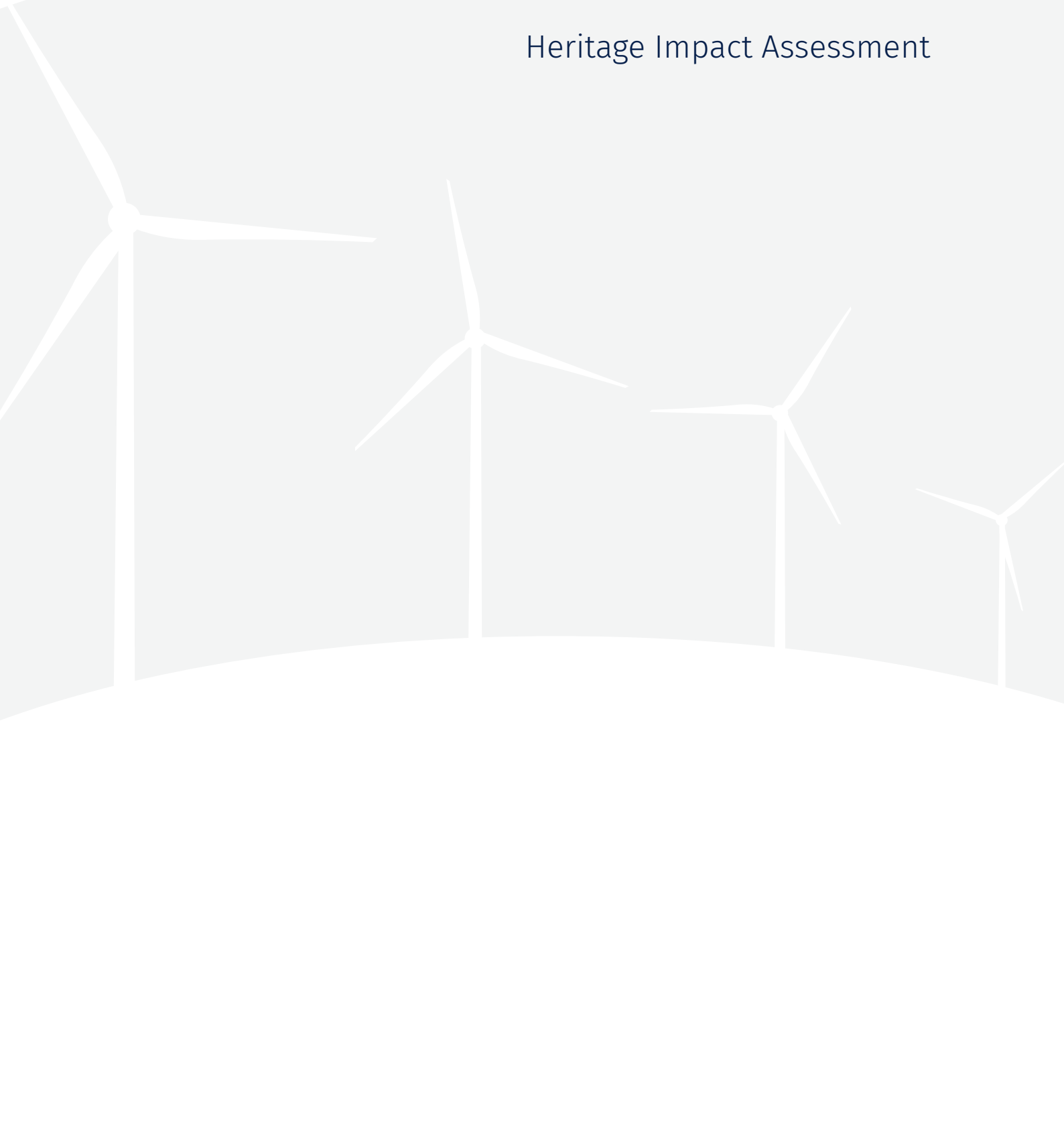


# Appendix 15

## Heritage Impact Assessment





**NEOEN**

**THUNDERBOLT ENERGY HUB  
STAGE 1**

Historical Heritage Assessment

**FINAL**

December 2021



## THUNDERBOLT ENERGY HUB STAGE 1

Historical Heritage Assessment

### FINAL

Prepared by  
**Umwelt (Australia) Pty Limited**  
on behalf of  
**Neoen Australia Pty Ltd**

Project Director: John Merrell  
Project Manager: Penelope Williams  
Technical Director: Tim Adams  
Report No. 7066/R08  
Date: December 2021



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**Document Status**

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
Final	Tim Adams and John Merrell	10 November 2021	Penelope Williams	15 December 2021



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# 1.0 Introduction

## 1.1 Project Overview

The proposed Thunderbolt Energy Hub is located in the Kentucky Area of NSW, approximately 47 km northeast of Tamworth and adjacent to the New England Highway (refer to **Figure 1.1**). The Thunderbolt Energy Hub includes wind and solar electricity generation. This assessment relates to Stage 1 of the project only, which comprises wind electricity generation only. Stage 2 of the Thunderbolt Energy Hub will be subject to separate future development approval processes. Thunderbolt Energy Hub – Stage 1 (the Project) has been identified as State Significant Development in accordance with the provisions of the *Environmental Planning and Assessment Act 1979* (the EP&A Act).

Umwelt has been engaged by Neoen Australia Pty Ltd (Neoen) to undertake a historical heritage assessment which will form part of the Environmental Impact Statement (EIS) for the Project.

## 1.2 Project Description

The Project includes the construction and operation of approximately 32 wind turbines (WTGs) with a maximum tip height of up to 260 m and total capacity of approximately 192 megawatts (MW). Associated construction and operational phase infrastructure are also proposed including construction compound and facilities, laydown areas, concrete batching plants, operation and maintenance buildings, internal access roads, civil works, and electrical infrastructure (including one new substation and switching station) required to connect to the existing electricity transmission network. The location of proposed infrastructure is shown in **Figure 1.2**.

Each WTG will have a generating capacity of approximately 5 MW to 8 MW and each WTG site will consist of a foundation and tower, nacelle, rotor hub, blades and associated electrical equipment. To achieve visual consistency through the landscape, the WTGs will feature uniform colour, design, height and rotor diameter, a matt-white finish and non-reflective material to reduce visibility. There will also be limited signage and lighting to reduce project visible impacts.

A total construction period of approximately 18-24 months is expected for the Project. To facilitate construction, a range of temporary buildings and facilities will be required including a construction compound (site offices, car parking and amenities for construction personnel), mobile concrete batching plants, laydown, and storage areas for the temporary storage of plant, equipment, materials, and WTG components. Construction materials will be sourced locally if available, or regionally and transported to site. Major turbine components will be delivered to the Port of Newcastle and transported to the Referral Area by truck via the New England Highway.

The Project Area comprises approximately 5,918 hectares and includes all relevant land parcels that will accommodate Project infrastructure. The assessment of the Project has focused on a Development Corridor, which forms a buffer to the conceptual project layout (50 m buffer either side of the centreline of internal access tracks and a 140 m buffer zone around WTG locations), and is approximately 568 ha, as shown in **Figure 1.2**. The total disturbance area (contained within the Development Footprint) associated with the proposed infrastructure is approximately 250 ha. This assessment approach will allow for micro-siting of turbines and flexibility in final design of access tracks, laydown areas and other infrastructure elements within the Development Corridor. For the purposes of this assessment, it is conservatively assumed that the entirety of the Development Corridor may be subject to disturbance.

## 1.3 Purpose of this Assessment

This historical heritage assessment (HHA) has been prepared by Umwelt in accordance with the Secretary's Environmental Assessment Requirements (SEARs) issued by the Department of Planning, Industry and Environment (DPIE) on 16 December 2020. This report:

- identifies listed heritage items located within or in proximity to the Project Area
- identifies items, buildings, structures, or other elements of potential historical heritage significance (i.e., those which are not listed) located within or in proximity to the Project Area
- assesses any areas of historical archaeological potential within or in proximity to the Project Area
- assesses the likelihood, extent and nature of potential impacts to any listed or unlisted items of heritage significance located within or in proximity to the Project Area
- develops appropriate measures to avoid, manage and/or mitigate any identified impacts.

## 1.4 Methodology

This HHA has been undertaken in accordance with guidelines set out in the *NSW Heritage Manual 1996* (Heritage Office and Department of Urban Affairs & Planning), including:

- Archaeological Assessments
- Assessing Heritage Significance
- Statements of Heritage Impact
- Heritage Terms and Abbreviations.

This HHA has also been prepared with consideration of the best practice principles contained in the:

- The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance 1999 (Australia ICOMOS. 2000) (the Burra Charter)
- NSW Heritage Branch (now Heritage NSW), Department of Planning, 2009, *Assessing Significance for Historical Archaeological Sites and 'Relics'*
- NSW Heritage office (now Heritage NSW), Department of Planning, 2006, *The Historical Archaeology Code of Practice*.

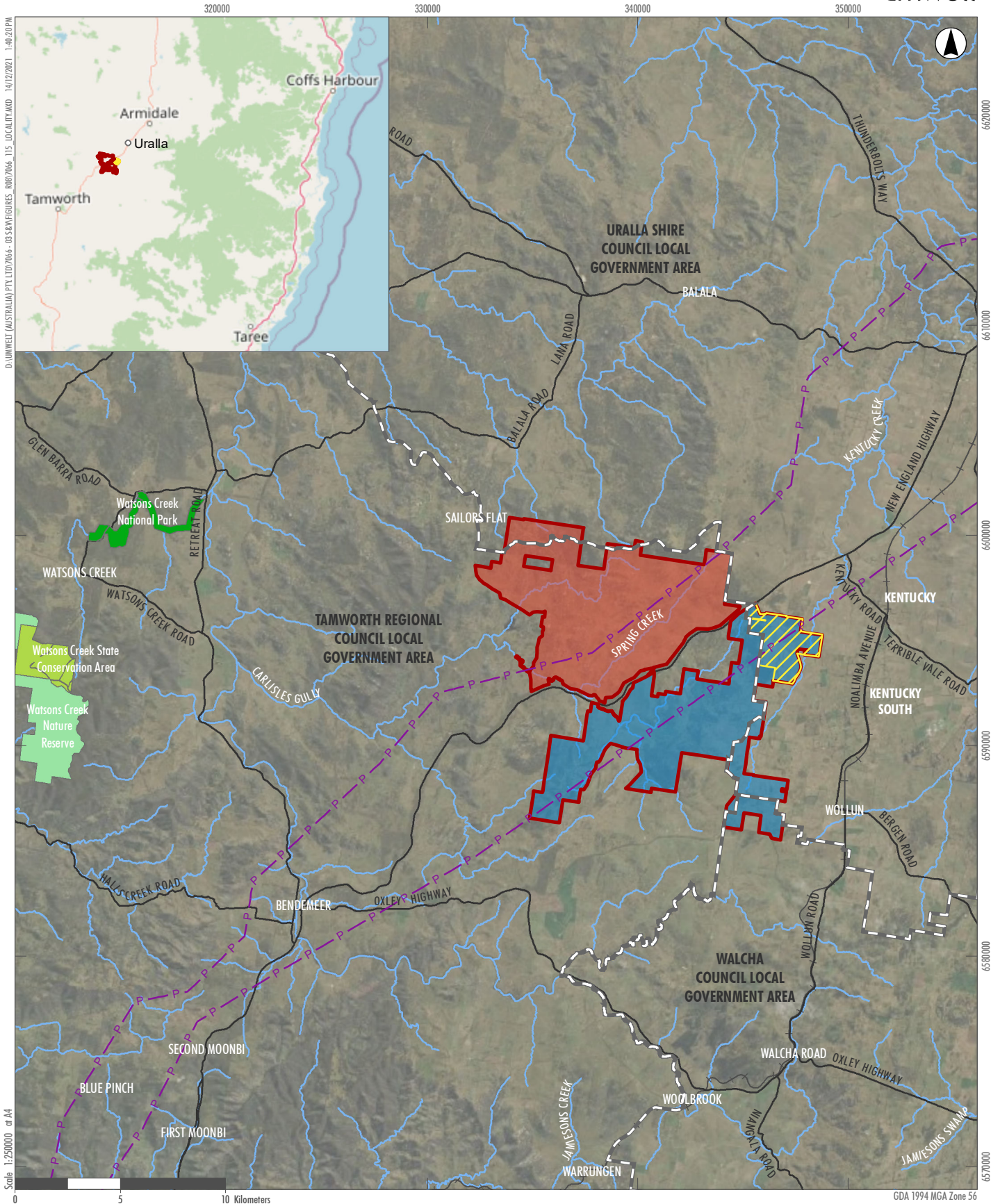
## 1.5 Limitations

This report has been prepared in relation to historical heritage only. Assessment of the Aboriginal cultural heritage and archaeology is addressed in a separate report prepared as part of the Project.

## 1.6 Report Authorship

This report has been prepared by Melissa Moritz, Senior Heritage Consultant. Review and Input has been provided by Tim Adams, Principal Heritage Consultant/Archaeologist.



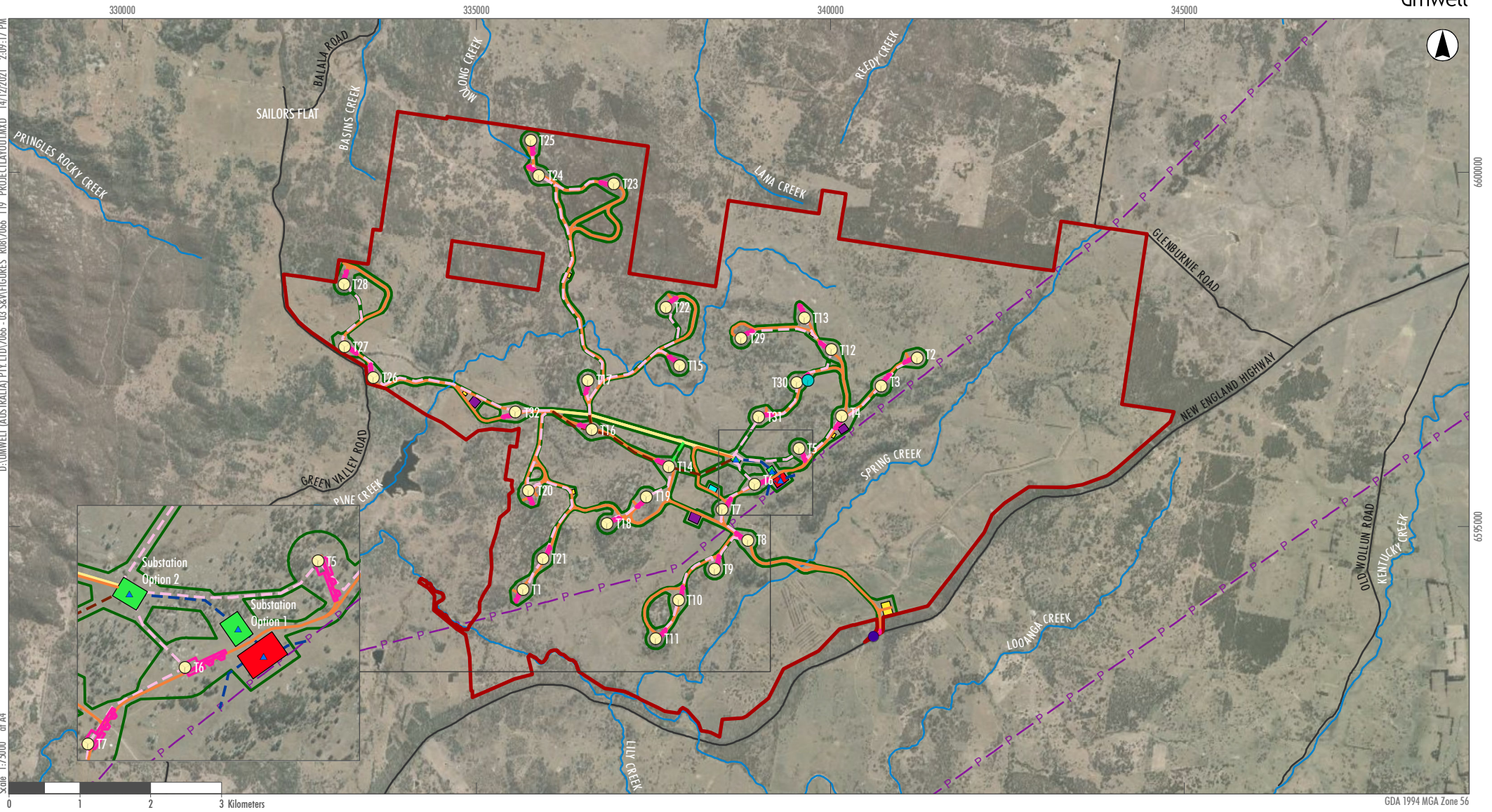


- Legend**
- Thunderbolt Energy Hub
  - Stage 1 Project Area
  - Stage 2 Project Area - Subject to separate Approval Process
  - Thunderbolt Solar Farm - Subject to separate Approval Process
  - Local Government Areas
  - National Park
  - Nature Reserve
  - State Conservation Area
  - P — Existing 330kV Power Lines
  - Watercourse
  - Road
  - +—+—+ Railway

FIGURE 1.1

## Thunderbolt Energy Hub





### Legend

- |   |  |   |   |
|---|--|---|---|
| <span style="border: 2px solid red; padding: 2px;"> </span> Project Area  | <span style="border-bottom: 2px solid orange; width: 20px; display: inline-block;"></span> Conceptual Access Tracks  | <span style="background-color: #90EE90; border: 1px solid black; width: 15px; height: 10px; display: inline-block;"></span> Substation        | <span style="border-bottom: 2px dashed green; width: 20px; display: inline-block;"></span> Option 1 - Underground Trench to Overhead Line |
| <span style="border: 2px solid green; padding: 2px;"> </span> Development Corridor  | <span style="border-bottom: 2px solid magenta; width: 20px; display: inline-block;"></span> Hardstand Area   | <span style="background-color: #FF0000; border: 1px solid black; width: 15px; height: 10px; display: inline-block;"></span> Switching Station | <span style="border-bottom: 2px dashed brown; width: 20px; display: inline-block;"></span> Option 2 - Full MV Underground Reticulation    |
| <span style="border: 1px solid yellow; border-radius: 50%; width: 10px; height: 10px; display: inline-block;"></span> Conceptual Turbine Layout | <span style="background-color: #800080; border: 1px solid black; width: 15px; height: 10px; display: inline-block;"></span> Batching Plants                    | <span style="border-bottom: 2px dashed purple; width: 20px; display: inline-block;"></span> Existing 330kV Power Lines                        | <span style="border-bottom: 2px dashed blue; width: 20px; display: inline-block;"></span> High Voltage TXL Route                          |
| <span style="border: 1px solid cyan; border-radius: 50%; width: 10px; height: 10px; display: inline-block;"></span> Temporary Met Mast          | <span style="background-color: #FFFF00; border: 1px solid black; width: 15px; height: 10px; display: inline-block;"></span> Laydown-Compounds                  | <span style="border-bottom: 2px dashed pink; width: 20px; display: inline-block;"></span> Underground 33kV Cables                             | <span style="color: blue;">▲</span> High Voltage Plants   |
| <span style="color: blue;">●</span> Proposed Access Point   | <span style="background-color: #00FFFF; border: 1px solid black; width: 15px; height: 10px; display: inline-block;"></span> Operation and Maintenance Compound | <span style="border-bottom: 2px solid yellow; width: 20px; display: inline-block;"></span> Option 1 - MV Overhead Line Route                  |   |

FIGURE 1.2  
Conceptual Project Layout

## 2.0 Statutory Context

### 2.1 Statutory Listings

#### 2.1.1 Commonwealth Legislations and Policies

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the Australian Government's environment and heritage legislation. This Act is triggered by developments or actions that will have a significant impact on matters of National environmental significance, including world heritage areas, Commonwealth marine areas, nationally threatened species and communities and migratory birds. The EPBC Act includes a process for the assessment of proposed actions that have, or are likely to have, a significant impact on matters of national environmental significance. These actions require approval from the Commonwealth Minister for the Environment.

A new national heritage system was established in January 2004 under the EPBC Act. This led to the introduction of the National Heritage List, which recognises and protects places of outstanding heritage to the Nation, and the Commonwealth Heritage List, which includes Commonwealth owned or leased places of significant heritage value.

No heritage items of National or Commonwealth heritage value are located within the Project Area (refer to **Section 2.3**).

#### 2.1.2 State Legislation

##### 2.1.2.1 Heritage Act 1977

The *Heritage Act 1977* (Heritage Act) is administered by Heritage NSW. The purpose of the *Heritage Act* is to ensure cultural heritage in NSW is adequately identified and observed. The *Heritage Act* is the primary item of state legislation affording protection to items of environmental heritage (natural and cultural) in NSW. Under the *Heritage Act* 'items of environmental heritage' include places, buildings, works, relics, moveable objects, and precincts identified as significant based on historical, scientific, cultural, social, archaeological, architectural, natural, or aesthetic values. State significant items are listed on the NSW State Heritage Register (SHR) and are given automatic protection against any activities that may damage an item or place or affect its heritage and/or archaeological significance.

The Heritage Council of NSW, appointed by the Minister, is responsible for heritage in NSW, as constituted under the *Heritage Act*. The Council is a cross-section of heritage experts, with Heritage NSW being the operational arm of the Council.

##### 2.1.2.2 Relics Provision of the *Heritage Act 1977*

The *Heritage Act* affords automatic statutory protection to 'relics' which form part of archaeological deposits (except where these provisions are suspended by other prevailing legislation). The *Heritage Act* defines a 'relic' as any deposit, object, or material evidence that:

- relates to the settlement of the area that comprises NSW, not being Aboriginal settlement; and
- is of state or local heritage significance.



Sections 139-145 of the *Heritage Act* prevent the excavation or disturbance of land known or likely to contain relics, unless in accordance with an excavation permit. Section 60 excavation permits are required to disturb relics within SHR items/places, while Section 140 permits are required for items/places that are not listed on the SHR.

As part of a Section 60 Application that involves the disturbance and/or archaeological investigation of 'relics', an Archaeological Research Design and Methodology, as well as the nomination of a suitably qualified Excavation Director, will be required.

Section 57(2) Exemptions and Section 139 Exceptions may also apply if it can be demonstrated that the proposed works will result in no or only minor impact to a potential archaeological resource. An assessment of impacts, prepared by a suitably qualified archaeologist, is required to demonstrate this.

Division 4.41 (d) of the EP&A Act specifies that it is not necessary to obtain an approval under Part 4, or an excavation permit under Section 139 of the *Heritage Act* for designated State Significant Development. Projects approved as State Significant Development under the EP&A Act are subject to conditions of approval issued by the Department of Planning, Industry and Environment (DPIE) and (where relevant) historic heritage is addressed by appropriate conditions.

In 2001 the Heritage Council issued the *Revised Assessing Significance* guidelines and in 2009 the *Assessing Significance for Historical Archaeological Sites and 'Relics'* which outline specific criteria for addressing the significance of an item or archaeological site.

### **2.1.2.3 Environmental Planning and Assessment Act 1979**

The *Environmental Planning and Assessment Act 1979* (EPA Act) governs strategic planning and development assessment processes undertaken by State and Local Government in NSW. The Act requires that Local Governments prepare planning instruments (such as Local Environmental Plans [LEPs]) in accordance with the Act to provide guidance on the level of environmental assessment required.

The Project will require development consent under Part 4 of the EP&A Act.

### **2.1.2.4 Local Environmental Plans**

The Project Area falls within the Tamworth Regional Council and Uralla Shire Council Local Government Areas (LGA) and is therefore subject to the Tamworth Regional Council Local Environmental Plan 2010 (LEP) and the Uralla Shire Council LEP 2012. As the LEP is a standard instrument under the EP&A Act, all LEPs provide a consistent statutory framework.

Part 5 Clause 5.10 of the LEPs provide the statutory framework for heritage conservation including the conservation of:

- the environmental heritage of LGA (Tamworth and Uralla)
- the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings, and views
- archaeological sites
- Aboriginal objects and Aboriginal places of heritage significance.



## 2.2 The Burra Charter (The Australian ICOMOS Charter for Places of Cultural Significance (2013))

The *Burra Charter* is a set of best practice principles and procedures for heritage investigations and conservation. The charter was developed by the Australian group of the international professional organisation for conservation; the International Council for Monuments and Sites (ICOMOS). Although it is not a statutory document, the *Burra Charter* provides a best practice standard for heritage management in NSW and Australia. The policies and legislative guidelines of the Heritage Council of NSW and Heritage NSW are consistent with and guided by the *Burra Charter*.

## 2.3 Relevant Heritage Listings

To inform this assessment, searches of all relevant heritage databases were undertaken. This includes searches of:

- The Commonwealth Heritage List
- The National Heritage List
- The State Heritage Register
- Heritage Act Section 170 Heritage and Conservation Registers (where publicly accessible)
- relevant Local Environmental Plans (LEPs).

As a result of these searches, it has been identified that:

- no Commonwealth or Nationally listed heritage items or places are located within the Project Area
- no State listed heritage items are located within the Project Area
- no items listed on any s170 Heritage and Conservation Registers (NSW State agency heritage registers) are located within the Project Area
- no items listed on Schedule 5 of an LEP are located within the Project Area.

Although the Project Area does not contain any listed heritage items there are several local and State significant heritage items in the surrounding region. Details of heritage items within 15km of the Project Area are included in **Table 2.1**.

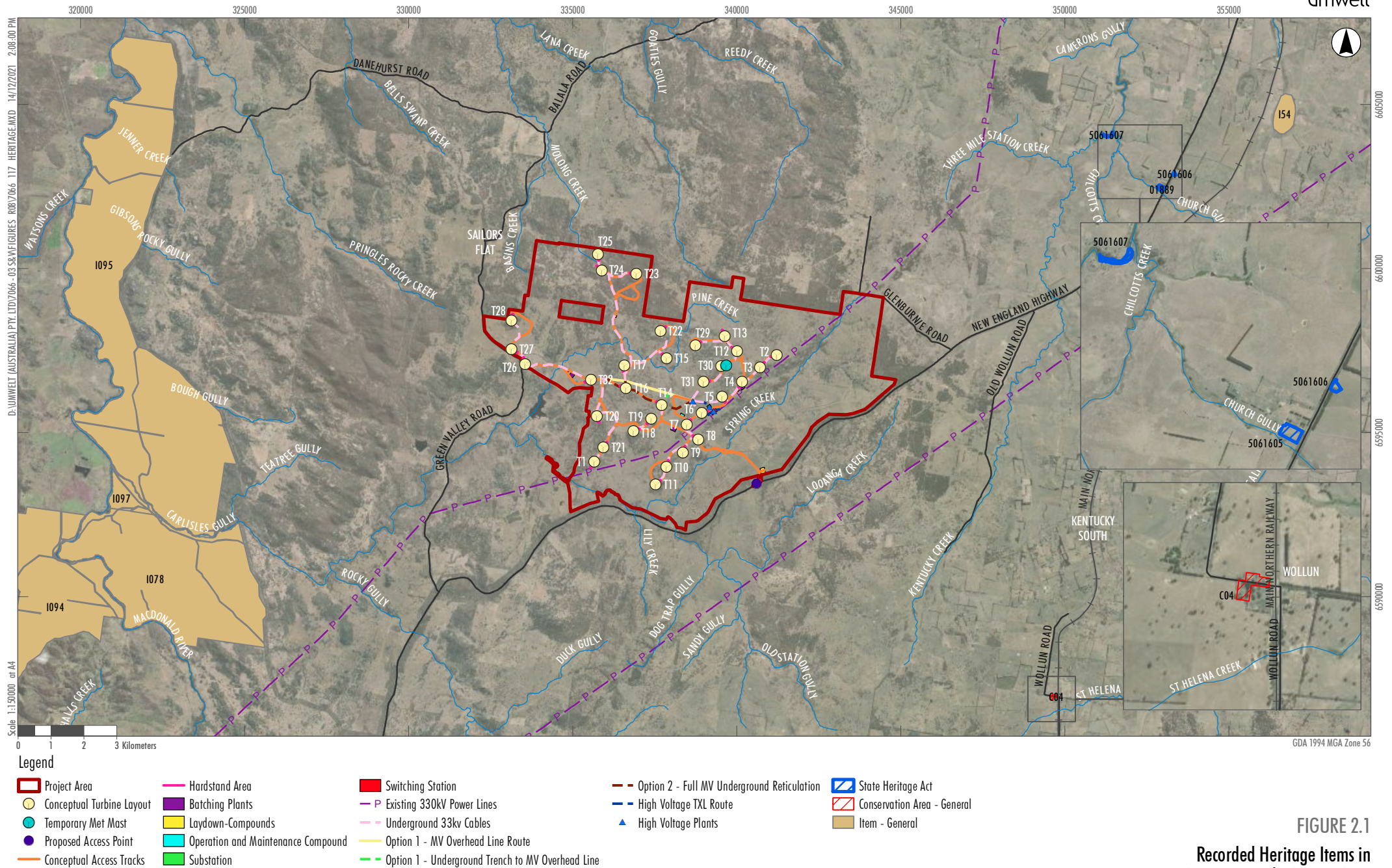
The nearest heritage items to the Project Area includes three of the four 'Captain Thunderbolt Sites' – SHR Item 01889, listed for their association with the last days of the infamous bushranger's life. The sites are located between approximately 8.6km and 10km northeast from the Project Area and include:

- Thunderbolt's Rock
- Thunderbolt's Death Site
- Blach's Inn (former).

The nearest local heritage items to the Project Area are located approximately 9km or further from the Project Area and are located to the northeast and west of the Project Area. **Table 2.1** below provides the details of these items, with the location of the heritage items in relation to the Project Area shown on **Figure 2.1**. For the purpose of this assessment, listed heritage items within 15km or less are considered to be in the vicinity of the proposed works. Listed Heritage items beyond 15km are therefore not included in the table below.

**Table 2.1 Listed Heritage Items within 15km of the Project Area**

Heritage Item	Address	Listing Details	Distance from Project Area
<b>State Heritage Items</b>			
The Captain Thunderbolt Sites - Blanch's Royal Oak Inn	New England Highway URALLA NSW 2358	NSW SHR Item 01889 (Group Listing)	9.5km
The Captain Thunderbolt Sites - Thunderbolt's Death Site	n/a	NSW SHR Item 01889 (Group Listing)	8.6km
The Captain Thunderbolt Sites - Thunderbolt's Rock	New England Highway URALLA NSW 2358	NSW SHR Item 01889 (Group Listing)	10km
<b>Local Heritage Items</b>			
Airlie Station House and Woolshed	Airlie Station Road BENDEMEER NSW 2355	Tamworth LEP 2010 Item I078	9km
Longford Station	Longford Retreat Road BENDEMEER NSW 2355	Tamworth LEP 2010 Item I095	10km
Wollun Village Precinct Conservation Area	Wollun Road WOLLUN NSW 2354	Uralla LEP 2012 Item C04	11km
Balala Station Homestead	Kingstown and Balala Roads BALALA NSW 2358	Uralla LEP 2012 Item I03	11km
Salisbury Court	3031 Thunderbolts Way SALISBURY PLAINS NSW 2358	Uralla LEP 2012 Item I14	12km
Yaccamunda	Rocky Gully Road	Tamworth LEP 2010 Item I097	12.5km
Dangar's Lagoon	Thunderbolts Way (Main Road 73) URALLA NSW 2358	Uralla LEP 2012 Item I54	13.5km
Haning	Longford Retreat Road BENDEMEER NSW 2355	Tamworth LEP 2010 Item I094	14.5km





## 3.0 Historical Context

### 3.1 European Settlement of the Region

European settlement of the New England Tablelands was slower than the rapid expansion surrounding Sydney Cove. However, as the population grew, government surveyors and explorers alike set out to investigate beyond the limits of the fledgling colony. One such explorer was Englishman John Oxley, who in 1818 ascended the ranges of the northern tablelands. Although it is unlikely he progressed as far as the Project Area and Kentucky/Uralla area in his explorations, Oxley noted the parkland-like landscape of the region in his journal, and upon his return recommended the region generally for agricultural pursuits.<sup>1</sup> It was these recommendations which would later set pastoralists' eyes on the region.

The Limits of Location, introduced by Governor Darling in 1826 and amended 1829 would stall the progression of pastoralists into the area, with land grants only provided within the 'safe' distance from Sydney – a 400km semicircular line from the centre of the fledgling town of Sydney beyond which it was prohibited for any settler to graze their animals. Although the limit was expanded in October 1829 to encompass the 19 Counties surrounding Sydney<sup>2</sup>, this did not extend far enough northwest to the Project Area, stalling formalised European settlements and land grants in the region.

The first recorded European to travel into the region surrounding the Project Area was Edward Gostwyck Cory, an English-born pastoralist who, with his father, received a land grant in Paterson, in the lower Hunter River District in the 1823. In the following years, Cory sought to expand his land holdings as the number of settlers in the lower Hunter area increased and the suitable grazing land had been alienated.<sup>3</sup> In partnership with W. H. Warland and William Dangar (a brother of Henry Dangar), Cory looked beyond the 19 Counties for land, and by 1830 they were squatting on pastoral land of approximately 1300 acres on the Peel River<sup>4</sup>.

The 1832 projected land exchange of the Australian Agricultural Co. on the Peel River and Liverpool Plans threatened to displace many of the earlier squatting occupancies in the two areas, including that of Cory, Dangar and Warland. In an attempt to find alternative land Cory and a small party set out to explore the area north of the company's Peel River grant.

On this excursion, Cory crossed the Moonbi Ranges from Tamworth before continuing further north where the expedition camped on an upper tributary of Carlyle's Gully and named it Cory's Camp Creek in his honour. No suitable grazing country was encountered until they reached the tablelands of the Salisbury Waters, to the east of the Project Area. This area proved excellent for sheep, and Cory soon occupied large tracts of it, establishing other stations in the Kentucky and Uralla area such as the stations at Gostwyck, Terrible Vale, and Salisbury Plains.

<sup>1</sup> Armidale Regional Council 'History and Heritage' viewed 8 October 2021 <<https://www.armidaleregional.nsw.gov.au/our-region/tourism/experiences/history-and-heritage>>

<sup>2</sup> NSW State Archives 'On This Day - 14 Oct 1829 - Nineteen Counties proclaimed' viewed 18 October 2021 <<https://www.records.nsw.gov.au/archives/magazine/onthisday/14-october-1829>>

<sup>3</sup> Australian Dictionary of Biography 'Biography – Edward Gostwyck Cory' viewed 18 October 2021 <<https://adb.anu.edu.au/biography/cory-edward-gostwyck-1922>>

<sup>4</sup> Australian Dictionary of Biography 'Biography – Edward Gostwyck Cory' viewed 18 October 2021 <<https://adb.anu.edu.au/biography/cory-edward-gostwyck-1922>>

The arrival of more squatters in the late 1830s followed shortly after Cory, all of whom were attracted to the prime grazing land of the New England Tableland. It was this release of the vast pastoral leases which prompted the townships in the region, such as Uralla, Kentucky, and Bendemeer. Land use in the area was primarily for grazing sheep and cattle, with small homesteads or estates located across the broader landscape.

## 3.2 Rocky River and the Sandon Goldfields

In 1851 gold was discovered at Rocky River, to the northeast of the Project Area. The first gold in the area was reported by September 1851 W.F. Buchanan and J. Lucas, with the official announcement made in October 1851.

Initially the quantities of gold found were small and considered ‘to repay no one for working’<sup>5</sup>, however a year later the Widneyer Brothers found payable gold on the field, with the first licences to prospect in the area given by the Crown Lands Commissioner in 1852. Initially it was alluvial mining only being employed in the area, and between 1852 and 1856 the mining was along Rocky River and its tributaries, such as Kentucky Creek, to the east of the Project Area<sup>6</sup>. Although this started slowly, with approximately 40 miners initially, this soon increased as word of workable goldfields spread and 538 licences for prospected recorded to have been issued over the course of the following four years<sup>7</sup>.

In 1856 John Jones discovered gold in the impressions made by a cartwheel, leading to the sinking of deep-lead shafts on what is now called Mount Jones<sup>8</sup>. This attracted more people to the diggings in the area and at the peak of the goldrush at Rocky River in 1856/1867, there was a population of some 5,000 inhabitants. This included both European settlers and Chinese miners whose numbers grew quickly. By 1859 the number of Chinese miners in the Rocky River and Sandon goldfields had swelled, with four times more working the goldfields than the European settlers in the area<sup>9</sup>. Reef mining in the area also expanded in this time with other reefs such as Sydney Flat, Mount Mutton and Doherty Hill as the attention to the area from private companies and independent prospectors alike grew. The Sandon Goldfields were proclaimed to the south of Rocky River as prospecting spread out from the area of the early gold discoveries. This was located to the north and east of the Project Area, following the tributaries of Rocky River, Kentucky Creek, and their tributaries.

Although the peak of the goldrush occurred in 1856, pursuit of wealth from gold continued. In 1857 puddling machines were introduced and networks of tunnels and water races began to extend across the landscape, Dangar’s Lagoon and the former Racecourse lagoon are evidence of the widespread landscape modification that took place during the goldmining era. In 1877 Long Tunnel Company formed, working a tunnel under Mount Jones, attempting to reach Sydney Flat Reefs<sup>10</sup>. Thirty years later, at the tail end of the goldmining period, Goldsworthy Gold Mines Ltd was established in 1910 although their success was dampened by constant flooding of the tunnels as they attempted to mine into Goldsworth Reef<sup>11</sup>.

<sup>5</sup>

<sup>6</sup> NSW SHI ‘Rocky River Goldmining Precinct Heritage Conservation Area’ accessed 18 October 2021 < <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=2540050>

<sup>7</sup> Uralla Shire ‘Gold at Rocky River!’ accessed 18 October 2021 < <https://www.uralla.com/Explore/Things-to-Do/History-Heritage/Gold-at-Rocky-River>

<sup>8</sup> Uralla Shire ‘Gold at Rocky River!’ accessed 18 October 2021 < <https://www.uralla.com/Explore/Things-to-Do/History-Heritage/Gold-at-Rocky-River>

<sup>9</sup> NSW SHI ‘Rocky River Goldmining Precinct Heritage Conservation Area’ accessed 18 October 2021 < <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=2540050>

<sup>10</sup> NSW SHI ‘Rocky River Goldmining Precinct Heritage Conservation Area’ accessed 18 October 2021 < <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=2540050>

<sup>11</sup> NSW SHI ‘Rocky River Goldmining Precinct Heritage Conservation Area’ accessed 18 October 2021 < <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=2540050>

The full extent of the gold mining in the region is difficult to measure, with prospecting often undertaken without licence along the many tributaries and creeks which crisscross the landscape, including those within the Project Area.

### 3.3 Captain Thunderbolt

Frederick Wordsworth Ward, better known as Captain Thunderbolt, was the last of the Bushrangers of NSW. Infamous for his theft of stock and horses, and his escape from Cockatoo Island, Ward gained notoriety for his bushranging and robberies within the New England Tablelands, particularly within the Uralla region<sup>12</sup>. His career included robbing mailmen, travellers, stores, stations and inns during which he earned a reputation for behaving in a gentlemanly manner towards his victims. The last stand of Captain Thunderbolt took place from the Blach's Inn and out to the branch of Kentucky Creek, on the north side of the New England Highway. It was here that he was shot and killed by police after a traveller raised the alarm of his robbery of the Blach's Inn. Although Ward traversed the Uralla region often in his Bushranger role, and in hiding from authorities, there are few known sites or places of tangible connections with his legacy. Known sites associated him in the area include the site of his last robberies, and that of his death. Known as the Captain Thunderbolt Sites<sup>13</sup>, three of the four known sites are located off the New England Highway, approximately 8.5km to the east of the Project Area the fourth, being his grave, is located in the Uralla Pioneer Cemetery.

### 3.4 Life after Gold

As the profitability of goldfields had gradually decreased after 1857, areas of land transferred back to agricultural use, particularly sheep grazing and food production. Land was either amalgamated into existing stations or smaller parcels were kept as small-scale pastoral land and market gardens. Miners who stayed in the region often worked on stations and farms. The Chinese migrants who had settled in the area also took up other pursuits, with market gardens, shops and other ventures supporting their community.

The Project Area included several parcels of land owned by Richard Vickers (refer to **Figure 3.1**), who with his family owned several large parcels of land in the area, including Goldsworth Station, Torryburn Station and Standbye Station, all within the Uralla and Rocky River areas. The stations included vast stretches of land to raise herds of sheep, the predominant livestock reared in the area.

Villages in the area, such as Uralla and Bendemeer continued to provide commercial and social centres for the many pastoral stations in the region. The village of Kentucky grew following the First World War, with parcels of land set aside for returning soldiers as part of the Australian government's soldier settlement scheme<sup>14</sup>. The Kentucky Returned Soldiers settlement was located between Kentucky, Uralla and Wollun, and commenced in 1918. An area of approximated 7,139 acres was set aside by the government to provide returning soldiers orchard plots and other agricultural settlements – approximately 80 in total. A church, general store and railway station were located alongside the weatherboard cottages<sup>15</sup>. Plans of the area from the 1920s suggest this was limited to the south side of the New England Highway, however it is likely that small parcels of land outside of the ownership of the Vickers within the Project Area were also utilised for orchards and other small crop farming. Limited development occurred in the Project Area, with the majority of the land cleared of vegetation and used for pastures. There are a small number of structures visible on

<sup>12</sup> Harbour Trust 'Captain Thunderbolt: Legendary bushranger' accessed 2 November 2021 <<https://www.harbourtrust.gov.au/en/our-story/harbour-history/digitales/captain-thunderbolt/>>

<sup>13</sup> NSW SHI 'Captain Thunderbolt Sites' accessed 3 November 2021 <<https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=5061598>>

<sup>14</sup> Uralla Shire 'Kentucky' accessed 18 October 2021 <<https://www.uralla.com/Explore/Things-to-Do/Uralla-Shire-Villages/Kentucky>>

<sup>15</sup> Uralla Shire 'Kentucky' accessed 18 October 2021 <<https://www.uralla.com/Explore/Things-to-Do/Uralla-Shire-Villages/Kentucky>>

aerials of the Project Area, however these are predominantly built after 1950s. **Figure 3.2** shows the locations of structures visible in the Project Area.

This includes several sheds, paddocks and corrals, and three houses, one located on the northwest corner, one at the north-east corner and one towards the centre of the Project Area, north of the Spring Creek Crossing. One structure, Bridge Cottage appears to have been built pre-1963 (based on available historical imagery) however limited information about the structure is available.





FIGURE 3.1  
1896 Parish Map showing early land holdings in the Project Area



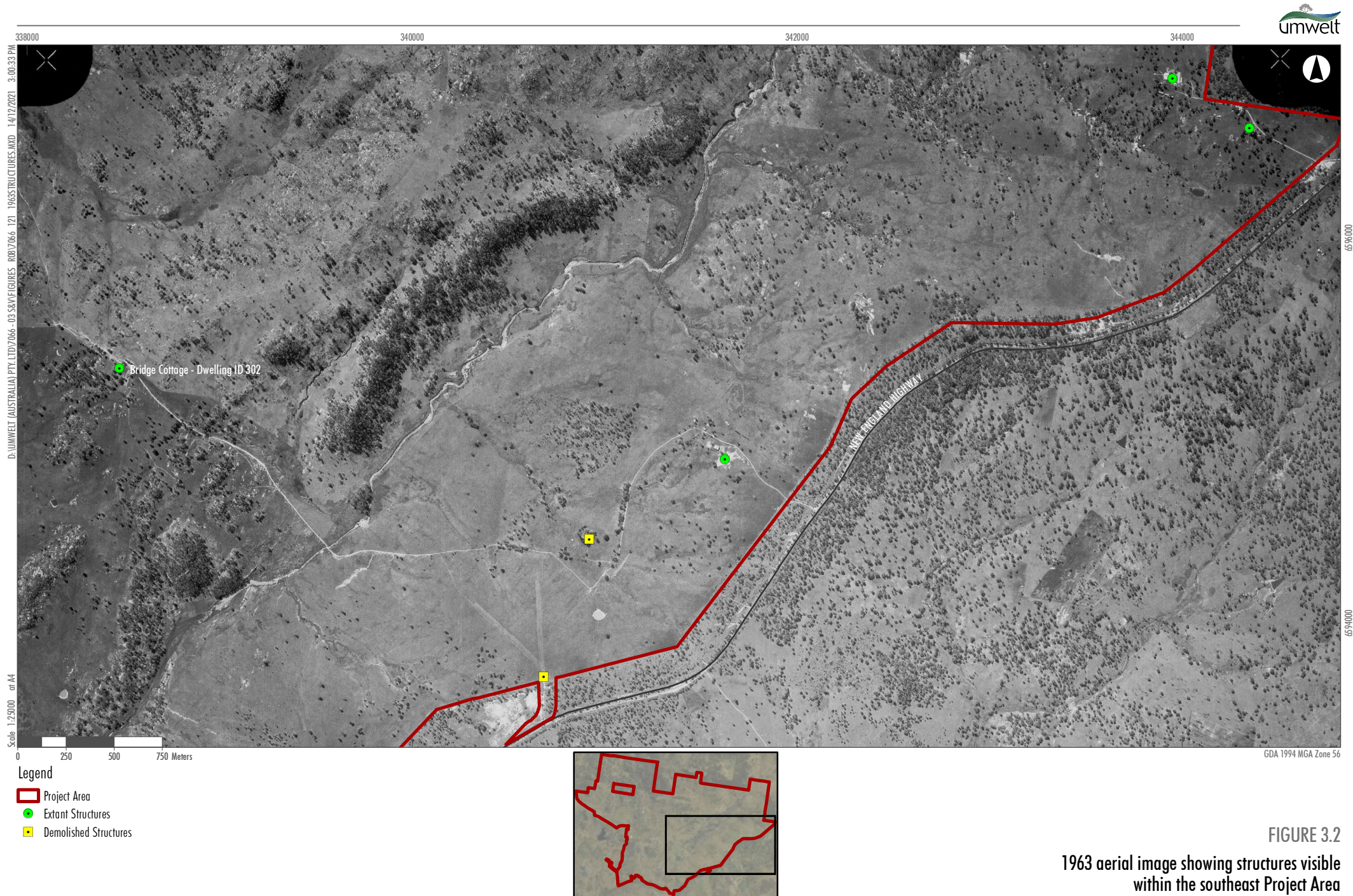


FIGURE 3.2  
1963 aerial image showing structures visible  
within the southeast Project Area



## 4.0 Visual Inspection

The following site description has been informed by the visual inspection undertaken by Umwelt. An inspection of the Development Corridor for the Project was undertaken concurrent with the site survey for the Aboriginal Cultural Heritage Assessment. This was conducted by Nicola Roche (Umwelt Heritage Technical Lead) and Alison Fenwick (Umwelt Archaeologist) over the course of two survey periods, in April and September of 2021. This survey focussed on the areas of potential physical impact as part of the Project (within the Development Corridor) and did not include an extensive survey of the Project Area in its entirety.

The Project Area occupies an irregularly shaped area, northwest of Kentucky Village. It is located on the north side of the New England Highway, with the Nandewar Range running along the northern boundary. Access to the Project Area is by a dirt access road directly from the New England Highway (**Photo 4.1**).

The landscape of the Project Area is within the Nadewar Range area, part of the Great Dividing Range, and is generally hilly with crests across the landscape, typically adjoined by steep or very steep rocky slopes, with slope inclination reduced in proximity to Pine Creek and Spring Creek (**Photo 4.2**).

Outcropping granite occurs throughout the Project Area, in the form of boulders, fractured slabs and/or general bedrock exposures (**Photo 4.3**). Dark grey to black volcanic material are also present within the Project Area, generally associated with granite exposures, most commonly in association with quartz veins.

The majority of the Project Area has been cleared of vegetation, with pasture grasses and some low-lying native species vegetation remaining, interspersed with native and introduced trees of varying species and ages (**Photo 4.4**). There are several waterways running through the Project Area, including Spring Creek, Carlisle's Gully, Pine Creek, Molong Creek, and their associated tributaries. Small dams and constructed drainage lines are also present within the Project Area.

There are several fence lines, and non-residential structures located within the Project Area, generally associated with agricultural land use (**Photo 4.5**). There are also five residential structures, two located in the northwest corner, two in the northeast corner and one towards the south of the Project Area, slightly north of the Spring Creek crossing. This southernmost dwelling is referred to as Bridge Cottage (Dwelling ID 302) on topographic maps of the area and consists of a single-story cottage constructed in the Inter-War Period. It is currently vacant, reportedly used for seasonal workers. It is a rectangular shaped building with a hipped and gabled roof to the body of the cottage and a skillion roof to the enclosed porch (**Photo 4.6**). The roof is clad with corrugated sheet metal with cement sheet to the table end. The walls are clad with weatherboard, with cement sheeting to the upper section of the enclosed porch. The windows are simple timber sash windows and the dominant hopped roof shape and simple corbel detail to the chimneys indicate 1930s construction. However, the shape of the building and two different roof forms suggest modification or extension to the building since its construction.

The Bridge Cottage (**Photo 4.7**) is set off the ground, supported by brick piers, with a set of painted concrete steps leading up to the entrance. Two brick chimneys are attached to the side of the cottage. An outhouse is located to rear of the cottage with a fenced yard around the building.

The other remaining houses were not inspected and are located outside of the proposed Development Corridor for the Project.





**Photo 4.1** Access track from New England Highway looking back towards the highway



**Photo 4.2** Spring Creek crossing showing the gentle slope away from the New England Highway





**Photo 4.3**      **Example of steep slope and granite outcropping common in the Project Area**



**Photo 4.4**      **Views across the centre of the Project Area**

Showing an old timber post fence and the rolling hills and crests of the landscape. Some granite boulders are also visible in the pasture.





**Photo 4.5** Views across the Project Area showing granite boulders typical within the Project Area



**Photo 4.6** Example of non-residential structure found within the Project Area

This corrugated sheet metal shed is typical of the agricultural properties in the region.



**Photo 4.7**      **Bridge Cottage, located near Spring Creek at the south of the Project Area**

## 5.0 Significance Assessment

The Burra Charter defines cultural significance as meaning ‘aesthetic, historic, scientific, or social value for past, present, or future generations’ (Article 1.2). The *Burra Charter* was written to explain the basic principles and procedures that should be followed in looking after important places.

Cultural significance is defined as being present in the ‘fabric, setting, use, associations, meanings, records, related places and related objects. The fabric of a place refers to its physical material and can include built elements, sub-surface remains and natural material (Australia ICOMOS 2000).

### 5.1 Heritage Significance Criteria

The NSW Heritage Manual (1996) published by the then NSW Heritage Office and Department of Urban Affairs and Planning, sets out a detailed process for conducting assessments of heritage significance. The manual provides a set of specific criteria for assessing the significance of an item, including guidelines for inclusion and exclusion.

The seven criteria defined by the former Heritage Division, Office of Environment and Heritage, and used by the NSW Heritage Council as an assessment format within NSW have been used in the preparation of this HHA. The seven criteria are:

1. **Criterion (a)** an item is important in the course, or pattern, of NSW’s cultural or natural history.
2. **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.
3. **Criterion (c)** an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW.
4. **Criterion (d)** an item has strong or special association with a particular community or cultural group in NSW for social, cultural, or spiritual reasons.
5. **Criterion (e)** an item has potential to yield information that will contribute to an understanding of NSW’s cultural or natural history.
6. **Criterion (f)** an item possesses uncommon, rare, or endangered aspects of NSW’s cultural or natural history.
7. **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.

The Heritage Council of NSW recognises four levels of significance for heritage in NSW: local, state, national and world. An item has local heritage significance when it is important to the local area. An item has state heritage significance when it is important in NSW. Most heritage in NSW is of local significance



## 5.2 Potential Heritage Items

The Project Area consists generally of undeveloped landscape, with limited built elements or structures. Of the structures identified during the visual inspection and historical research, one item 'Bridge Cottage' was identified as being of potential heritage significance and therefore warranting a preliminary assessment of significance. **Table 5.1** provides an assessment of Bridge Cottage against the NSW Heritage Council Criteria.

**Table 5.1 Assessment of Bridge Cottage against the NSW Heritage Council Criteria.**

Criterion	Application of Criteria
<b>Criterion A – Historical Significance</b>	<p>The Bridge Cottage was constructed in the mid twentieth century as part of the agricultural use of the Project Area. It is indicative of the ongoing use of the land for farming in the area after the 1900s and forms part of a range of buildings and structures likely required for the continued management of the land. Although information regarding the history of the cottage is limited, it was likely used to house workers on the wider property, similar to current use to house seasonal workers such as shearers. It is not associated with early development of the land or key events within the area.</p> <p>The Bridge Cottage does not meet the threshold for significance at a state or local level under this criterion.</p>
<b>Criterion B – Associative Significance</b>	<p>Little historical information is available about the Bridge Cottage and its associations with key people or group of people in the area.</p> <p>Although further historical research would be required to confirm, it is unlikely that the Bridge Cottage would meet the threshold for significance at a state or local level under this criterion.</p>
<b>Criterion C – Aesthetic or Technical Significance</b>	<p>The Bridge Cottage is a simple Inter-War cottage of a utilitarian design typically seen in secondary dwellings within a rural context. The cottage does not demonstrate key characteristics of a particular architectural style from the 1930s, nor does it display a high degree of creative achievement for the area.</p> <p>The Bridge Cottage does not meet the threshold for significance at a state or local level under this criterion.</p>
<b>Criterion D – Social Significance</b>	<p>Historical research does not indicate that there is strong association with the cottage to a person or group of people, however former residence or users of the cottage may attribute some value to the Bridge Cottage.</p> <p>Although further assessment of social values of the cottage would be required to confirm, it is unlikely that it would meet the threshold for significance at a state or local level under this criterion.</p>
<b>Criterion E – Research Potential</b>	<p>The Bridge Cottage is unlikely to provide new information regarding the development of the Project Area or that of the wider Kentucky/Uralla region.</p> <p>The Bridge Cottage does not meet the threshold for significance at a state or local level under this criterion.</p>
<b>Criterion F – Rarity</b>	<p>Inter-War cottages, similar to Bridge Cottage, are a common type of dwelling within rural NSW, and the Kentucky area. Bridge Cottage is not an uncommon or rare example of this building type of the Inter-War era in the Region of NSW.</p>
<b>Criterion G – Representativeness</b>	<p>The Bridge Cottage provides a modified example of a typical Inter-War cottage found within an agricultural setting in NSW.</p>
<b>Summary Statement of Significance</b>	<p>The Bridge Cottage is a modified example of an Inter-War cottage constructed in the 1930s. It is not associated with key periods of development within the Kentucky and Uralla regions and is not of aesthetic heritage significance.</p> <p>The Bridge Cottage has not been assessed as having heritage significance under any of the NSW Heritage Council's criteria.</p>



## 5.3 Discussion of Historical Archaeological Potential

Historical archaeology in Australia generally relates to the study of the past using physical evidence in conjunction with historical sources. Historical archaeology is generally defined as comprising the period since European arrival in Australia in 1788. An archaeological resource is the physical evidence of the past and may comprise sub-surface evidence including building foundations, occupation deposits, features and artefacts. Archaeological resources are irreplaceable and have the potential to contribute to our knowledge and understanding of early history using information that is unavailable from other sources (DUAP 1996:2).

The historical archaeological potential of the Project Area is the likelihood that there may be physical evidence relating to the early development and occupation of the Project Area beneath the current ground surface of the Project Area.

### 5.3.1 Historical Archaeological Potential

Archaeological potential is defined as “the degree of physical evidence presents on an archaeological site, usually assessed on the basis of physical evaluation and historical research” (Heritage Office and Department of Urban Affairs and Planning, 1996).

Archaeological research potential of a site is the extent to which further study of relics likely to be found is expected to contribute knowledge about the history of NSW which is not demonstrated by other sites or archaeological resources. The archaeological potential of the Project, and its immediate surrounds is assessed using the following gradings:

- **Low Potential:** land use history suggests limited development or use, or there is likely or known to have been quite high impacts in these areas.
- **Moderate Potential:** land use history suggests limited phases of low development intensity, or that there have been impacts in this area. A range of archaeological remains may survive, including building footprints and shallower remain or deposits as well as deeper sub-surface features.
- **High Potential:** substantially intact historical archaeological remains could survive in these areas.

The assessment of potential is dependent upon the extent of disturbance that has occurred in the area of the assessment. This has been considered in the following section.

### 5.3.2 Disturbance

In order to assess the extent of disturbance, the following classifications are used:

- **Low disturbance:** the area or feature has been subject to activities that may have had a minor effect on the integrity and survival of archaeological remains.
- **Moderate disturbance:** the area or feature has been subject to activities that may have affected the integrity and survival of archaeological remains. Archaeological evidence may be present; however, it may be disturbed.
- **High disturbance:** the area or feature has been subject to activities that would have had a major effect on the integrity and survival of archaeological remains. Archaeological evidence may be greatly disturbed or destroyed.

The historical overview presented in **Section 3.0** demonstrates that the Project Area has likely been subject to a range of activities which would have resulted in a range of disturbances within the landscape. This includes:

- activities associated with gold mining as localised and large area removal of ground, spoil management, diversion of water courses and land clearing
- activities associated with agricultural use such as land clearing, leveling activities, construction of in-ground infrastructure such as septic tanks, water and electricity services, construction of dwellings and supporting structures where present in the landscape
- removal of redundant structures associated with the agricultural use of the Project Area.

### 5.3.3 Archaeological Potential of the Project Area

As outlined in **Section 3.0**, the Project Area has remained largely undeveloped with the early land use patterns in the area historically recorded as grazing on Crown Land or land grants from the 1830s. No historical records indicate that any dwellings or structures were constructed within the Project Area during this period. Use associated with this period is unlikely to have left physical evidence within the landscape which would have survived the later land disturbance during the Gold Rush and agricultural use. There is low to nil historical archaeological potential associated with land use prior to 1830s.

The land use pattern of the Project Area changed to combined grazing and small claim gold mining for alluvial deposits from 1850, however there is limited information on the intensity of mining undertaken within the Project Area. Historical sources indicate that the wider Kentucky and Uralla areas were mostly subject to alluvial and small claim mining, utilising the gold bearing topsoil and creek beds, with some reef mining in the surrounding region (such as Mt Jones, Sydney Flats and Goldsworth Reefs located outside of the Project Area). Historically alluvial mining resulted in widespread modifications to the landscape, including gullies stripped of soil to bedrock, shallow shafts, mounds of non-gold bearing rock (mullock) and sandy or gravelly patches (tailings) where gold has been removed<sup>16</sup>. These are often accompanied by sluice systems or other channels to utilise water from surrounding natural creeks to wash the gold free from the topsoil<sup>17</sup> such as the water races from Dangar's Lagoon. There is potential for evidence of landscape modifications as result of gold mining to be present within the Project Area. These may have been removed or obscured due to subsequent agricultural practices, however.

There are no records of settlement associated with the Gold Rush within the Project Area. However archaeological study of goldfields elsewhere in Australia during this period has indicated that some subsistence miners established temporary accommodation within the vicinity of the goldfields, outside of the areas controlled by private mining companies. These accommodations were typically canvas tents which were modified with bark, fabric and tin sheets forming protection from the wind when occupancy was of a longer period. These shelters were often temporary means and when a claim was abandoned, any usable materials were carried off to the next claim or repurposed for other uses. In some instances, ad-hoc chimneys were constructed to the larger tent structures, to provide warmth and allow for cooking within. These are recorded to have utilised rough sandstone or quartzite blocks (or other rock such as granite occurring in the area) held together with mud. Other records suggest chimneys were made of timber, corrugated iron or green bullock hides stretched around branches (Lawrence and Davies 2011). Little evidence would remain of organic materials such as branches and hides within the Project Area.

<sup>16</sup> Lawrence S and Davies P 2011 *An Archaeology of Australia since 1788*, Springer LLC, New York

<sup>17</sup> Lawrence S and Davies P 2011 *An Archaeology of Australia since 1788*, Springer LLC, New York

Remains of stone chimneys would likely be limited to piles of worked blocks of stone where the binding mud had washed away.

If any unrecorded settlement of the area had occurred during the gold rush, the agricultural use of the Project Area would likely have removed most evidence of this during land clearing and use. There is low potential for the remnants of any chimney structures or hearths, however these are likely to have been reduced to rubble piles within the landscape or have been removed for reuse or to clear landscape for later use. The likelihood of encountering other unrecorded structural remains of any temporary residences/tents or associated occupational deposits is considered to be low to nil.

## 6.0 Impact Assessment

This section assesses the likely impacts of the works associated with the Project on the heritage items in the vicinity of the Project Area, and any assessed areas of historical archaeological potential identified in **Section 5.0**.

### 6.1 Assessment of Heritage Impacts

#### 6.1.1 Impacts to Heritage Items

As identified in **Section 2.0**, there are no listed heritage items within the Project Area and no potential heritage items have been identified during the preparation of this assessment. The nearest listed items, The Captain Thunderbolt Sites are located between approximately 8.5km and 10km respectively from the Project Area.

The Project would include the construction of up to 32 turbines at a height of 260m. These are generally located along ridge lines or upper portions of the slopes within the Project Area. Construction and operation of these turbines will also require the construction of access roads, including the upgrade of the existing concrete crossing over Spring Creek. Other structures such as substations and operations buildings would also be constructed.

The proposed turbines will be within elevated positions within the landscape and will be visible from some views within and to the Project Area. This would noticeably alter the landscape and setting of the Project Area from certain viewing locations, departing from the open agricultural landscape that is largely absent from built structures. However, design options including turbine location and material choice have aimed to minimise the noticeability of the proposed infrastructure.

The heritage items in the vicinity of the Project Area are generally located some distance away (greater than 8km), to the north, east and west of the Project Area. Although the elevated position of the proposed turbines will increase visibility within the landscape, there is sufficient distance and visual separation between the Project Area and the heritage items in the vicinity to mitigate impacts on the heritage items. It is unlikely that the Project would impact on any significant views to or from the listed heritage items in the vicinity. The works are also confined to within the Project Area and would not require physical interaction or works within the curtilages of any heritage items in the vicinity. The Project would not have any physical heritage impacts.

Overall, the Project would not have an adverse impact on significant fabric, views to or the setting of any places of heritage significance within the Project Area or within the vicinity.

#### 6.1.2 Impacts to Historical Archaeology

The construction of the Project would result in some ground disturbing works, such as blasting, leveling, installation of footings for new structures, including the wind turbines and operations facilities, underground cabling, and formation of internal access tracks. These activities have the possibility to disturb or remove historical archaeological remains, should they be present.

**Section 5.3.3** of this report identifies that the potential for the Project Area to contain historical archaeological remains is generally **low**.

Although there are ground disturbing works proposed across the Project Area, it is unlikely that the Project would impact on or remove any historical archaeological remains. Due to the land use history, any archaeological remains are likely to be fragmented or previously disturbed. This includes any evidence of goldmining and associated settlement. Truncated or fragmented remains are unlikely to provide new information about the history of the Project Area, except confirm that gold mining occurred as indicated by other documentary sources.

Overall, the Project has little potential to impact on historical archaeological remains.

## 7.0 Conclusion and Recommendations

### 7.1 Conclusion

Based on the above investigation, there is considered to be low potential for any archaeological remains to be located within the Project Area and associated disturbance area. The potential risk to any harm to any as yet unidentified archaeological resource is therefore assessed as low.

There is low risk of visual or physical impacts to listed heritage items located in the vicinity of the Project Area and no potential heritage items have been identified within the Project Area.

Management and mitigation measures, outlined in **Section 7.2**, are however proposed in the unlikely event that something is found during construction.

### 7.2 Management and Mitigation Measures

**Table 7.1** presents the heritage related management and mitigation measures proposed for the Project.

**Table 7.1 Management and Mitigation Measures relating to Historical Heritage**

ID	Management and Mitigation measure	Timing
HH1	An unexpected heritage finds protocol should be established and included in the environmental management policies for the project. All project team members and construction contractors should undertake a heritage-specific induction to support the use of this protocol.	Prior to and during construction
HH2	In the unlikely event that unexpected historical archaeological material is discovered, all work in the area should cease and suitably qualified archaeologist should be consulted to determine an appropriate course of action. Depending on the extent and significance of the archaeological remains encountered, consultation with Heritage NSW may be required prior to the commencement of works in that area.	During construction

## 8.0 References

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