Council under sections 324JG and 324JH of the *Environment Protection and Biodiversity Conservation Act 1999*; and

being satisfied that the place described in the Schedule has the National Heritage values specified in the Schedule, pursuant to section 324JJ of the *Environment Protection and Biodiversity Conservation Act 1999*, include it in the National Heritage List.

Dated 4/11/2008

[Signed]

Peter Robert Garrett AM
Minister for the Environment,
Heritage and the Arts

Cat. No. S23708
ISSN 1032-2345

SCHEDULE

STATE / TERRITORY
Local Government
Name
Location / Boundary
Criteria / Values

NEW SOUTH WALES
Bombala Shire, Cooma-Monara, Snowy River Shire, Tumburumba, Tumut, Yass Valley

AUSTRALIAN CAPITAL TERRITORY
Australian Capital Territory

VICTORIA
Alpine Shire, East Gippsland Shire, Mansfield Shire, Towong Shire, Wellington Shire

Australian Alps National Parks and Reserves:
About 1,653,180ha, comprising the following national parks and reserves located in the Australian Alps:
Brindabella National Park, about 12050ha, 35km south-south-west of Yass, NSW;
Namadgi National Park, about 105900ha, 35km south-west of Canberra, ACT;
Tidbinbilla Nature Reserve, about 5500ha, 25km south-west of Canberra, ACT;
Bimberi Nature Reserve, about 7100ha, 55km east-south-east of Tumut, NSW;
Scabby Range Nature Reserve, about 3400ha, 25km north of Adaminaby, NSW;
Kosciuszko National Park, about 690000ha, 10km west of Jindabyne, NSW;
Alpine National Park, about 646000ha, 5km south-east of Mount Beauty, VIC;
Snowy River National Park, about 98700ha, 25km north-north-west of Orbost, VIC;
Avon Wilderness Park, about 40000ha, 30km north-north-west of Maffra, VIC.
Mount Buffalo National Park, about 31000ha, Mount Buffalo Road, Mount Buffalo, VIC; and
Baw Baw National Park , about 13530ha, 5km north of Erica, VIC.

Criterion	Values
(a) the place has outstanding heritage value to the nation because of the place's importance in the course, or pattern, of Australia's natural or cultural history.	The Australian Alps National Parks and Reserves (AANP) are part of a unique Australian mountainous region. Human interaction with the region has been distinctive in its response to the challenges and opportunities presented by this unique environment. ***Glacial and Periglacial Features*** The assemblage of glacial deposits and features in the AANP includes five alpine lakes, thirteen cirques and associated moraines, ice-grooved and polished pavements and erratic boulders. Periglacial features, both fossil and modern, include block streams, permafrost and solifluction deposits. These features are the material expression of the cold-climate, high-altitude history of the AANP, unique in the low-latitude, low-altitude Australian continent. The glacial and periglacial features contribute uniquely to our understanding of the nature of landscape response to climate during the ice ages of the late Quaternary and into the present and therefore has outstanding heritage value to the nation for its importance in the pattern of Australia's natural history (Percival 1985; Galloway 1989; Yeates 2001a; ISC 2004; AALC 2006).

Fossils

The Mt Howitt fish fossil site demonstrates remarkable fossil species diversity and preserves fish fossils across a wide range of life stages from larvae to mature fish, over tens of millions of years. The site contributes an important narrative about the evolution of fish across a number of different marine and freshwater environments, and the development of features that enabled vertebrates to leave the water to exploit terrestrial environments for the first time. Fossils revealed at the site have outstanding heritage value to the nation for their place in vertebrate evolution during the so-called 'Age of Fish' (Vickers-Rich and Rich 1993; Cook ed. 2007).

Karst

The Yarrangobilly karst area contains an outstanding collection of surface karst features including gorges, arches, blind valleys, springs and pinnacle fields. It also contains several hundred caves including six show caves with many intricate cave decorations, open for public viewing (ISC 2004). Yarrangobilly has yielded valuable information on the long-term dynamics of landscape formation. The thick flowstone sequences in Jersey Cave span half a million years and provide the longest continuous fire history record from a single site in Australia (DEH 2006b). Yarrangobilly has outstanding value to the nation for its features and karst processes evident in the limestone karst landscape.

Biological Heritage

The Alps are one of eleven sites recognised in Australia by the IUCN as a major world centre of plant diversity. During the late Quaternary and into the present, the high-altitude, cold-climate environment has provided refuge for species in an increasingly arid climate. Containing most of the contiguous montane to alpine environments in Australia, the AANP supports a rich and unique assemblage of cold-climate specialist species that have evolved unique physiological characteristics, enabling them to survive in an environment subject to extreme climate variation. Outstandingly rich flora taxa in the AANP include the daisies (Asteraceae), willow-herbs (Onagraceae), starworts and cushion-plants (Caryophyllaceae), southern heaths (*Epacris*), bottlebrushes (*Callistemon*), orchids (*Pterostylis, Prasophyllum* and *Dipodium*) and pimeleas (Thymaelaeaceae). Cold-climate adapted and endemic fauna species include the mountain pygmy-possum (*Burramys parvus*), the alpine she-oak skink (*Cyclodomorphus praealtus*), Snowy Mountains rock skink (*Egernia guthega*), Baw Baw frog (*Philoria frosti*), southern corroboree frog (*Pseudophryne corroboree*), and the northern corroboree frog (*P. pengilleyi*). Species of a great many invertebrate taxa are endemic to the Alps. These include stoneflies, caddisflies, mayflies, grasshoppers, and earthworms. Many display cold-climate adaptations, such as the mountain grasshopper (*Acripeza reticulata*), mountain spotted grasshopper (*Monistria concinna*) and alpine thermocolour grasshopper (*Kosciuscola tristis*). The Bogong moth undertakes regular migration in Australia and an essential part of its lifecycle occurs within the AANP. The AANP is a vital refuge for alpine and sub-alpine flora and fauna species, with a high level of richness and endemism across a wide range of taxa, and therefore has outstanding value to the nation for encompassing a significant and unique component of Australia's biological heritage (Nankin 1983; Costin 1989; Strahan 1995; Good 1995; Boden and Given 1995; WWF and IUCN 1995; Cogger 1996; Crabb 2003 Good 2003; ISC 2004; DSE 2005; AALC 2005; DEC 2006; McDougall & Walsh 2007, ANHAT 2007).

Moth Feasting

The use of an adult insect – the Bogong moth – as the basis for past large-scale annual gatherings of different Aboriginal groups for ceremonies sets the gatherings in the AANP apart from other Aboriginal ceremonial gatherings and has captured the Australian imagination, making it exceptional in Australia (White 2006). Therefore the AANP has outstanding heritage value to the nation because of the importance of Aboriginal social gatherings based on moth feasting in the course, or pattern, of Australia's cultural history.

Transhumant Grazing

The AANP has outstanding heritage value for its association with historic transhumant grazing that commenced in the 1830s. The practice of using alpine high plains to graze stock during the summer months was a significant pastoral activity of the nineteenth and twentieth centuries and was continuously practised for a period of over 150 years; making a considerable contribution to the early pastoral industry of south-east Australia. Transhumant grazing created and sustained a distinctive way of life that is valued as an important part of Australia's pioneering history and culture. Evidence of transhumant grazing includes huts, the former grazing landscapes, stock yards, and stock routes.

Scientific Research

The AANP has outstanding heritage value for the scientific research that has taken place since the 1830s, demonstrated by the density and continuity of scientific endeavour. Research sites within the AANP include those relating to botanical surveys, soil conservation exclosures, karst research, fauna research, meteorology, fire ecology plots, arboreta and glacial research sites. Space tracking undertaken in the ACT with Honeysuckle Creek Tracking Station having played a significant role in the Apollo 11 moon landing mission.

Water Harvesting

Water harvesting in the AANP has outstanding heritage value to the nation for its contribution to the social and economic development of Australia. Water harvested from headwaters in the AANP contributes to the water needs of Canberra and Melbourne. The Snowy Mountains Hydro-electric Scheme and the Kiewa Valley Hydro-electric Scheme also contributes to the electricity needs of south-eastern Australia. Both schemes were major post-war reconstruction projects, encouraging migration to Australia and employing over 60,000 displaced persons from post war Europe. Evidence of water harvesting in the AANP for power and irrigation includes the major pondages along with the numerous tunnels, aqueducts, power stations, huts, roads and former settlements, town and work camp sites.

Recreation

The AANP has outstanding heritage value for the longevity and diversity of its recreational use. Snow sports commenced in Kiandra in 1861 with the establishment of the Kiandra Snowshoe Club and expanded from an ad hoc activity by enthusiasts to a multi-million dollar snow sport and tourism industry characterised by the groomed ski slopes, ski lift infrastructure and substantial village resorts. The chalets supported by government were major features of the expanding activity and were established in scenic locations in the early twentieth century when mountain retreats were highly regarded for good health. These include the Mount Buffalo Chalet, the Yarrangobilly Caves House Precinct, the Chalet at Charlottes Pass, and the former Hotel Kosciusko and Mount Franklin Chalets.

(b) the place has outstanding heritage value to the nation because of the place's possession of uncommon, rare or endangered aspects of Australia's natural or cultural history.

Landscape and Topography
The high altitudes of the plateaus and peaks in the AANP are prominent in a continent with an average elevation of only 330 metres above sea level. The AANP includes most of continental Australia's peaks over 1,700 metres and all of those over 1,900 metres. These high peaks and plateaus contain the vast majority of alpine and sub-alpine environments in Australia. The AANP experiences extensive snow coverage on a seasonal basis, and its glacial lakes are the only wetlands on the Australian mainland covered by ice sheets in winter. The high-altitude landscape of the AANP has outstanding heritage value to the nation for its topographic heights, uncommon alpine and sub-alpine ecosystems and glacial lakes. (AALC 2005; DEC 2006; Geoscience Australia 2007).

Glacial and Periglacial Features
Continental Australia and its southern territorial islands have experienced periods of historic glaciation, with current snow and ice coverage limited to the highest peaks and altitudes. On mainland Australia, the AANP preserves a concentration of glacial and periglacial features without comparison from the ice ages of the late Quaternary Period. The Kosciuszko Plateau is unique in mainland Australia as the only place irrefutably exhibiting landforms shaped by Late Pleistocene glaciers during a series of glacier advances known as the Late Kosciuszko Glaciation. The active and fossil periglacial landforms of the AANP include blockstreams and solifluction features (solifluction is the gradual movement of waterlogged soil down a slope, especially where percolation is prevented by a frozen substrate). They are the most striking and extensive in mainland Australia and demonstrate the widespread effects of cold climate in the Quaternary, mild climate in the Holocene and the absence of intensive Pleistocene ice modification of the elevated landscape of the Victorian and ACT Alps. Therefore the AANP has outstanding heritage value to the nation for containing uncommon glacial and periglacial features (Percival 1985; Yeates 2001; Barrows et al. 2001).

Fossils
The Mt Howitt fish fossil site is globally rare because it preserves a diverse array of fossil fish in uncommon detail at all stages of their lives. It is unique nationally in providing a snapshot of a complete freshwater vertebrate community from the past, and for yielding fossils from all stages of growth of a species, from tiny fish larvae to adult fish, and therefore has outstanding heritage value to the nation because of its preservation of an uncommon aspect of Australia's natural history (Long 2002; Cook ed. 2007).

Alpine and Sub-alpine Ecosystems
The AANP has outstanding heritage significance to the nation for possessing extremely uncommon aspects of Australia's natural history. Alpine and sub-alpine ecosystems are uncommon in the generally arid and warm climate of Australia. The distribution of cold-climate species on the mainland retreated to the higher altitudes of the Alps in the Late Pleistocene as conditions began to warm up. The AANP contains most of the alpine and sub-alpine ecosystems on mainland Australia, supporting flora and fauna species that have evolved to the harsh conditions of the high altitudes. Many of these species are endemic to the Alps and are found nowhere else in Australia. The bog and fen groundwater communities are supported by organic soils and contain exceptional water retention properties. These communities play an integral role in ecosystem function by regulating the slow release of water from saturated peatbeds to the surrounding alpine humus soils, streams and other alpine communities (Good 1995; AALC 2006b).

Eucalypt Flora Community

The AANP provides an outstanding example of the adaptability of a plant genus, the genus Eucalyptus, along a steep topographical transect. The eucalypts dominate the AANP vegetation from the lowlands to as high as the alpine region, where the snow gum (E. pauciflora) defines the treeline. Much of the highest land in Australia occurs within the AANP, which also demonstrates very large topographical variations, which in turn is reflected in the high diversity of eucalypt species replacing each other along the altitudinal and climatic gradient (Costin 1988; Kirkpatrick 1994; ISC 2004; ANHAT 2007).

(d) the place has outstanding heritage value to the nation because of the place's importance in demonstrating the principal characteristics of: (i) a class of Australia's natural or cultural places; or (ii) a class of Australia's natural or cultural environments.

North-East Kosciuszko Pastoral Landscape

The landscape is outstanding for demonstrating the use of mountain resources, namely the summer grasses and herbfields. As a relict landscape of past grazing leases it conveys the principal characteristics of transhumance and permanent pastoralism in a remote environment, these being large areas of open grassy landscapes between timbered ridges and hills, stockman's huts, homestead complexes, stockyards and stock routes. The grasslands with swathes of pioneer shrubs include the Kiandra landscape, Boggy Plain, Nungar Plain, Gulf Plain, Wild Horse Plain, Tantangara Plain, Dairymans Plain, Currango Plain, Long Plain, Cooleman Plain, Kellys Plain, Blanket Plain, Peppercorn and Pockets Saddle (KHA 2008). Homestead buildings include Cooinbil and Old Currango and the modest homestead complexes of Currango and Coolamine with additional features including exotic plantings, sheds, barns, and workers' accommodation. Former stock routes, now fire trails, include the Port Philip Fire and Murrays Gap Fire Trails. Located in the former grazing leases are stockman's huts, Bill Jones Hut, Circuits Hut, Gavels Hut, Hains Hut, Hainsworth Hut, Millers Hut, Oldfields Hut, Pedens Hut, Pockets Hut, Townsends Lodge, Gavels Hut, Long Plain Hut, Gooandra Hut, Schofields Hut, and Witzes Hut (KHA 2008), which in their use and re-use of available materials typify a lifestyle and vernacular bush building technology using hand tools. The array of characteristics relate to over a century of alpine grazing.

(e) the place has outstanding heritage value to the nation because of the place's importance in exhibiting particular aesthetic characteristics valued by a community or cultural group.

The AANP is a powerful, spectacular and distinctive landscape highly valued by the Australian community. The mountain vistas, including distinctive range-upon-range panoramas, snow covered crests, slopes and valleys, alpine streams and rivers, natural and artificial lakes, the snow-clad eucalypts and the high plain grasslands, summer alpine wildflowers, forests and natural sounds evoke strong aesthetic responses. Much of the terrain of the AANP is highly valued for its remoteness, and naturalness, including views to and from the region that capture snow clad ranges and mountain silhouettes against clear skies as well as expansive views of natural landscapes from the high points of the Alps.

The upper Snowy River and Snowy Gorge, Mount Buffalo, the Kosciuszko Main Range, Lake Tali Karng, Dandongadale Falls the peaks and ridges between and including Mt Cobbler, Mt Howitt and the Bluff and other high peaks, ridgelines, granite outcrops and escarpments are examples of dramatic awe-inspiring landscapes. Recreational pursuits in these landscapes are enhanced by aesthetic appreciation of their wild and natural quality.

Snow-covered eucalypts, huts in mountain settings and mountain landscapes are distinctive Australian images captured by numerous artists and photographers. The mountain landscapes have inspired poets, painters, writers, musicians and film makers.

(g) the place has outstanding heritage value to the nation because of the place's strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.

The Australian Alps have a special association with the Australian community because of their unique landscapes, the possibility of experiencing remoteness and as the only opportunity for broad-scale snow recreation in Australia. The AANP is widely recognised by Australians as the 'high country' and many community groups have a special association with the AANP for social and cultural reasons.

Mount Kosciuszko is an iconic feature for all Australians and visited by over 100,000 people each year. It was named by the explorer Paul Edmund Strzelecki after the Polish freedom fighter, General Tadeusz Kosciuszko, in appreciation of freedom and a free people, an association that is highly valued by Australia's Polish community.

The pioneering history of the high country is valued as an important part of the construction of the Australian identity featuring in myths, legends and literature. The ballad "The Man from Snowy River" epitomises horsemanship undertaken historically in the rugged landscape. The stories, legends and myths of the mountains and mountain lifestyles have been romanticised in books, films, songs, and television series and many such as the Elyne Mitchell's Silver Brumby novels are part of Australia's national identity.

The mountain huts of the AANP constructed for grazing, mining and recreation are valued by communities as a physical expression of the cultural history of the region. They have special associations with many groups, such as mountain cattlemen, skiers and bushwalkers but particularly with huts associations that have been maintaining mountain huts and associated vernacular building skills for over 30 years.

(h) the place has outstanding heritage value to the nation because of the place's special association with the life or works of a person, or group of persons, of importance in Australia's natural or cultural history.

Baron Ferdinand von Mueller is highly recognised nationally and internationally for his contribution to Australian botany, particularly his extensive and thorough botanical collections of the Australian Alps undertaken in several botanical collecting trips on horseback, each of several weeks' or months' duration (Costin et al. 1979).

Eugen von Guerard was a significant nineteenth century artist producing a prolific record of Australian landscapes. His 1863 painting the "North-east view from the northern top of Mount Kosciusko" is regarded as one of his finest artistically and is in Australia's national collection.

Through his ballad "The Man from Snowy River", Andrew Barton 'Banjo' Paterson captured the imagination of the Australian people, stimulating a passion for the High Country and the way of life associated with the mountains. His iconic ballad has had a lasting influence on Australians.

The writer Elyne Mitchell and poet David Campbell lived near the mountains and their strong association with the place is expressed in much of their nationally important literary works.

For a description of any references quoted above, and more information on each of the places please search the Australian Heritage Database at http://www.environment.gov.au/cgi-bin/ahdb/search.pl using the name of the place.