APPENDIX

# K

DUNGOWAN DAM AND PIPELINE EIS

## Statement of Heritage Impact

NSW GOVERNMENT | EMM creating opportunities

# Dungowan Dam and pipeline project

# Statement of Heritage Impact

Prepared for Water Infrastructure NSW

September 2022

# Dungowan Dam and pipeline project

# Statement of Heritage Impact

Water Infrastructure NSW

J200042 DUN-EMM-EN-RPT-0013

September 2022

| Version | Date | Prepared by | Approved by | Comments |
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# Executive Summary

## ES1 Overview

The Peel River, part of the Namoi River catchment, provides water for irrigation as well as being the primary water supply for the city of Tamworth. Prompted by the millennium drought, investigations into the future water supply and demand for bulk water were undertaken for the regional city of Tamworth and the Peel Valley water users. The Dungowan Dam and pipeline project (the project) is a critical project to improving long-term water security for the region. The project includes a new dam at Dungowan (new Dungowan Dam) approximately 3.5 km downstream of the existing Dungowan Dam and a new section of pipeline about 32 km long between the proposed Dam outlet and the tie in point to an existing pipeline from Dungowan Showground to the Calala Water Treatment Plant (WTP).

In September 2022, the Minister for Planning and Homes declared the project to be Critical State Significant Infrastructure (CSSI) as it is a development that is essential for the State for economic and social reasons. This requires Schedule 5 of the *State Environmental Planning Policy (Planning Systems) 2021* to be updated to reflect the CSSI status of the project. As CSSI, the project is subject to Part 5, Division 5.2 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), which requires the preparation of an environmental impact statement (EIS) and the approval of the NSW Minister for Planning and Homes. The EIS has been prepared for the planning approval application for the project.

This historical heritage assessment and statement of heritage impact (SoHI) has been prepared to support the EIS. It documents the historical development of the project footprint and surrounding project area, initiatives built into the project design to avoid impacts to historical heritage values and the management of those values into the future.

## ES2 Site description

The project is in the Tamworth Regional Local Government Area (LGA) and the New England Tablelands bioregion south of the New England Tablelands. The nearest centre is the city of Tamworth to the north-west. The location of the new Dungowan Dam is approximately 3.5 km north of the existing dam, in a valley flanked by steep, forested hills. Agriculture has been practiced on the creek banks and residences were built on landforms above what would have been the regular flood levels.

The landscape of the project area is formed by two general types: a narrow valley and a wider valley through which Dungowan Creek runs. The location of the new Dungowan Dam is in the narrow valley carved out by Dungowan Creek with steep, forested hills on either side. The valley widens to the north-west and then flattens out as it gets closer to Tamworth. The project area is dominated by alluvial flats running north-west to south-east and characterised by scattered rural residences, cleared pastures and/or native revegetation. The valley is generally flat to gently undulating, with the occasional low hilly relief.

The landscape retains evidence of the earliest colonial period to the present day. There are 11 locally listed heritage items within approximately 1 km of the project footprint on the *Tamworth Regional Local Environmental Plan 2010*, including locations that are archaeologically sensitive. The early twentieth century farms in the project footprint have largely been demolished, leaving behind only stockyards, fences and other ephemeral structures. Sites with potential for higher significance are related to Haig's *Dungowan Station* (1842) and Cadell's *Dungowan Station* (1867).

## ES3 Impact assessment

The Dungowan Dam and pipeline project is anticipated to have minimal impact on heritage values that have been formalised through inclusion on statutory heritage registers and a greater impact on the cultural landscape values in the construction and operational areas specific to the project. The cultural landscape that will be affected by construction and operational activities of the project is locally significant for its ability to demonstrate changes to the landscape that have resulted from natural forces and human agency, both pre- and post-British settlement. While some physical impacts will occur as a result of the construction of the project, the majority of the impact will be through inundation, which will obscure the landscape rather than destroy it.

The project pipeline will be installed through a landscape that was once a part of Dungowan Station, a squatting run that was established in 1847. The original headstation belonging to the run is in proximity to the northern extent of the pipeline but well clear of the project footprint. The survival of any features built or archaeological, of the headstation, is unknown and as the project footprint is outside the property, the project is unlikely to impact upon relics or ruins associated with Haig's Dungowan Station. However, two extant properties being the second *Dungowan Station* (unlisted) that is operating as a farm, and the 'Ogunbil brick shearing shed and silo' (LEP I283) may be related to the original Dungowan Station headstation and may possess relics that relate to the historical period. Management measures will be implemented to mitigate risks to relics at these items.

The installation of a new overhead powerline will occur in the vicinity and across the locally listed Port Stephens Cutting on Nowendoc Road (LEP I264). However, construction of the powerlines will not have a detrimental impact on the significance of the Port Stephens Cutting and can be placed in areas that will not physically impinge on the item even inside the listed curtilage.

The existing Dungowan Dam is also considered to hold local significance and therefore, its decommissioning should be recorded.

## ES4 Management and mitigation measures

A Construction Heritage Management Plan will be prepared to guide construction and operational activities of the project. The primary goal is to avoid impacts, but where that is not possible, the recommendations and management measures are detailed in Section 10 of this report; which are summarised below:

- prepare a Construction Heritage Management Plan that details:
    - historical heritage induction requirements;
    - no-go areas;
    - areas where further archaeological excavation is required;
    - archival recording requirements;
    - interpretation and reporting requirements; and
    - unexpected finds protocol.

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# 1 Introduction

## 1.1 The project

The Peel River, part of the Namoi River catchment, provides water for irrigation as well as being the primary water supply for the city of Tamworth. Prompted by the millennium drought, investigations into the future water supply and demand for bulk water were undertaken for the regional city of Tamworth and the Peel Valley water users. The Dungowan Dam and pipeline project (the project) is a critical project to improving long-term water security for the region. The project includes a new dam at Dungowan (new Dungowan Dam) approximately 3.5 km downstream of the existing Dungowan Dam and a new section of pipeline about 32 km long between the proposed Dam outlet and the tie in point to an existing pipeline from Dungowan Showground to the Calala Water Treatment Plant (WTP).

In September 2022, the Minister for Planning and Homes declared the project to be Critical State Significant Infrastructure (CSSI) as it is a development that is essential for the State for economic and social reasons. This requires Schedule 5 of the *State Environmental Planning Policy (Planning Systems) 2021* to be updated to reflect the CSSI status of the project. As CSSI, the project is subject to Part 5, Division 5.2 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), which requires the preparation of an environmental impact statement (EIS) and the approval of the NSW Minister for Planning and Homes.

The EIS has been prepared for the planning approval application for the project. This historical heritage assessment and statement of heritage impact (SoHI) has been prepared to support the EIS.

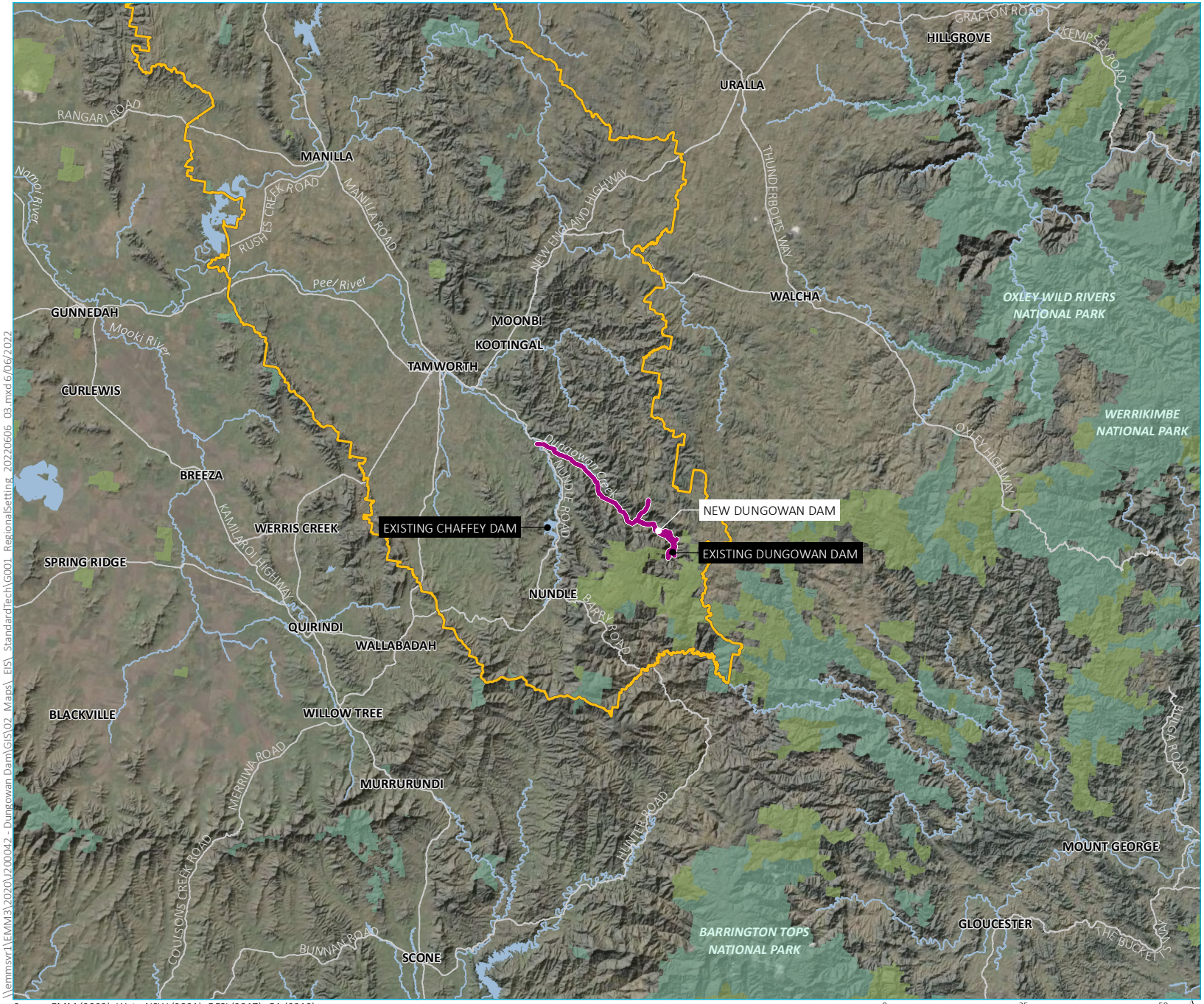
In addition to requiring approval from the NSW Minister for Planning and Homes, the project has been deemed a controlled action under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and requires approval from the Commonwealth Minister for the Environment and Water. The Minister for the Environment and Water has accredited the NSW planning process for the assessment of the project. Therefore, a single EIS has been prepared to address the requirements set out by the NSW Department of Planning and Environment (DPE) and the Commonwealth Department of Climate Change, Energy, the Environment and Water.

## 1.2 Project location

The project is located in the Tamworth Regional local government area (LGA), the New England Tablelands bioregion and part of the New England and North West region of NSW, west of the Great Dividing Range (DPE 2017). The New England and North West region is home to approximately 186,900 people and has a total area of around 99,100 km$^2$ (ABS 2018). The city of Tamworth is the nearest (and largest) town to the project with over 40,000 residents. Other nearby regional towns include Quirindi (70 km west), Manilla (90 km north-west), Gloucester (90 km south-east), Armidale (100 km north) and Gunnedah (110 km west of the project).

The existing Dungowan Dam is in the Namoi River catchment approximately 50 km south-east of Tamworth in NSW. The Namoi catchment covers 4,700 km$^2$ and borders the Gwydir and Castlereagh catchments and is bounded by the Great Dividing Range in the east, the Liverpool Ranges and Warrumbungle Ranges in the south, and the Nandewar Ranges and Mount Kaputar to the north.

The existing Dungowan Dam is on Dungowan Creek, which is a tributary of the Peel River. Dungowan Creek is confined by the existing Dungowan Dam, while the Peel River system is regulated by Chaffey Dam, located in the upper catchment near the town of Woolomin, approximately 45 km from Tamworth. The project's regional setting is shown in Figure 1.1.

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*Source: EMM (2022); WaterNSW (2021); DFSI (2017); GA (2013)*

Regional setting

Dungowan Dam and pipeline project
Figure 1.1

EMM
creating opportunities

### 1.2.1 Project impact areas

In outlining the project, a project footprint has been defined to facilitate the assessment of direct impacts from the project:

- Project footprint: all areas where direct impacts may be experienced during construction and/or operation.

The project footprint has an area of 315 ha and is comprised of the construction and operational footprints, of which there is some overlap:

- Construction footprint: areas where vegetation clearing and/or ground disturbance is required for construction of the dam, pipeline and ancillary facilities, including the area needed to decommission and rehabilitate the existing dam.

- Operational footprint: areas where there will be permanent operational elements or easements, including infrastructure needed to operate the new Dungowan Dam and pipeline. The operation footprint includes the inundation area, being the area defined by the proposed full supply level (FSL) for the project.

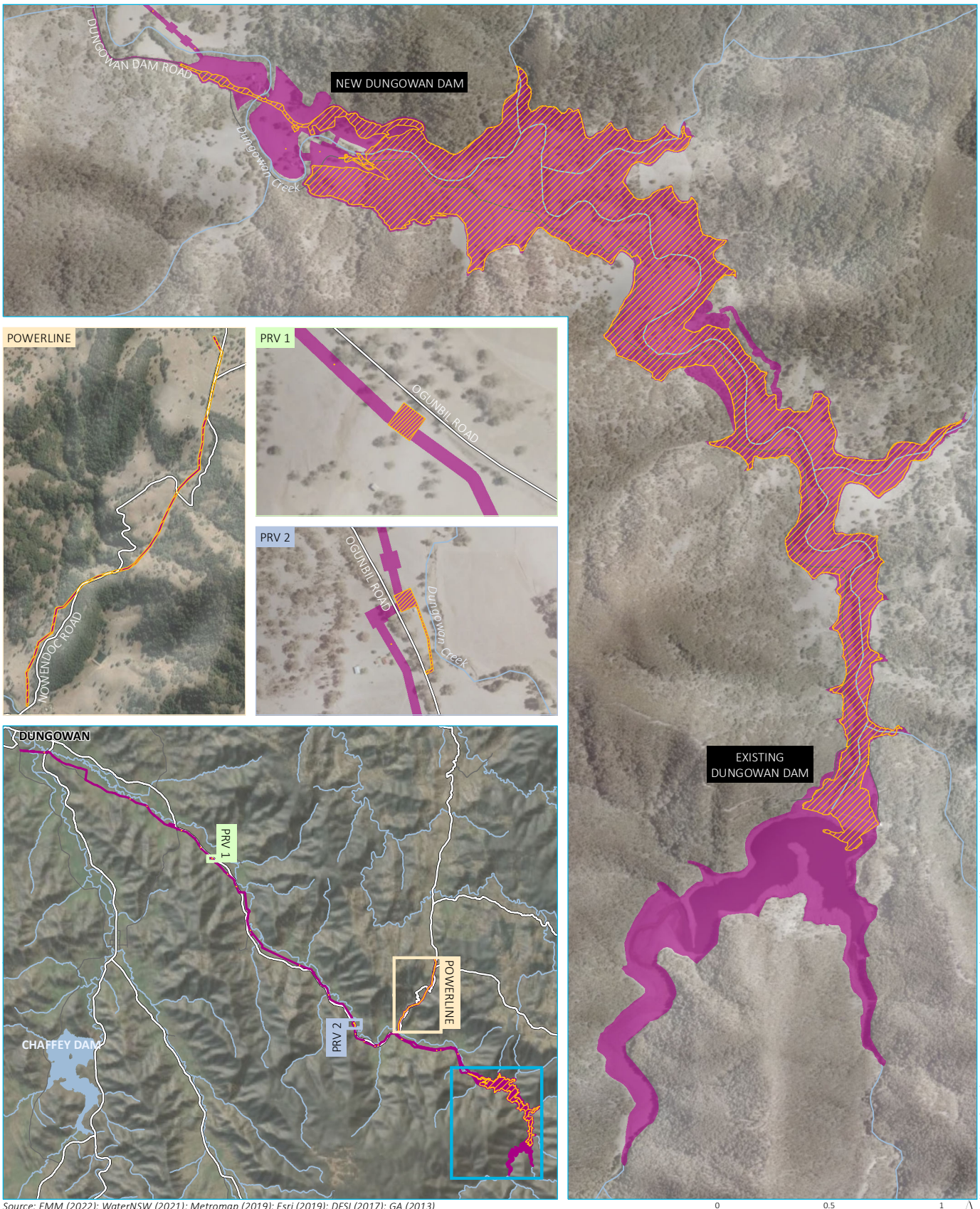
Additional areas outside the project footprint have also been considered where relevant to the assessment of project impacts and include:

- Upstream flood extent: an area above the FSL to the level of a probable maximum flood (PMF) event that would be inundated for relatively short periods during operation associated with extreme rainfall events.

- Project area: a 10 km buffer around the project footprint defined to allow for assessment of potential indirect impacts.

- Downstream impact area: the area where hydrological changes may occur due to the project. This area is discussed in detail in the Surface Water Assessment (EMM 2022) as well as other technical reports subject to changed flow regimes as a result of the new Dungowan Dam operation. The downstream impact area includes Dungowan Creek and also the Peel River downstream of Chaffey Dam.

The project construction and operational footprints are shown in Figure 1.2.




*Source: EMM (2022); WaterNSW (2021); Metromap (2019); Esri (2019); DFSI (2017); GA (2013)*

0 0.5 1 km

GDA 1994 MGA Zone 56

N

KEY

- Construction footprint
- Operational footprint

Existing environment

- Major road
- Minor road
- Named watercourse
- Named waterbody

Project footprint

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Dungowan Dam and pipeline project

Figure 1.2

EMM creating opportunities

## 1.3 Purpose of this report

This SoHI supports the EIS for the project. It documents the historical development of the project footprint and surrounding project area, initiatives built into the project design to avoid impacts to historical heritage values, and the management of those values into the future.

The specific objectives of this assessment are to:

- describe the existing environment including currently identified heritage items, and the built and natural landscape;
- understand the historical development of the project area, what the drivers were and more recent changes;
- achieve an understanding of surviving and potential heritage values, including built, archaeological and significant landscapes;
- assess the impact of the project on State and local heritage values;
- identify historical heritage constraints within and impacts arising from the project;
- provide management measures to reduce the impacts from the project on historical heritage values wherever possible; and
- where impacts are unavoidable, consider compensatory measures that are appropriate for the project.

This SoHI has been prepared in accordance with the legislative requirements set out in Chapter 3.

### 1.3.1 Assessment guidelines and requirements

This SoHI has been prepared in accordance with the Secretary's Environmental Assessment Requirements (SEARs) for the Dungowan Dam and pipeline project as well as relevant government assessment requirements, guidelines and policies, and in consultation with the relevant government agencies.

The SEARs must be addressed in the EIS. The matters relevant to this assessment and where they are addressed in this report are listed in Table 1.1 below:

**Table 1.1 Relevant matters raised in SEARs**

| Requirement | Chapter/section addressed |
|---|---|
| 25. An assessment of non-Aboriginal Heritage including potential impacts on the surrounding site and surrounding area, including any built landscape items, conservation areas, views and settings. | Chapter 9 |
| 26. A Statement of Heritage Impact (SOHI) prepared by a suitably qualified heritage consultant in accordance with the guidelines in the NSW Heritage Manual. The SOHI is to address the impacts of the proposal on the heritage significance of the site and adjacent areas and is to identify the following: | This report<br>Section 9.5 |
| a) all heritage items (state and local) within the vicinity of the site including built heritage, landscapes and archaeology, detailed mapping of these items, and assessment of why the items and site(s) are of heritage significance; | Chapters 7 and 8<br>Annexure B and Annexure C |
| b) compliance with any relevant Conservation Management Plan/s; | Not applicable |

**Table 1.1 Relevant matters raised in SEARs**

| Requirement | Chapter/section addressed |
|---|---|
| c) the impacts of the proposal on heritage item(s) including visual impacts, required BCA and DDA works, new fixtures, fittings and finishes, any modified services; | Not applicable |
| d) the attempts to avoid and/or mitigate the impact on the heritage significance or cultural heritage values of the site and the surrounding heritage items; and | Chapter 10 |
| e) justification for any changes to the heritage fabric or landscape elements including any options analysis. | Chapter 10 |

To inform preparation of the SEARs, the DPE invited relevant government agencies to advise on matters to be addressed in the EIS. These matters were taken into account by the Secretary for DPE when preparing the SEARs.

### 1.3.2 Other relevant reports

This SoHI has been prepared with reference to other technical reports that were compiled as part of the EIS. The other relevant reports referenced are listed below.

- Aboriginal Cultural Heritage Assessment (EMM 2022) – Appended to the EIS; and
- Surface Water Assessment (EMM 2022) – Appended to the EIS.

## 1.4 Acknowledgements

This report was prepared with the assistance of many people involved in this project. EMM would like to express gratitude to the Bill Webber, who grew up on *Paradise* in the project footprint, and his son Noel Webber for facilitating the interviews. Their generosity with time, knowledge and access is very much appreciated; particularly as initial field surveys for the project was being undertaken during severe drought. EMM would also like to thank Campbell and Narree McIntosh – owners of Cadell's *Dungowan Station* for their knowledge and hospitality.

# 2 Description of the project

This chapter provides a summary of the Dungowan Dam and pipeline project. It outlines the permanent infrastructure required to operate the project, as well as the key construction elements and activities required to construct the project. A comprehensive and detailed description of the project is provided as Appendix B.1 of the EIS, which has been relied upon for the basis of this technical assessment.

## 2.1 Project overview

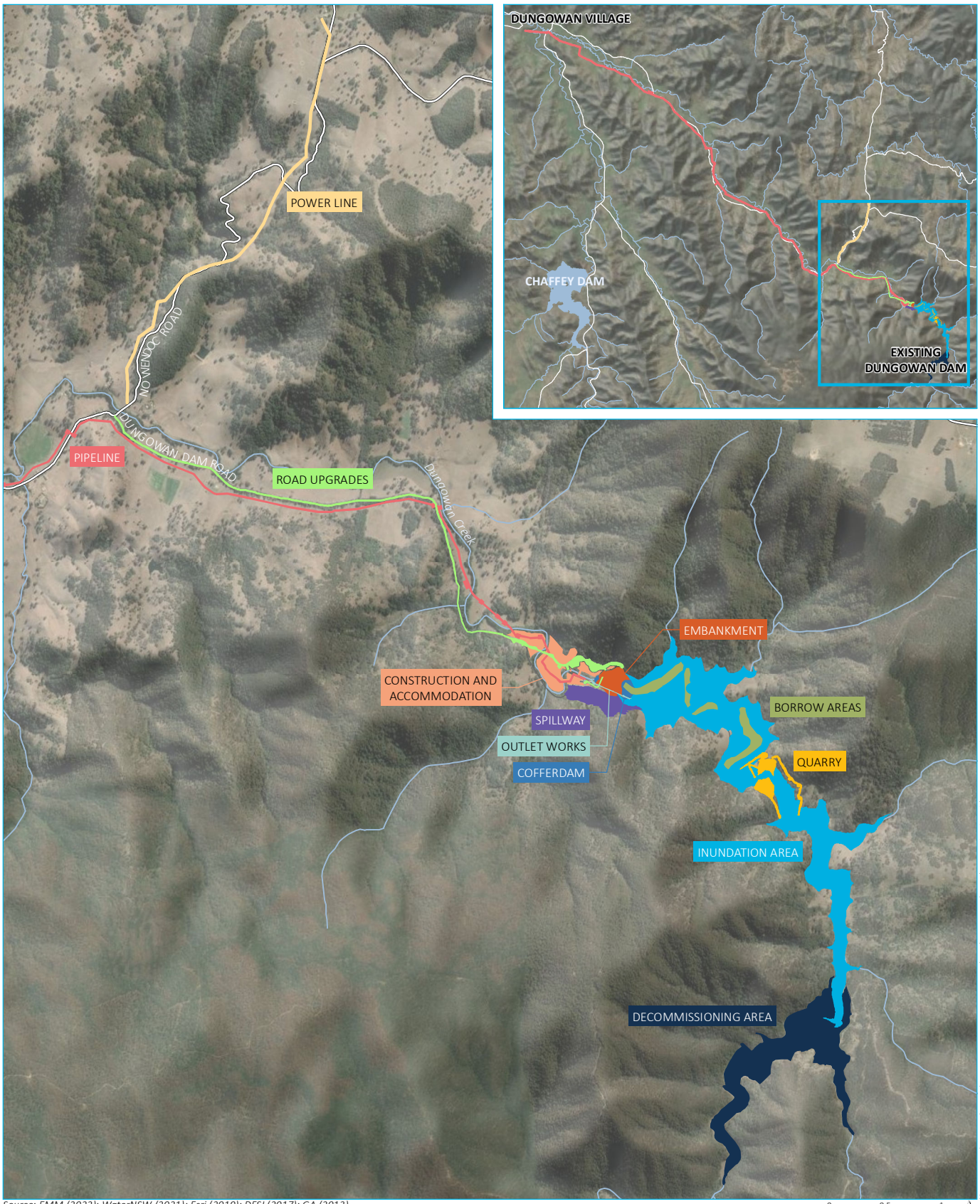
Water Infrastructure NSW proposes to build a new dam at Dungowan (new Dungowan Dam) about 3.5 km downstream of the existing Dungowan Dam and an enlarged delivery pipeline from the new Dungowan Dam outlet to the tie in point to the existing pipeline from Dungowan Showground to the Calala WTP. The existing pipeline from Dungowan Showground to the Calala WTP is not part of the Dungowan Dam and pipeline project. A summary of project elements is provided in Table 2.1. An overview of the project is provided in Figure 2.1.

**Table 2.1 Overview of the project**

| Project element | Summary of the project |
|---|---|
| New Dungowan Dam infrastructure | Earth and rockfill embankment dam with height of ~58 m and a dam crest length of ~270 m. |
| | Storage capacity of 22.5 GL at full supply level (FSL) of RL 660.2 m AHD. |
| | The new Dungowan Dam on Dungowan Creek has a catchment size of 175 $km^2$ and is part of the Peel Valley and Namoi River catchment. |
| | Inundation extent (to FSL) of 130 ha (1.3 $km^2$). |
| | Spillway to the south of the dam wall including an approach channel, uncontrolled concrete ogee crest, chute and stilling basin. Free standing multiple-level intake tower connected with a bridge to the embankment, diversion tunnel with outlet conduit, valve house and associated pipework and valves. |
| | A permanent access road over the Dam crest to the valve house for operation and maintenance. |
| | Water diversion works including a diversion tunnel and temporary pipeline and upstream and downstream cofferdams to facilitate construction of the dam wall embankment. |
| Pipeline infrastructure | 31.6 km of buried high density polyethylene (HDPE) pipe between 710 mm to 900 mm nominal diameter. |
| | Maximum 71 ML/day from the proposed dam to the junction with the pipeline from Chaffey Dam to the Calala Water Treatment Plant, to replace the existing 22 ML/day pipeline. The pipeline would connect to the valve house on the left abutment of the embankment. Valve infrastructure would include control valves installed in two above ground buildings along the pipeline. |
| | 10 m wide easement for the 31.6 km length of the pipeline. The replacement pipeline extends from the new Dungowan Dam to a connection point with the existing pipeline between Dungowan Showground and Calala WTP. |
| Ancillary infrastructure and works | Road works to improve existing roads to provide construction access, temporary establishment and use of a construction compound, an accommodation camp, two upstream quarries and four borrow areas within the inundation area. |
| | A new 4.2 km long 11 kV overhead powerline (including a new easement and access track) connecting to an existing overhead line approximately 6 km north west of the dam. The existing overhead line that extends approximately 13.2 km to the Niangala area would also require minor upgrades, including re-stringing of new overhead wiring and replacement of some poles. |
| Decommissioning of existing Dungowan Dam | Dewatering of existing dam, removal of existing Dungowan Dam infrastructure and full height breach of the existing Dungowan Dam wall. Rehabilitation of inundation area of the existing Dungowan Dam. |

## Table 2.1 Overview of the project

| Project element | Summary of the project |
|---|---|
| Disturbance | Areas of disturbance have been identified based on the direct impacts of the project. There is some overlap in the areas disturbed during construction and operation, with a resulting total disturbance area proposed for the project of 315 ha (project footprint).<br>Disturbance would occur in a staged manner, with construction requiring disturbance of approximately 315 ha (construction footprint). Following construction and once rehabilitation is completed, there would be a permanent disturbance of approximately 158 ha comprising the inundation area and permanent infrastructure (operational footprint). |
| Construction | Construction duration of approximately 6 years. |
| | Construction workforce of approximately 125 workers at construction peak. |
| Operation | WaterNSW will be responsible for management, operation and general maintenance of the new dam. Tamworth Regional Council will be responsible for the management, operation and general maintenance of the pipeline. Public use and access to the dam would not be permitted and there would be no public facilities available during operation. |
| | One to two new full time workers plus part time work for existing WaterNSW operations team.<br>Due to the new Dungowan Dam being prioritised over Chaffey Dam for Tamworth's future water supply, the water reserved for town water in Chaffey Dam would increase from 14.3 GL to 30 GL to ensure that water is set aside to meet Tamworth's town water supply water demand in years when rainfall is low. |
| Design life | 100 years for zoned earthen embankment, structural concrete elements of the dam and the pipeline. 15 to 50 years for other non-structural project elements and pavements. |
| Assessment period (operational) | The assessment end point is when the water system performance reaches a level when an additional water supply option or change to the Water Sharing Plan is required. This has been estimated to be when the mean average annual water demand from Tamworth increases to 11 GL/year. |

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*Source: EMM (2022); WaterNSW (2021); Esri (2019); DFSI (2017); GA (2013)*

0 0.5 1 km

GDA 1994 MGA Zone 56

N

KEY

- Inundation area
- Borrow areas
- Construction and accommodation camp
- Outlet works
- Cofferdams
- Embankment
- Quarries
- Spillway
- Road upgrade
- Decommissioning area
- Power line footprint
- Pipeline construction footprint

Existing environment

- Major road
- Minor road
- Named watercourse
- Named waterbody

## Project overview

Dungowan Dam and pipeline project

Figure 2.1

EMM creating opportunities

# 3 Statutory framework

## 3.1 Legislation

In NSW, heritage items and relics, that is archaeological sites assessed to be of local or State significance, are protected by two main pieces of legislation: the EP&A Act and the NSW *Heritage Act 1977* (Heritage Act). An additional layer of protection is added, in certain circumstances, by the EPBC Act.

### 3.1.1 Environmental Planning and Assessment Act 1979

The EP&A Act establishes the framework for formally assessing cultural heritage values as part of the development and assessment process. The EP&A Act requires that environmental impacts are considered before development and that appropriate measures to avoid, mitigate or ameliorate impacts are developed; this includes impacts on cultural heritage items and places as well as archaeological sites and deposits.

Under the EP&A Act, local governments are directed to prepare planning instruments, such as LEPs and Development Control Plans (DCPs), which regulate land use and planning. These documents provide guidance on planning decisions and identify environmentally sensitive areas, which includes identification of heritage items. Where a project is being assessed as SSI, approval by the relevant local council is not required, however listed heritage items require assessment and management if they are affected by a proposal.

### 3.1.2 Heritage Act 1977

The Heritage Act is keystone State legislation that protects and manages items of environmental heritage that are listed on the State Heritage Register (SHR) and/or are assessed as 'relics'. Items listed on the SHR are given automatic protection under the Heritage Act against any activities that may damage an item or affect heritage significance.

Section 170 of the Heritage Act requires that State government agencies maintain a Heritage and Conservation Register that includes all items of environmental heritage that have been identified by the agency, or that are listed on the SHR, an environmental planning instrument, or which may be subject to an interim heritage order that are owned, occupied or managed by that government body. These registers provide a list of known heritage items to be considered during a historical heritage assessment.

Part 6 of the Heritage Act provides protection for 'relics', regardless of their listing status. It applies to all land in NSW that is not included in the SHR. Section 4(1) of the Heritage Act defines a 'relic' as follows:

A 'relic' means 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.

Section 139(1) of the Heritage Act states that:

> A person must not disturb or excavate any land knowingly or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, damaged or destroyed unless the disturbance or excavation is carried out in accordance with an excavation permit.

Approval under section 139(1) of the Heritage Act is not applicable for projects assessed as CSSI in accordance with section 5.23 of the EP&A Act. However, where unanticipated relics are discovered, notification to the Heritage Council is regulated under Section 146 of the Heritage Act.

Section 146 Notification of discovery of relic:

*A person who is aware or believes that he or she has discovered or located a relic (in any circumstances, and whether or not the person has been issued with a permit) must:*

*a) within a reasonable time after he or she first becomes aware or believes that he or she has discovered or located that relic, notify the Heritage Council of the location of the relic, unless he or she believes on reasonable grounds that the Heritage Council is aware of the location of the relic, and*

*b) within the period required by the Heritage Council, furnish the Heritage Council with such information concerning the relic as the Heritage Council may reasonably require.*

The Heritage Act identifies the category of 'works', which refers to historical infrastructure, and is viewed as separate to that of archaeological 'relics' under the Heritage Act. 'Works' may be buried, and are therefore archaeological in nature, but exposing a 'work' does not trigger reporting obligations under the Heritage Act unless it is of demonstrable significance.

### 3.1.3 Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act provides a legal framework to protect and manage nationally and internationally important heritage places, as well as flora, fauna, ecological communities and water resources which are defined as Matters of National Environmental Significance (MNES) under the EPBC Act. The EPBC Act identifies nine MNES, including world heritage properties and places listed on the National Heritage Register.

The EPBC Act establishes the National Heritage List (NHL), Commonwealth Heritage List (CHL) and the Register of the National Estate. The Register of the National Estate (RNE) is a non-statutory register.

Under the EPBC Act, an action that may have a significant impact on a MNES is deemed to be a 'controlled action' and can only proceed with the approval of the Commonwealth Minister for the Environment. An action that may potentially have a significant impact on a MNES is to be referred to DAWE for determination as to whether or not it is a controlled action. If deemed a controlled action the project is assessed under the EPBC Act for approval.

## 3.2 Identifying listed heritage items

Listing on statutory registers provides a basis under which the item or place is protected, and change is managed through project approval. Statutory listings provide legal protection for heritage items under the legislation outlined above.

Statutory registers reviewed as a part of this assessment include:

- NHL – the register is made under the EPBC Act.
- CHL – the register is made under the EPBC Act.
- SHR – this register is made under Part 3A of the Heritage Act. Items on the SHR undergo a rigorous assessment process and must reach a high significance threshold to be included. Inclusion on the SHR is directed by the Minister for Heritage.
- s170 register – this register is made under Section 170 of the Heritage Act. It is a register of heritage items that are owned or managed by state government authorities. Items on the s170 register may also be listed on other registers. Demolition, change to fabric and change of ownership require notification to the Heritage Council of NSW.

- Schedule 5 of the *Tamworth Regional Local Environmental Plan 2010* (Tamworth Regional LEP). The EP&A Act sets the provisions for the making of LEPs. Most LEPs are prepared to a standard template, which includes environmental heritage in Schedule 5 (the heritage schedule). Where an item is included in the heritage schedule, development applications must include an assessment of impacts to the item. Where a project is being assessed as SSI, approval by the relevant council is not required but the items require assessment and management if they are affected by a proposal.

- State Heritage Inventory (SHI), which was cross-checked with Schedule 5 of the Tamworth Regional LEP and the s170 register. The SHI is not a single statutory register, but a central collection of state listed statutory heritage items maintained by Heritage NSW.

Non-statutory listing is an acknowledgment of a site's or place's importance to sections of the community. Listings on such registers do not place legal requirements on development but nevertheless influence the future of such listed items. Non-statutory registers reviewed as a part of this assessment include:

- National Trust of Australia, NSW (NT) – the NT is made up of autonomous state chapters. Each chapter is a community-based and non-government organisation, with a mandate to conserve and promote Australia's natural and cultural heritage. Classification by NT is a strong acknowledgment of heritage significance and while statutory constraints are not applicable, classification offers protection through visibility and community action.

- Register of the National Estate (RNE) – the RNE is an archived list of heritage items that were protected under the now repealed Commonwealth *Heritage Commission Act 1975*, which was replaced by the EPBC Act. While many items were transferred from the RNE to the NHL or CHL, those that were not remain on the RNE as an indication of their heritage value.

# 4 Assessment methods

This historical heritage assessment and SoHI has been prepared in accordance with the relevant government assessment requirements, guidelines and policies. This report and associated field survey were undertaken using the principles of *The Australian International Council on Monuments and Sites, Charter for Places of Cultural Significance* (also known as the *Burra Charter,* Australia ICOMOS 2013) and the New South Wales (NSW) *Heritage Manual* (Heritage Office 1996 with regular additions). Use of these documents satisfies the requirements of the SEARs.

The *Burra Charter* defines the concept of cultural significance as 'aesthetic, historic, scientific, social or spiritual value for past, present or future generations' (Australia ICOMOS 2013, Article 1.2). It identifies that conservation of an item of cultural significance should be guided by the item's level of significance.

The *Heritage Manual* comprises the following guidance documents:

- *Statements of Heritage Impact Guidelines* (Heritage Office 2006);
- *Investigating Heritage Significance* (Heritage Office 2004);
- *Assessing Heritage Significance* (Heritage Office 2001); and
- *Assessing Significance for Historical Archaeological Sites and 'Relics'* (Heritage Branch Department of Planning 2009).

These documents have been used to guide this historical heritage assessment and SoHI.

## 4.1 Research sources

Research for this report was conducted using various sources including online archives, the State Library of NSW and through interviews. Included are the Historic Lands Records Viewer, Tamworth Regional Council sources, Australian Dictionary of Biography, and the Heritage NSW website. The list of references is provided at the end of this report.

## 4.2 Field survey methods

The EMM historic heritage team first visited the project area in February 2020 in a familiarisation exercise conducted during the preparation of the Dungowan Dam and pipeline project Scoping Report. This section details subsequent field survey completed for the preparation of this SoHI.

### i Objectives

The purpose of the field survey was to record historical cultural heritage that will be affected in some way by the project and to record features of interest that may have significance and would therefore require management before construction and demolition begins and before the valley is inundated.

In order to assess features for landscape values, potential and significance, the team returned to the project area to revisit sites that were identified for detailed recording and research during the initial familiarisation exercise. The field survey area (or survey area) is the geographic extent of survey completed as described in Chapter 7 of this report.

### ii Data collection methods

Site locations and their details were recorded with digital tablets using site recording forms created by EMM on the Survey123 application for ArcGIS (Esri© software). The digital tablets had a location accuracy of up to ±3 m which is similar to hand-held non-differential GPS units (~5 m). The Survey123 forms allowed for a site's location, details and representative photographs to be linked together, which avoids potential post-fieldwork issues around data integrity.

### iii Survey plan

Field survey was conducted on four separate occasions:

- February 2020 as a familiarisation exercise (Pamela Kottaras);
- June 2020 as part of the Aboriginal heritage survey (Taylar Reid, Georgia Burnett and Anthony Dakhoul);
- September 2020 to re-inspect areas of interest as indicated by documentary sources, previous survey and oral history (Pamela Kottaras and Anthony Dakhoul); and
- November 2021 survey of revised pipeline alignment areas (Pamela Kottaras and Anthony Dakhoul).

Survey was targeted for the most part and guided by features that indicated an earlier structure, or by standing structures. Field time was a constraint; therefore 100% coverage was not possible, but information was also provided by the field team on survey with the Aboriginal parties registered for the Aboriginal Cultural Heritage Assessment (EMM 2022). The field surveys are documented in Annexure A.

Further field investigations were undertaken in February and March 2022 with respect to the identification of a grave and human remains. This investigation is described in detail in Section 7.5.2.

## 4.3 Consultation with Heritage NSW

A teleconference meeting was held with EMM, WaterNSW and Heritage NSW representative Dr Siobhan Lavelle on 4 November 2020. The purpose of the meeting was to discuss the assessment approach with attention paid to the purported burial on the property called *Paradise* (detailed further in Section 7.5) and draft management measures.

An additional meeting was also held with Heritage NSW on 17 May 2022 regarding the management of skeletal remains found during the investigation of the purported grave of John Wilson. Further discussion of this issue is provided in Section 7.5.2.

# 5 Existing environment

## 5.1 Introduction

The environmental characteristics of any area influenced the way people used the landscape. In the past, the availability of resources such as water, flora, fauna, stone material and topography played a substantial role in the choice of camping, transitory movement and ceremonial areas used by Aboriginal people.

Migrants to the early colony looked for the same landscape characteristics but manipulated their environment in ways that left more obvious marks. Water, topography, and suitable soils to grow crops and animals was sought after. Therefore, understanding environmental factors assists with predicting where sites are likely to occur. Additionally, natural and cultural (human-made) site formation processes that occur after the deposition of archaeological material influence the way archaeological material is distributed and preserved across a landscape.

## 5.2 Landscape overview

The landscape of the project area is formed by two general types: a narrow valley and a wider valley through which Dungowan Creek runs. The location of the new Dungowan Dam is in the narrow valley carved out by Dungowan Creek with steep, forested hills on either side. The valley widens to the north-west and then flattens out as it gets closer to Tamworth. Detailed geological and hydrological descriptions are provided in the Aboriginal Cultural Heritage Assessment (EMM 2022); the information from which has been summarised in this section.

The project area is dominated by alluvial flats running north west-south east and is characterised by low density residential, cleared pastures and/or native revegetation. The valley is generally flat to gently undulating, with the occasional low hilly relief. The valley edges where geological exposures and/or outcrops would be expected are generally several hundred metres or more from the project footprint.

Prior to European settlement, the vegetation of the subregion was dominated by the woodlands on the lower slopes, box gums on the flats, and river oaks and gums along the major waterways. Stringybark is prevalent on steeper slopes, particularly in the east, while ironbark thrives on basalt caps, and cypress pine and kurrajong flourish on stony areas in the west and north. Much of this vegetation has been cleared on deep fertile soils of the wheat-sheep belt. This is the case along Dungowan Creek where the former residents grew their crops.

## 5.3 Heritage listings

The project footprint is in a landscape that retains evidence of the earliest colonial period to the present day. Some of these values have been recognised in the Tamworth Regional LEP while others were documented during the investigation for this assessment.

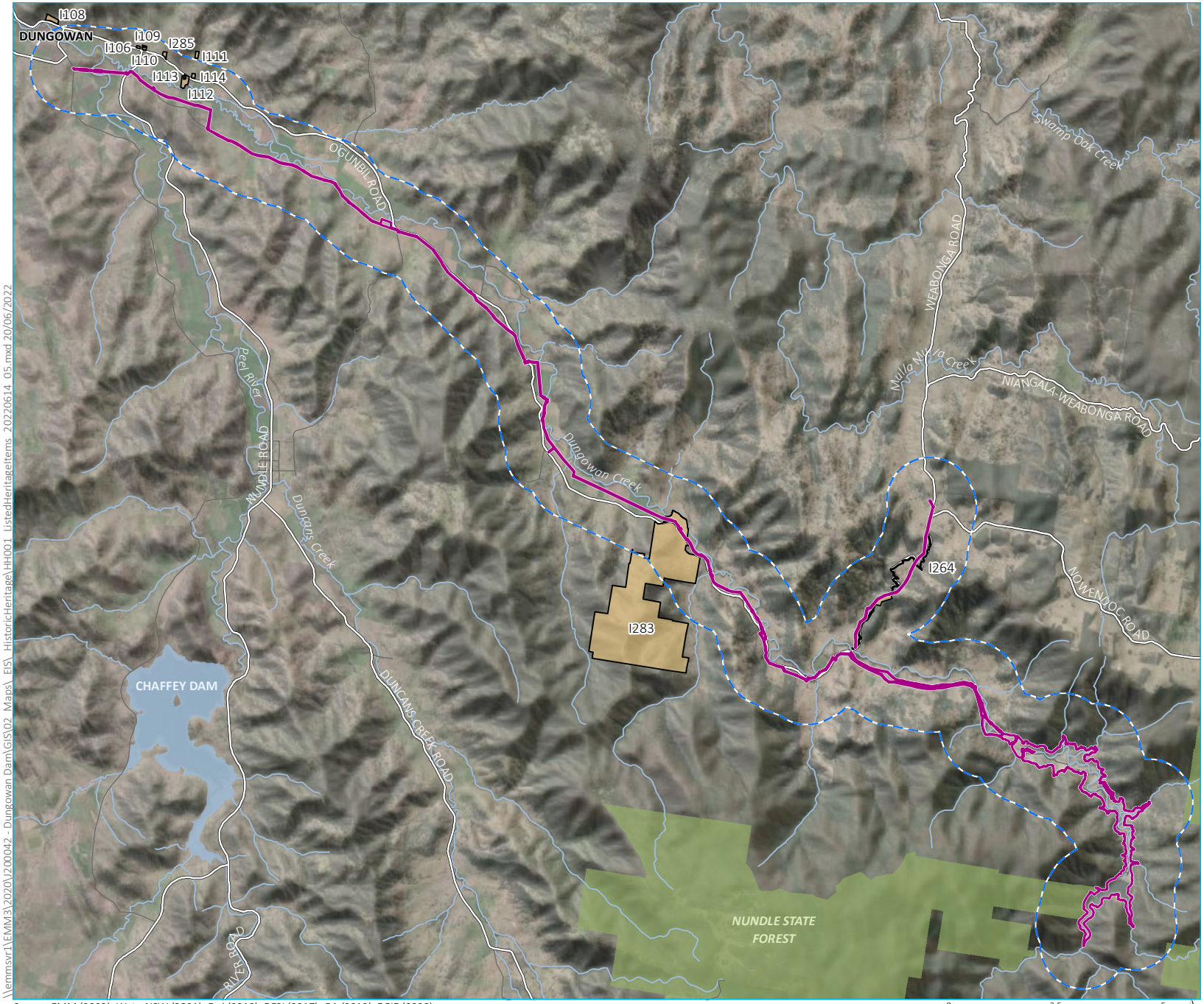
In summary, within approximately 1 km of the project footprint there are:

- no heritage items on the National Heritage List;
- no heritage items on the Commonwealth Heritage List;
- no heritage items on the State Heritage Register;
- one heritage item on the NSW Department of Education s170 register; and
- 11 items on the Tamworth Regional LEP.

Table 5.1 is a compilation of listed heritage items that occur within approximately 1 km of the project footprint. The locations of listed heritage items are shown in Figure 5.1.

**Table 5.1 Listed heritage items in proximity of the project footprint**

| Item | Address | Register | Item ID | Approximate distance from project footprint |
|---|---|---|---|---|
| Ogunbil Brick Shearing Shed and Silo | Ogunbil Road, Ogunbil. Lots 158 and 234, DP 755350; Lot 1, DP 807846 | Tamworth Regional LEP | I283 (DH09) | Pipeline partially within the footprint. |
| Port Stephens Cutting | Nowendoc Road | Tamworth Regional LEP | I264 (DH08) | Item is within the footprint of the new overhead powerline.<br>0.130 km north-east of pipeline. On the north side of Dungowan Creek. |
| Dungowan Store and Bakery | Nundle Road, Dungowan. Part Portion 22, DP 755337; Lot 1, DP 254341 | Tamworth Regional LEP | I106 | 0.559 km north of pipeline and north of Nundle Road. |
| Former Butchery | Nundle Road, Dungowan. Lot 1, DP 375009 | Tamworth Regional LEP | I108 | 0.768 km north of pipeline; north of Peel River. |
| Former Manvell's Bakery | Nundle Road, Dungowan. Lot 1, DP 307297 | Tamworth Regional LEP | I109 | 0.640 km north of pipeline and north of Ogunbil Road. |
| Roman Catholic Church, former Catholic Convent, former Catholic School Site | Nundle Road, Dungowan. Lot 2, DP 24002; Lot 1, DP 950284 | Tamworth Regional LEP | I110 | 0.568 km north of pipeline and north of Ogunbil Road. |
| Dungowan Cemetery | Ogunbil Road, Dungowan. Lot 139, DP 755337 | Tamworth Regional LEP | I111 | 1.035 km north of pipeline and north of Ogunbil Road. |
| Dungowan Memorial Hall | Ogunbil Road, Dungowan. Lot 35, DP 755337 | Tamworth Regional LEP | I112 | 0.260 km north of pipeline and south of Ogunbil Road. |
| St Thomas' Anglican Church | Ogunbil Road, Dungowan. Lot 143, DP 755337 | Tamworth Regional LEP | I113 | 0.485 km north of pipeline and south of Ogunbil Road. |
| Dungowan Public School | 137 Ogunbil Road, Dungowan. Lots 1 and 38, DP 755337 | Tamworth Regional LEP | I114 | 0.550 km north of pipeline and north of Ogunbil Road. |
| Dungowan Public School – Building B00A | As above | s170 Register (Department of Education) | - | As above. |
| Old Piallamore School Building | Nundle Road, Dungowan. Lot 183, DP 733065 | Tamworth Regional LEP | I285 | 0.782 km north of pipeline and north of Ogunbil Road. |




KEY

- Project footprint
- 1 km buffer around project footprint
- Major road
- Minor road
- Named watercourse
- Named waterbody
- State forest

Registered heritage sites

- Item - General

Source: EMM (2022); WaterNSW (2021); Esri (2019); DFSI (2017); GA (2013); DPIE (2020)

0 2.5 5 km

GDA 1994 MGA Zone 56

N

\\emmsvr1\EMM3\2020\200042 - Dungowan Dam\GIS\02 Maps\ EIS\ HistoricHeritage\HH001 ListedHeritageItems 20220614 05.mxd 20/06/2022

Listed heritage items

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure 5.1

EMM
creating opportunities

# 6 Historical Summary

## 6.1 Historical themes

The Australian and NSW heritage systems employ a series of historic themes to guide the understanding of history and historical investigation in the nation and state. As part of any historic heritage assessment, it is important to review the historic themes when undertaking research on an area or place to provide proper context. The state and national themes are complementary to enable the historian to present a unified understanding of how an area fits into Australian history. The historic themes are also an important guide when assessing an item's heritage significance. They provide information on how an item may be historically significant at the local, state or national level.

Historic themes also help to develop interpretation and management strategies for items of heritage significance. A full list of these themes can be found on the Heritage NSW website (Heritage Council of New South Wales 2001). Historic themes in the study area were identified based on the historical background (as described below) and the results of the historical survey (Section 7.5). The Australian and NSW historic themes relevant to the project footprint that have been used in this report are listed in Table 6.1.

**Table 6.1 Historic themes**

| Australian historic themes | NSW historic themes |
|---|---|
| 2. Peopling Australia. | 2. Aboriginal cultures and interactions with other cultures; convict; and migration. |
| 3. Developing local, regional and national economies. | 3. Agriculture; commerce; environment; cultural landscape; exploration; and pastoralism. |
| 4. Building settlements, towns and cities. | 4. Land tenure. |
| 5. Working. | 5. Labour. |
| 8. Developing Australia's cultural life. | 6. Domestic life. |

## 6.2 Historical Context

### 6.2.1 The environment of pre and early contact

The landscape of the project area was first described by explorer John Oxley in 1818. Oxley crossed a rich plain to come to the Peel River on the 1st of September 1818 (Ferry 2002, p.21), describing the region as:

> between the bounding hills [the landscape] is not altogether level, but rises into gentle inequalities, and independently of the river is well watered; the grass was most luxuriant; the timber good and not thick… (Oxley in Ferry 2002, p.27)

The landscape was noted to be suitable for sheep pasture as even the hills were rich in resources (Ferry 2002, p.27). Aboriginal people had known the richness of the landscape around the Peel River for thousands of years.

The project area falls largely within the traditional country of the Gamilaroi language group (also Kamilaroi; Tindale (1974) recorded over 30 spellings). The country of the Gamilaroi is recorded to extend as far west as Lightning Ridge, with the Tamworth region forming the easternmost border (Tindale 1974). Tindale (1974) estimates that the territory of the Kamilaroi extended across an area approximately 75,400km$^2$ and represents one of the largest tribes in eastern Australia, surpassed only by the Wiradjuri to the south. The project area is on the boundary of Gamilaroi territory and so may also have associations with the Nganyaywana language group to the north, Birpai language to the east and Geawegal language to the south. It is important to remember that these groupings are drawn from ethnographic accounts made after European contact and often after significant social disruption due to disease and displacement. As a result, this information is often contentious, particularly in relation to language group boundaries. Therefore, it is likely that language group boundaries were far more diffuse than the arbitrary demarcations drawn by colonial observers.

There are two subdivisions within the Gamilaroi tribal group; the Corbon Gamilaroi (meaning "the people of the greater country of Gamilaroi") whose territory included the Liverpool Plains and beyond, including the project area, and the Gammon Gamilaroi (meaning "the people of the lesser country of the Gamilaroi") whose territory included the more southern area from Murrurundi to a very narrow corridor south into the Hunter Valley (Milliss 1980; Telfer & Milliss 1980). The clans within the Gamilaroi language group that lived around Tamworth, and by extension at least part of the project area, were reported to have been the Goonoo Goonoo, Gunnedah, Manilla and Moonbi peoples (Wilson & McAdam 2000, p.10). These names were given to the clan by European observers, the people of the region called themselves the *murri* (Boileau 2007, p.7). In 1842, it was estimated by Edward Mayne, the first Commissioner of Crown Lands and 'Protector' of Aborigines of Liverpool Plains, that there were 4,000 Aboriginal people living between the Peel, Namoi and Gwydir Rivers (Mayne 1942, p.169–171). However, this number reflects a population severely impacted by at least two decades of direct European contact, which brought both the loss of resources and the introduction of diseases.

William Telfer junior's (Telfer & Milliss 1980) *Wallabadah Manuscript*, which recounts memories from his childhood around the Peel River in the 1840s, described the Aboriginal people who lived near Tamworth as "a quiet race" (in Milliss 1980: 20). Contrastingly, Telfer noted the area around Dungowan Creek, a few kilometres to the south east, as "one of the wildest parts of Australia" and the Aboriginal inhabitants of the area are described as wild and savage as the landscape (Milliss 1980, p.20).

The Corbon Gamilaroi likely moved along the landscape, following the major watercourses in the drier months and the minor tributaries when adequate rainfall could support them. The Gamilaroi employed a large suite of tools, sewed clothing and rugs from animal skins and wove bags and nets (McBryde 1974, p.13). Ceremonial sites including Bora rings, stone pathways, carved trees and rock art, are found throughout the Tablelands. The region is cosmologically connected to Baimai (creator god), Birrahgnooloo (his emu-wife) and Daramulan (son of Baimai) (Flood 2010, p.238). European settlement had a heavy impact on the traditional lifeways of the Corbon Gamilaroi of the Peel River and surrounds.

### 6.2.2 Exploration and displacement of Aboriginal people

John Oxley's 1818 expedition to the northern interior of New South Wales brought the first Europeans into the Peel River region. Later excursions briefly passed through the region including Allan Cunningham's 1827 expedition and Thomas Livingstone Mitchell's 1831 expedition (Ferry 2002, p.23–24). Mitchell reached Wallamoul, north of Tamworth, and noted the Aboriginal group here called the Peel River "Callala" (Ferry 2002, p.23–24).

From the late 1820s the Colonial Government attempted to restrict settlement outside of the approved colony boundaries, yet the enforcement of regulation in rural regions proved difficult (Boileau 2007, p.32). By 1827 squatters had (illegally) established themselves along the Peel River, with settlement focusing on present-day Tamworth (Stewart 1999, p.54). Squatters took up prime locations along waterways and cleared land for their cattle and sheep (Boileau 2007, p.11). By May of 1827, 10,000 sheep were spread across the Liverpool Plains (Milliss 1980, p.21). The Gamilaroi had also focused their occupation of the region along the waterways so as the squatters moved in the Gamilaroi were forced out. Squatting also deprived access to hunting grounds and disturbed the ecology of the region, decreasing native resources. Pastoralism at an intensive scale would soon come to the area.

In 1830 the Australian Agricultural Company (AAC) was seeking alternative grazing land after a survey of their one million-acre (405,000 ha) grant at Port Stephens returned unfavourable results (ADB Online, *Dangar, Henry (1796–1861)*). The AAC was a British-based investment firm established to take advantage of convict labour and large government land grants in order to produce wool for the British market (Stewart 1999, p.41). On the accounts of Oxley and Cunningham, Henry Dangar was sent to survey the newly opened land on the Liverpool Plains. Dangar surveyed the land around the Peel River, in the vicinity of present-day Tamworth and Nundle, passing the confluence of the Peel River and Dungowan Creek (Ferry 2002, p.22). The route of the expedition was re-traced by Dangar with the AAC Commissioner William Parry in 1832 and land suitable for grazing was chosen for a possible claim (ADB Online, *Dangar, Henry (1796–1861)*; *Parry, Sir William Edward (1790–1855)*). After negotiations with Governor Burke the AAC forfeited half a million acres (200,000 ha) of their Port Stephens claim for 312,538 acres (126,480 ha) on the Western banks of the Peel River, stretching from the headwaters of the Peel to north of Nundle (Ferry 2002, p.28–29). The Peel River estate, later known as Goonoo Goonoo, was taken up in January 1834 and the new commissioner Colonel Dumaresq established its headquarters at the junction of the Peel River and Goonoo Goonoo Creek, naming the site Tamworth (Ferry 2002, p.27, 29). Many of the original squatters of the region were forced to claim land elsewhere.

The AAC performed further surveys of the land around the holding in 1834, probably with plans of future expansion (McClelland 1995, p.2). John Armstrong was commissioned to survey and map the Dungowan Creek valley to the south east of the station. Upon returning to Tamworth Armstrong noted the valley had some of the best grazing land in New England (McClelland 1995, p.2).

By 1834, at least 20 illegal squatters had made claim to large tracts of land around the Peel River Valley and were already grazing sheep on prime river flats, west of the Peel River. Pastoral runs became the centre of interaction between Aboriginal people and European settlers and tensions between the two groups mounted through the early to mid-nineteenth century. During the 1830s, the Tablelands formed one corner of the government's Mounted Police who were often responsible for the escalation of armed conflict and violence in rural districts. These included massacres that were increasingly documented through the broader region, with the closest at Waterloo Plains (>45 km north of Tamworth) in 1835 (Ryan et al 2019). It has been reported that the Peel River region was comparatively free of violent confrontations; Telfer notes the reason for this was that the managers of the AAC and other squatters treated the Aboriginal population humanely (Milliss 1980, p.20). A single act of violence was recorded in the area with grazing superintendent of the AAC speared by a group of Aboriginal men and dying of his wounds in 1845 (Davidson (ed) 2005, p.6). It appears that relationships between the Gamilaroi and European settlers of the Peel River region generally measured from friendly to ambivalent (Boileau 2007, p.10; Davidson (ed) 2005, p.8). More recent study may result in different findings.

Tamworth was officially proclaimed a town in 1850 (Boileau 2007, p.21) and, by the 1850s the ravages of disease, particularly small-pox and alcoholism, as well as the dispossession of land had led to a swift decline in the Aboriginal population of the Peel Valley and increased a reliance on European settlers for survival (Milliss 1980, p.20). In 1851, the town of Tamworth had a white population of over 250. At around the same time, the number of Aboriginal people in the New England Tablelands region was estimated by Commissioner George McDonald to be around 600 (McDonald 1845 in Hudson 2006). In June of 1851 gold was found within 19 km of Tamworth, and while the AAC raised wages in an attempt to keep their European shepherds many in the region left to seek their fortune (Milliss 1980, p.67). The dearth of white labour meant station holders looked to Aboriginal people to fill the labour gap (Milliss 1980, p.67). By 1852 the majority of the Aboriginal men of the Peel river region were said to be working as shepherds for squatters (Milliss 1980, p.20). Working on stations allowed Gamilaroi people to have access to their traditional lands.

Historian Thomas McClelland (1995, p.10–11) has published the story of a haunted shepherd's hut on *Dungowan Station*, which supposedly dated from 1860. In this narrative, a stockman returns to the headstation and tells the manager that he heard ghostly cooees coming from the hut. The speech syntax of the stockman reflects the corrupted English commonly used in the nineteenth century writing to represent Aboriginal people.

Populations of the Gamilaroi continued to decrease so the Aboriginal Protection Board, established in 1883, created supervised estates or 'Aboriginal stations' throughout the Tableland (Boileau 2007, p.13). The nearest reserve to the study area was located at Walhallow (established 1895) approximately 60 km south west of Tamworth. The fencing of the stations over the 1880s hindered traditional seasonal migration across country and emphasised European ownership of the land (Davidson (ed) 2005, p.28). By the late nineteenth century, many of the surviving Aboriginal people of the Peel River clans were reported to be living in "a blacks' camp at Calala" (Davidson (ed) 2005, p.7). People of the camp became itinerant workers and came into Tamworth to collect blankets and rations (Milliss 1980, p.21). By 1903 it is recorded that there were few Aboriginal people left in the district (Milliss 1980, p.21).

### 6.2.3 Squatting

"Squatting" was a method of pastoral landholding that occurred from the 1820s, whereby sheep and cattle farming was established on Crown land outside the limits of location. Governor Thomas Brisbane (from 1821–1825) instituted the "ticket of occupancy" to give graziers already occupying land some security (Starr and Nicholas 1978, pp.9–10). This new system of pastoral licences allowed squatters to occupy lands outside the settled districts, provided they did so for pastoral purposes. The squatters paid an annual fee to the Crown.

Off the back of the depression of the 1830s, Governor Gipps tried, unsuccessfully, to control government lands more effectively. Squatters who had weathered the storm of the broken economy were demanding secure title to their vast runs. By 1847, the squatters had succeeded in their campaign to obtain leases with rights to pre-emptive purchase and compensation for their improvement of the land (Stuart 1999, p.2). An Order in Council provided for 'pastoralists' (squatters) to hold land on eight or fourteen-year leases for an annual rent. The Crown continued to hold a right of resumption. This new form of Australian tenure, the pastoral lease, had not existed in England and was a result of the 1847 Order in Council rather than common law (Esmaeili and Grigg 2016, p.184).

In 1861, land ownership in New South Wales was transformed. John Robertson, Premier of NSW, in order to break the long-established monopoly of the squatter pastoralists, forced two Acts through Parliament to open up free selection of Crown Land; the *Crown Lands Alienation Act 1861* and the *Crown Lands Occupation Act 1861* collectively known as the 'Robertson Land Acts'. The Acts permitted any person (free selectors) to select up to 320 acres on the condition of payment of a deposit of one quarter of the purchase price after survey and living on the land for three years. As a result, conflict between squatters and selectors increased, corruption and scheming in acquiring land became rife, and the close settlement of pastoral lands still available for use by Aboriginal people, further restricted their access to land (MoAD n.d.).

This process of creating squatting landscapes had been driven by the settlers' desires to claim their land, the Lands Acts and regulations around improvement, and the environment itself. Settlers built huts, erected fencing, ringbarked trees and cleared the land. Huts were improved or abandoned, and larger, more modern, dwellings and farm infrastructure was built, trees were planted and grew tall, fences were replaced, and dry-stone walls were built and dismantled. The resulting landscapes were shaped by both broader economic and political processes and by the responses of the individuals (Stuart 1999, p. v). The very process of clearing and developing the land was seen as virtuous, productive and contributing to the progress of the colony. Moreover, the Robertson Lands Acts (1861) required settlers to improve the landscape. This was largely done by ring-barking to open up the land, promote grass coverage and fulfil their obligation to improve (Stuart 1999, p.320).

### 6.2.4 Dungowan Station

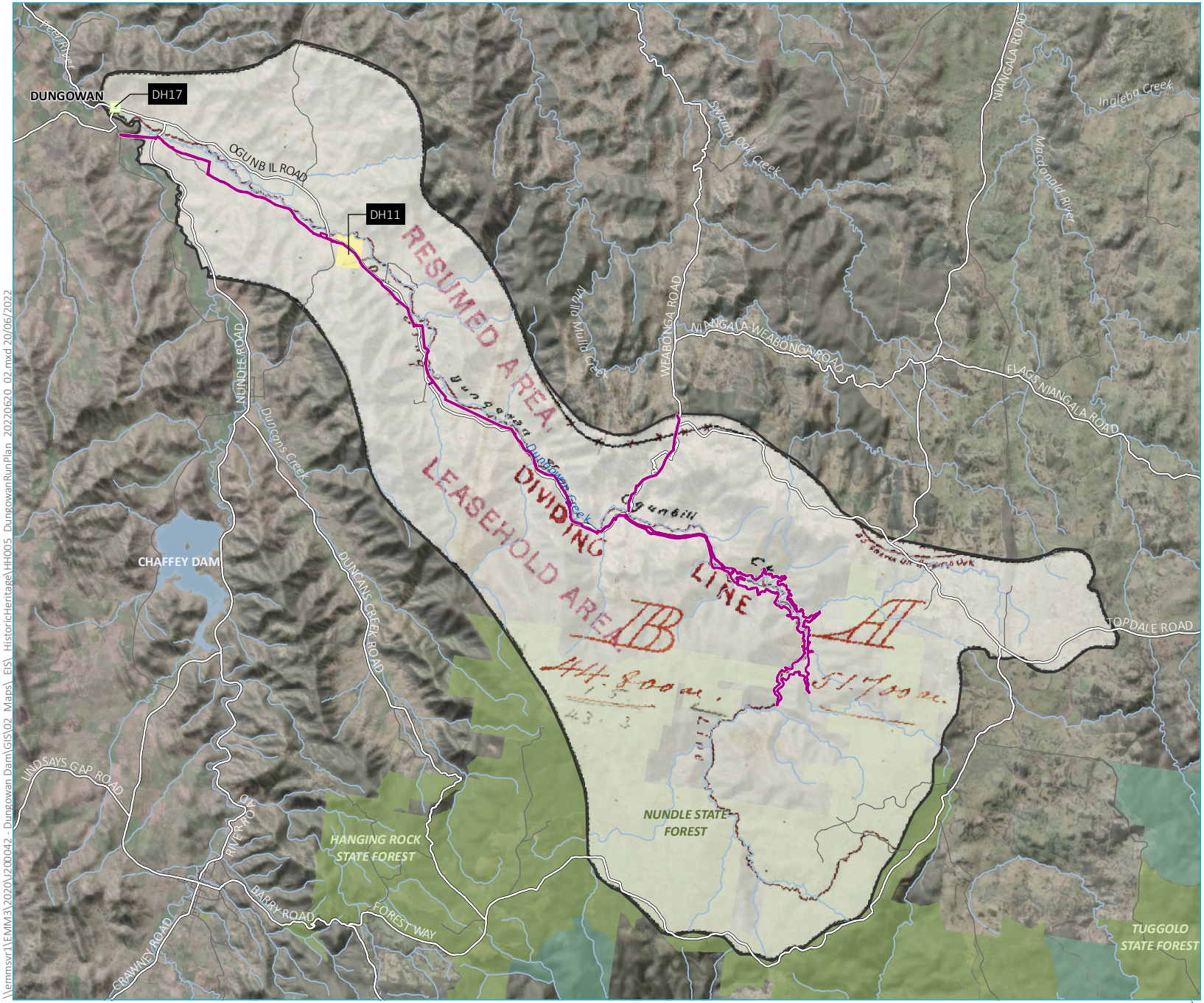
#### i Hamilton Collins Sempill's *Dungowan Creek*

During a survey of the Peel River in 1832 Assistant Surveyor G. B. White recorded that there was no evidence of European settlement in the region (Dowd 1945, p.42). Several large runs were established in the Peel Valley and the adjacent Moonbi Ranges soon after the establishment of the AAC Goonoo Goonoo Estate in 1833 (State Library of New South Wales n.d). Settlers were drawn to fertile and grazing rich land facilitated by the major water tributaries and the alluvial floodplains.

In 1842 a pastoralist named Hamilton Collins Sempill established a squatting run at the junction of the Peel River and Nundle Creek (Nundle Creek no longer exists - it is likely that it is Dungowan Creek or an earlier name for another creek in the area) (Dowd 1945, p.42) (Plate 6.1). Sempill, a Scotsman, settled in the Hunter district in the late 1820s and acted as the General Manager of Thomas Potter Macqueen's *Segenhoe* estate from 1831 (Campbell 1922, p.253). Sempill claimed pastoral runs in the Upper Hunter and New England regions but returned to Scotland in 1842 and disposed of his holdings in New South Wales (Campbell 1922, p. 254).

An advertisement for the first phase of the sale of Mr Sempill's properties appeared in the *Sydney Morning Herald* in 1844 and describes Lot 2 as "The splendid CATTLE RUN, – called DUNGOWAN CREEK" (*The Sydney Morning Herald*, 22 March 1844, Advertising, p.1). The details of the advertisement minimally note the run had "all necessaries for the Station" and included around 1105 head of cattle and three months of provisions for two men (*The Sydney Morning Herald*, 22 March 1844, Advertising, p.1). It is not clear if the station was purchased during the 1844 auction sale.


**Plate 6.1** **Run plan 99 showing the division of leasehold and resumed land. HLRV map number 572352.**




KEY

- Project footprint
- DH17 Original Dungowan Station/Haig's Dungowan Homestead
- DH11 Cadell's Dungowan Station

Existing environment

- Major road
- Minor road
- Named watercourse
- Named waterbody
- NPWS reserve
- State forest

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*Source: EMM (2022); WaterNSW (2021); Esri (2019); DFSI (2017); GA (2013); HLRV map number 572352 (1850)*

0 2.5 5 km

GDA 1994 MGA Zone 56

N

The Dungowan Run plan c 1850

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure 6.1

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Figure 6.1 is the run plan for Dungowan Station overlaid onto a topographic map and shows the division of leasehold and resumed land being Dungowan or Ogunbil Creek (as it was commonly recorded). This total area is approximately 96,500 acres (39,052 ha). The *Thematic History of Nundle, Manilla and Barraba* (Boileau 2007, p.33) puts Haig's run at 10,240 ha (25,304 acres), which is considerably smaller than the land shown on the run plan (Plate 7.2); thus, the assumption is that what is shown was what Sempill claimed in 1842.

### ii Isaac Haig's *Dungowan Station*

In 1846 the *Waste Lands Act* was passed requiring that runs be leased for a fourteen-year period. In 1846 George Fulwood claimed the pasturage leasehold for Dungowan (*New South Wales Government Gazette*, 10 March 1846, p. 330). Fulwood had planned on leasing the land to depasture stock along the creek but then sold it to Dr. Isaac Haig the next year.

Haig took a licence to depasture stock at Upper Dungowan *and* Dungowan in 1847 and had consolidated the licence to Dungowan in 1848 (*The Australian*, 15 June 1847, p.4; *New South Wales Government Gazette*, 1 February 1848, p.160). In 1848 the Dungowan run covered an area of approximately 25,600 acres (10,360 ha) on Dungowan Creek extending along:

> the Valley of Dungowan Creek from its source in the Great Dividing Range to its confluence with Peel's river [and had capacity to graze 8000 sheep] … having frontage upon that River about four miles above the said junction and one mile below it; the boundaries on the north and south being the ranges that divide the creek from the neighbouring streams.
>
> (*The Sydney Morning Herald*, 26 September 1848, p.3).

Substantial buildings and structures were uncommon on squatting runs prior to 1852 due to land tenure insecurity and inability to purchase a freehold title to their headstation block. Haig, nevertheless, established a homestead along the Peel River around the location of the present Duri-Dungowan Road and named the property *Dungowan Station* (McClelland 1995, p.3). The project footprint sits south east of Haig's original leasehold; however, *Dungowan Station* was steadily extended over the nineteenth century. Haig died unexpectedly in March of 1852 at the age of 45 and it appears Dungowan station was under the management of John Crocker until its sale as part of Haig's estate in 1853 (*The People's Advocate and New South Wales Vindicator*, 6 March 1852, p.14; *The Maitland Mercury and Hunter River General Advertiser*, 5 June 1852, p.1; *Sydney Morning Herald*, Wednesday 21 December 1853, p.7).

An advertisement in the *Sydney Morning Herald*, in 1853, for the sale of the late Dr Haig's properties describes stations at Dungowan Creek, 'Peel's River' and 'WETTA WAA'. Lot 1, the station at Dungowan Creek is *situated about 15 miles from the town of Tamworth* (*Sydney Morning Herald*, Wednesday 21 December 1853, p.7), which is approximately 24 km, and in the area of the Dungowan Hotel.

Improvements for this station at Dungowan Creek included:

> … an excellent four-roomed cottage, shingles, with garden in front, detached kitchen and stores, stables and fowl houses, wool shed, milking yard and men's hut. There are (5) FIVE OUT-STATIONS in good working order, having hurdles for 10,000 sheep.

Dr Richard Jenkins purchased both *Dungowan Station* and *Wetta Waa* in 1854 (The Sydney Morning Herald, 11 January 1854, p.6; *New South Wales Government Gazette*, 9 August 1861, p. 1710). Jenkins owned several runs along the Peel River including *Wombramurra* north of Nundle, and *Woolomin* directly south-east of *Dungowan Station*. Jenkins' holdings totalled 76,800 acres (31,080 ha) and he grazed up to 30,000 sheep, 1,500 cattle and 150 horses across his properties (McClelland 1995, p.3). The runs were open range country and would have been typically managed by an overseer and contained a headstation that included an overseer's hut, a station store and a series of shepherds' or stockmen's huts located at permanent waterholes. Jenkins resided at *Woolomin* so a station overseer would have controlled the day-to-day operations at *Dungowan*. During Jenkin's tenure a six stand Cyprus pine shearing shed was established on *Dungowan Station* (McClelland 1995, p.3). Jenkins also implemented a land release scheme where he hoped to establish small farming communities within his stations by selling and/or leasing portions of land, the town of Dungowan is the result of this scheme (McClelland 1995, p.3).

The ownership and tenure of Dungowan from c.1858 is not clear in the historical records. In 1858 a report of the death of a Dungowan shepherd's wife names John Edwards Esq. as the owner of the station (*The Maitland Mercury and Hunter River General Advertiser*, 18 February 1858, Peel River, p.2). "Dungowan Creek" (along with *Woolomin* and *Wombramurra*) was offered for sale on behalf of John Edwards Esq. in 1860 (*The Sydney Morning Herald*, 1 December 1860, p.10). The details of the advertisement reflect those in the 1853 advertisement for Haig's estate:

> THE IMPROVEMENTS comprise five sheep station huts, with yards or hurdles at each. Also, two stock yards.
>
> (*The Sydney Morning Herald*, 1 December 1860, p.10).

What confuses the ownership of the station is that the run was transferred from RL Jenkins to JJ Cadell in August of 1861 (*New South Wales Government Gazette*, 9 August 1861, p.1710).

Also in 1858, an 1800 acre (728.4 ha) section of the Dungowan run, at the junction of Dungowan Creek and the Peel River containing "several slab huts and an old stockyard" was reserved for lease (*The Maitland Mercury and Hunter River General Advertiser*, 13 March 1858, p.4) — possibly part of Haig's headstation. Then, a few months prior to Cadell taking over the run, crown land "at the junction of Dungowan Creek with the Peel River" had been subdivided into at least nine "Suburban lots" (*The Sydney Morning Herald*, 5 June 1861, p.3). It can only be assumed that this land was resumed, by government from the land that Sempill sold to Haig.

There is also some clarification required regarding the location of the two Dungowan Stations: Haig's homestead has been described by McClelland (1991) as being on the Peel River at the junction of Dungowan, Duri and Loomberah roads. These three roads do not meet at the Peel River; only the Duri-Dungowan Road and Dungowan Creek Road meet on the north side of the Peel River close to its confluence with Dungowan Creek, where the Dungowan Hotel is currently situated. It is very likely that McClelland was referring to the Duri-Dungowan Road that passes Loomberah.

### iii JJ Cadell's *Dungowan Station*

Dungowan Station was officially recorded as the Dungowan Pastoral Run, No 99 in *The Pastoral Possessions of New South Wales,* by William Hanson and published by the Government Printing Office 13 September 1889.

JJ Cadell held the title for the Dungowan run from 1861 but the Robertson Land Acts appear to have affected the Cadell's tenure (*New South Wales Government Gazette*, 9 August 1861, p.1710). In 1865 it appears that the entirety of Dungowan Station was again put up for sale, *with delivery on the 1st January 1866,* as the description in the advertisement below provides 6 miles (9.6 km) of frontage to the Peel River.

The Robertson Lands Acts would have precluded Cadell from owning the entire area of the Dungowan run, and free selection along Dungowan Creek was extensive, and it appears the Cadell family chose to focus their purchase and leaseholds around the new headstation (Plate 6.2) (Sydney Mail, 2 June 1866, p.5), where the current *Dungowan Station* is situated (Plate 6.2).

The *Maitland Mercury and Hunter River General Advertiser* (Saturday 2 December 1865, p.1) advertisement describes the station with:

> … 6 miles [of] frontage to the never failing Peel River … The head station is about 20 miles from Goonoo Goonoo and Tamworth, and about 80 miles distant from Aberdeen by the Crawney Line.
>
> HEAD STATION.- The IMPROVEMENTS, which have all been made within the last five years, consist of a complete shearing shed, 75 feet by 35 feet, of slabs, roofed with stringey bark, with strong lever press and draft yards; a five-roomed slabbed cottage, shingled; a two-roomed ditto; store, shingled; kitchen, stable, beef store, slabs and shingled; two men's huts, milking yard, large new stockyard, garden and paddocks.
>
> Also, 8 SHEEP STATIONS, with huts, dams, yards, &c., &c.; hurdles, stores, spring and heavy carts, Utensils, pigs, &c, &c.
>
> *Maitland Mercury and Hunter River General Advertiser* (Saturday 2 December 1865, p.1)

The headstation (by this time it is believed that the location of the headstation had moved to one of the former outstations) is described as being 'about 20 miles from Tamworth', and 80 miles from Aberdeen along the Crawney Line (refer to the quote above). Twenty miles converts to 32 km, putting the headstation in the location of the current Dungowan Station. Aberdeen is actually 140 km (86 miles) from the Cadell's *Dungowan Station,* and it is Scone that is 80 miles (approximately 129 km). Moreover, improvements to the headstation had "all been made within the last five years", that is, within Cadell's period of ownership (*The Maitland Mercury and Hunter River General Advertiser*, 2 December 1865, p.1).

The main discrepancy, however, is that the property is described as having '6 miles' (9.6 km) of frontage to the Peel River, which Cadell's property did not. The southern boundary of the property was at least 4.4 km (2.8 miles north-east of the Peel River at its closest.

The description of the shearing shed matches the size of the extant shearing shed on *Dungowan Station*. JJ Cadell acquired his property (the current Dungowan Station) in 1866, so it is a safe assumption to say the JJ Cadell responded to the advertisement above and was the successful bidder. It is also possible that the buildings that Cadell purchased belonged to one of the five outstations described in the advertisement above.

The description of *Dungowan Station* in 1866 is 37,000 acres (14,973 ha), with the grazing capacity for 8,000 sheep, occupied by JJ Cadell (*New South Wales Gazetteer* 1866, p.191). The property was owned by the Commercial Banking Company of Australia in 1885 (Hanson 1889, p.57).

A detail from the Parish of Woolomin 1879 plan (Plate 6.2) includes the location of structures on Cadell's *Dungowan Station*. The plan records the following structures from west to east: huts, woolshed and house (on the east side of the road reserve.

By 1901 Dungowan Station was classed under a number of conditions, of the total 6,420.5 acres (2,598 ha) 631 acres (255 ha) were freehold, 1,637 acres (662 ha) were Conditional Purchase, 2,472.5 acres (1000 ha) were Conditional Lease, and 1,680 acres (679) were classed as Crown Land (*The Sydney Wool and Stock Journal,* 12 March 1901, p.7).

A brick homestead was constructed on the Station in 1903 on Cadell's head station (37258 Ogunbil Road, Tamworth) over the house shown in the 1879 plan (Plate 6.2). Bricks to build the homestead were locally sourced from a clay deposit on *Woolomin* (McClelland 1995, p.15).

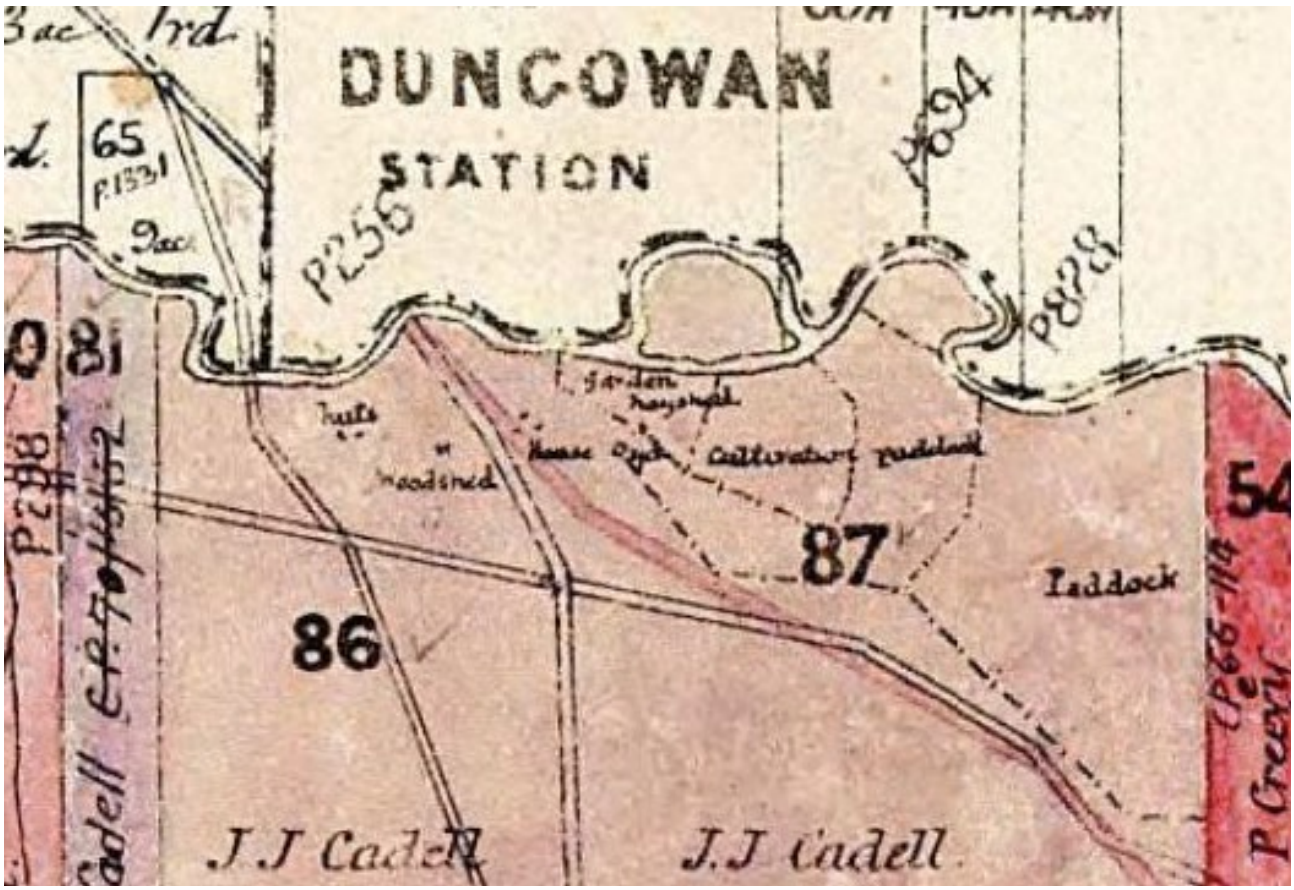



**Plate 6.2 Detail from the Parish of Woollomin 1879 plan.**

The station owners of *Dungowan Station* are presented in Table 6.2. It seems that after the Cadell family sold portions of the property, the seat of the main homestead moved from the Peel River to the property with the 1903 house (Lot 87 DP 755350 – the current Dungowan Station).

**Table 6.2 *Dungowan Station* owners (from McClelland 1995)**

| Date range | Name |
|---|---|
| 1846 to 1847 | George Fulwood |
| 1847 to 1853 | Dr Isaac Haig |
| 1853 to c.1861 | Dr Richard Jenkins |
| c.1858 to 1860 | John Edwards |
| 1861 to 1885 | J.J. Cadell (also William and Henry Cadell) (who kept a small portion of the original holding) |
| 1881 to 1885 | William Warner (leased from Cadell) |
| 1885 to 1903 | Robert Raworth Doyle |
| 1903 to 1912 | Leslie Sprague |
| 1912 to 1928 | Walter Raffin |
| 1928 to 1951 | John Clifton Sides |
| 1951 to 1981 | Whealan Bros. |

**Table 6.2 *Dungowan Station* owners (from McClelland 1995)**

| Date range | Name |
|---|---|
| 1981 to 1984 | Ross Lebeck |
| 1984 to 1988 | John Brearley |
| 1988 to c.1995 | Geoff Reid |
| | Current owner |

Both Dungowan and its sister station *Woolomin,* primarily functioned as pastoral stations from 1850 to 1862. The stations ran a mix of sheep, cattle, and horses, but sheep were the primary focus as sales of both stations illustrate sheep far outnumbered cattle (*The Maitland Mercury and Hunter River General Advertiser*, 13 March 1873, p.4; *The Sydney Wool and Stock Journal,* 12 March 1901, p.7). Sheep were clearly of economic importance to the running of *Dungowan Station*. A shearing shed was one of the first structural investments on the station (McClelland 1995, p.3). Moreover, William T. Cadell was employed to cull the "very troublesome" dingoes which had been plaguing shepherds on the run around 1861 (*The Tenterfield Intercolonial Courier and Fairfield and Wallangarra Advocate*, 11 November 1910, p.7). A fencing regime began on Dungowan from 1885 and this helped protect stock from predation and loss but also ended the need for shepherds (McClelland 1995, p.14; Davidson (ed) 2005, p.28). Sheep continued to be the major economic focus of the station into the twentieth century, however, sheep became less profitable in the mid twentieth century (*The Worker*, 22 October 1913, p.4; McClelland 1995, p.18).

A range of agricultural activity also occurred at *Dungowan*. John Edwards, owner of the station from 1860 to 1861 was the first owner to cultivate wheat on the rich alluvial creek flats of the station (McClelland 1995, p.8). Wheat, lucerne and English barley were grown at *Dungowan Station* throughout the nineteenth and early twentieth century (*The Maitland Mercury and Hunter River General Advertiser*, 10 January 1865, p.3; *The Sydney Mail and New South Wales Advertiser*, 13 March 1907, p.646). in 1914 J.W. Newman emphasised the agricultural wealth of Dungowan Creek noting:

> lucerne can be profitably grown on the higher ridge land…there is an almost inexhaustible supply of nearly all kind of hardwoods… potatoes, turnips and all root crops could be grown to perfection. Oats also grow remarkably well…Manitoba wheat grows and yields grain of a very superior quality (in Ferry 2002, p.39)

Profits generated from pastoral and agricultural activity supported the construction of various structures in the Dungowan Valley including homesteads, housing, stock and outbuildings and other pastoral structures, particularly on land owned by free selectors. The townships of Dungowan and Woolomin were established and developed in the late nineteenth century as service centres for the nearby agricultural lands.

The area of the Dungowan Creek valley was historically known as "Swamp Oak" after a creek in the region and the presence of *Casuarina glauca* (*Empire*, 2 February 1854, p.3).

### 6.2.5 Free selection

From 1860 onwards investment money generated from the pastoral land by tenant squatters was used to purchase freehold land they had previously claimed. The region had also begun to attract free selectors wanting to purchase increasingly limited arable land particularly in the Nemingha and Dungowan Valleys. At this time Dungowan Station was split into three smaller sheep stations (McClelland 1995, p.8). The Robertson Land Acts and the *1884 Crown Land Act* provided pastoralists (formerly squatters) and free selectors, who had been able to purchase land, greater security by requiring pastoral run boundaries to be formally surveyed and by allowing pastoralists to secure Crown Lands still on their runs. In the last three decades of the nineteenth century most small and marginal selections were amalgamated into more substantial and well capitalised stations. This can be seen at *Dungowan* as J.J. Cadell and his sons, owners from 1862 to 1885, re-amalgamated the station and increased its holdings to approximately 38,000 acres (15,378 ha) (McClelland 1995, p.13). The Cadell's re-released lots to free selectors and labourers on the station.

A series of lots were purchased by free selectors in the early twentieth century, starting from around 1910. Of those lots, six lots are situated in the project footprint and include *Paradise, Waterfall, Eagle Farm, Bee Boxes, Hillcrest and Carinya.* The historical descriptions of these properties are included in Annexure A.

Public schools were established in the region to accommodate the growing population. Three public schools were identified in the project area include Dorset Vale (DH13), Wooloban (DH14), and Casuarina (DH15) public schools. Dorset Vale Public School is not in the project footprint, but Wooloban and Casuarina public schools will have a pipeline trenched through the front of the lots facing the road.

Wooloban Public School was located on the south banks of Dungowan Creek north west of Ogunbil. The 1890 Parish of Royinn plan records Lot 43 and the 18 acres of Lot 44 as the "school paddock" and notes "portions" 43 and 44 were gazetted as land reserved from sale and lease on the 8 January 1887 with the school dedicated on 8 August 1887.

It appears that Wooloban Public School was already operating on the site at the time of dedication. Boileau (2007, p.48) notes Wooloban school operated between 1886 and 1906 and the *New South Wales Government Gazette* from December 1886 records a "Mr. George E. Jones, Teacher, Provisional School, Wooloban" (*New South Wales Government Gazette*, 14 December 1886, p.8533). As a provisional school the Wooloban schoolhouse would have been built by the community with the Government supplying a teacher to educate between 15 and 25 students (New South Wales Government 2019). In January of 1888 Wooloban was declared a Government funded public school meaning at least 20 children were attending the school (*New South Wales Government Gazette*, 23 January 1888, p.605; New South Wales Government 2019).

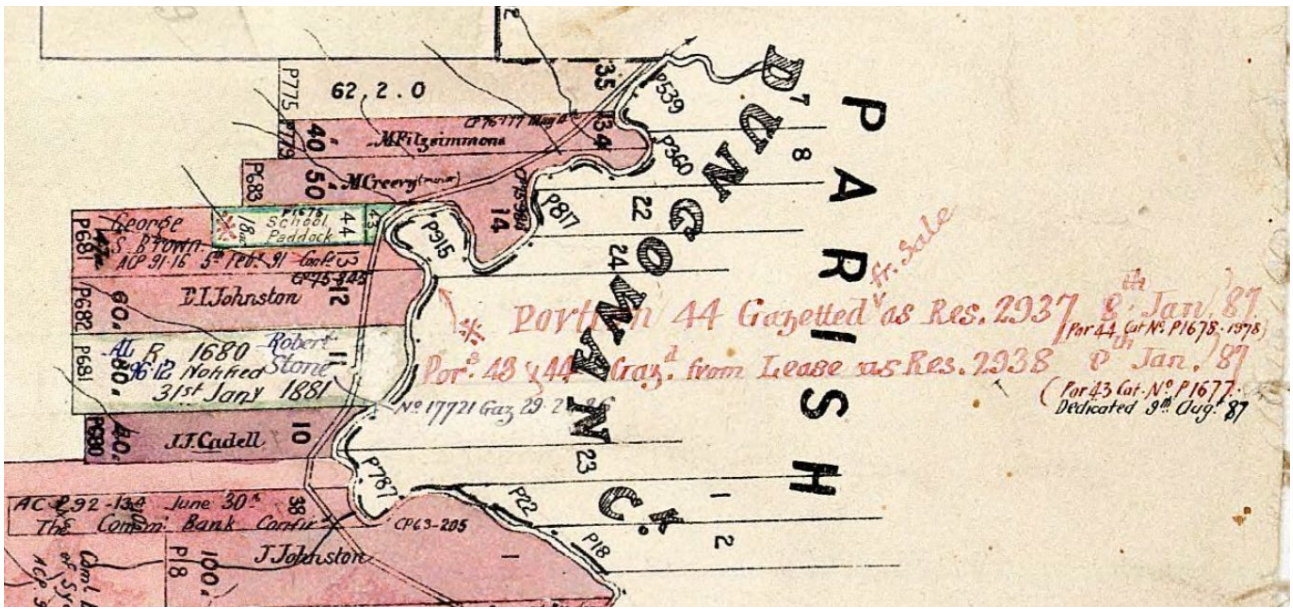



**Plate 6.3** **Parish of Royinn map 1890 with the school lots shown in green (HLRV). North is to the right**

**Plate 6.4** **1960 aerial photograph with the Wooloban Public School lots outlined (Historical Imagery Database (NSW Government)**

A search of historical aerials in the location of the former Casuarina Public School found the major structures visible in 1953 are extant on the site. If a school was in this location there is potential for footings, rubbish deposits, water storage and toilet facilities (likely a cesspit). However, the nature of these types of features means that they are most likely to be at the rear of the property and not along the roadside.

Plate 6.5 The location of the Casuarina Public School is shown by the group of buildings (1953)

Plate 6.6 The location of the Casuarina Public School is shown by the group of buildings (1967)

### 6.2.6 Travelling stock routes, reserves and camps

Pastoralism played an essential role in the settlement and economic development of Australia and travelling stock routes (TSRs) supported pastoral pursuits from the nineteenth century (Lennon 2014, p.47). TSRs, also known as long paddocks, are specially designated sections of Crown Land which form a continuous network of droving tracks (Lennon 2014, p.47) for the movement of livestock through the countryside to market; they include fenced areas and water sources allowing for drovers and their stock to camp overnight (Smiles, Merchant and Proft 2011, p.6). New South Wales was the first colony to implement travelling stock routes and continues to have the most extensive network of travelling stock routes of any state.

Prior to European contact, Aboriginal people had established networks of accessible travel routes through the landscape (Smiles, Merchant and Proft 2011, p.18). These networks connected sources of food and water and family groups for trade and ceremony. Further, these trails could form the basis of spiritual connection to the land through song lines. Early European explorers, squatters and pastoralists observed these established Indigenous pathways as they travelled into the New South Wales frontier and continued to use these trails after establishing stations (Lennon 2014, p.51). TSRs follow many of these traditional pathways.

Droving pathways were established as European pastoralists, their sheep and cattle moved and settled across the landscape of New South Wales. From 1836, a continuous stream of stockmen drove their stock overland, moving sheep and cattle to fresh pasture or to market, and later to railheads (Lennon 2014, p.48–9). The growing intensification of stock movement over the mid-nineteenth century led to the New South Wales government to establish systems for livestock disease control and legally establish travelling stock routes through the *Occupation Act of 1861* (Smiles, Merchant and Proft 2011, p.19, 20). The Act required travelling stock to be contained within half a mile (0.8km) of the stock route. Travelling stock was required to travel a minimum of four miles (6.4 kms) per day (Lennon 2014, p.52). Specific travelling stock camps (TSCs) were also established around this time (Smiles, Merchant and Proft 2011, p.20). These camps were located close to water for the stock and the stockmen alike, and overnight camps were made to rest. These camps would have been places where swags were laid, and fires were lit and very likely left evidence of the land use behind.

From the 1870s the government took more control over the movement of stock. Permits indicating routes and travel schedules were required as minimum daily travel distances had changed to ten miles (16 km) for cattle and six miles (9 km) for sheep (Smiles, Merchant and Proft 2011, p.20). Stock owners were also charged two shillings per head per mile payable to Pastures Protection (PP) Boards (Lennon 2014, p.52). By the mid-1890s, 2,092 km of TSRs were present in New South Wales occupying almost 3,100,000 acres (1,254,570 ha) (Lennon 2014, p.52).

TSRs continued to be heavily used until the 1950s with developments in motor transport offering alternative methods of transporting stock (Smiles, Merchant and Proft 2011, p.20). They continue to be used into the present, although in a more sporadic nature than in the past. TSRs and TSCs have been classed as reserves under the *1994 Land Act* and are significant ecological and cultural places (Lennon 2014, p.48).

Six places in the study area are listed on the New South Wales Government Travelling Stock Reserves register. The Dungowan TSR is the only section of the route marked, however, the location of the other marked sites indicated Ogunbil and Nundle roads. Both Ogunbil and Nundle roads, the primary routes into Tamworth from the project footprint, were part of the original route. The other five registered items are located along the roads approximately 7 km apart suggesting the locations acted as travelling stock route camp places from at least 1861. The site of the Dungowan Hotel site is of note as this is believed to be the location of Isaac Haigh's Dungowan homestead established c.1847. As such the Dungowan travelling stock route may have been established, at least to the north, from this period.

TSRs (reserves) listed in project area (from north to south):

- Dungowan TSR: R41301, AREA (Ha) 35.67, on Nundle Road north of Dungowan-Duri Road intersection;
- Dungowan Pub: R54093, AREA (Ha) 3.95, at Nundle Road and Dungowan-Duri Road intersection;
- Church: R33581, AREA (Ha) 3.72, on Ogunbil Road south-east of confluence Nundle and Ogunbil roads;
- Dungowan Station: R37933, AREA (Ha) 1.84, on Ogunbil Road north of Dungowan Creek Road;
- Memorial: R1487, AREA (Ha) 6.75, on Ogunbil road south of Horner's Road (historical location); and
- Ogunbil: R1002703, AREA (Ha) 28.93, on Ogunbil road south-west Dungowan Dam Road.

### 6.2.7 Dungowan Dam

A major drought between 1937 to 1945 and growing post World War II population raised questions about the security of Tamworth's town water supply (McClelland 1991a). In 1947 Tamworth City Council commissioned engineering firm Blair and Stucky to perform a feasibility study for the town's new water reservoir (McClelland 1991a, p.2). Tamworth City Council had proposed a location 70 km north of Tamworth but a further four options were brought forward:

- a dam on MacDonald River between Bendemeer and Woolbrook;
- a dam on Dungowan Creek, c.12 km north of Ogunbil;
- a pipeline from the Irrigation Commission's dam at Keepit; and
- a pipeline from the Irrigation Commission's dam at Bowling Alley Point.

Dungowan Creek was selected as the most feasible out of the options in terms of price and engineering (McClelland 1991a, p.3). The Dungowan Creek location had two suitable dam site options. The first, 11 km north of Ogunbil was rejected as the location was prone to silting and the price of land resumption along the fertile creek flats was deemed too expensive (McClelland 1991a, p.3). The second location, 8 km north of Ogunbil, was chosen as the whole catchment area was wooded, meaning silting would be minimal. Moreover, much of the land was owned by the Forestry Commission meaning only 3,706 hectares of land needed to be resumed at a cost of £7,000 (McClelland 1991a, p.3). Council resumed a total of 10,759 acres (4,354 ha) of land, not including State Forest, from four land holding families – Clow, Sleaman, Murray and Ramsay (McClelland 1991b, p.4). All but Lot 22, DP755351 are south of project footprint.

In 1953, works began on the 'Upper Dungowan Creek Dam' (the existing Dungowan Dam). The dam structure included a 27.3 m high by 274 m long earthen wall with concrete cuff, spillway with two automatic tipping gates, and pipeline to Tamworth (McClelland 1991a, p.24). A condition of the dam construction was that water would continue to travel downstream to support farming properties. Approximately 100 litres per second would pass out of the dam into the lower Dungowan Creek (McClelland 1991a, p.24).

Ancillary works to support the construction of the dam also began in 1953. A barracks for 69 men, who had been living in 11 RAAF huts transported to the site from the Tamworth aerodrome, was constructed along with cottages for engineers and supervisors, a mess hall, kitchen, workshops and machine sheds. An oral report has identified the workers as Kamilaroi men (Donny Fermor, *pers. comm*. 15 September 2020). Other works included the construction of a gravelled road (Dungowan Dam Road) and installation of powerlines (McClelland 1991b, p.33).

The existing dam was completed in 1958 and was Tamworth's first major water storage facility (Tamworth Regional Council, n.d.). At present, the dam is owned and operated by Tamworth Regional Council and forms part of the Namoi water catchment scheme (NSW Office of Water 2011, p.20). The dam contributes to the Tamworth town water supply as well as irrigation for farming (NSW Office of Water 2011, p.22).

# 7 Site evaluation

## 7.1 Introduction

Site evaluation is the analysis of the sources available to assess the landscape in the project footprint by addressing the potential for archaeological resources, the contribution that the built environment makes, and the assessment of significance of each site and of the project footprint as a whole. The results of this section directly inform the assessment of potential significance and therefore informs potential project impacts upon historical heritage. This historical heritage landscape assessment was guided by a combination of archival research, field survey and oral history. The following sections discusses all visible and potential sites based on these sources.

## 7.2 Land use summary and property tenure

Historical use of the land, from a macro perspective, is simple. Initially, Aboriginal people lived in the area before squatters took up large tracts of land for running stock and settlement. Bushland was cleared in places for the creation of grazing land and to build homes, sheds and stockyards. It is possible that causeways were built to facilitate creek crossings and other modifications, such as turkey's nests, were added.

Six free-hold properties were alienated from the Dungowan run that are now in the project footprint. The names reproduced in this report are from the 2017 editions of the topographic maps for Niangala, Scott, Woolomin and Dungowan (Department of Finance, Services and Innovation). Refer to Annexure A.

## 7.3 Predictive model

Development of a predictive model for the survey is based on background research, which includes documentary sources, maps and plans, as well as landholder discussion and field observations recorded during the field surveys. Further, the data used to inform predictive models for Aboriginal sites are useful for planning historical survey. Access to water, soil landscapes, geomorphology and land disturbance are characteristics that would have been valuable to Aboriginal people and squatters/pastoralists alike. The historical summary has provided information that suggests archaeological sites may exist in the project area including:

- slab huts and a stockyard (The Maitland Mercury and Hunter River General Advertiser, 13 March 1858, p.4);
- detached kitchen areas, privies and other associated buildings;
- stockyards from later periods constructed in timber or stone;
- stone flooring or flagging for domestic or pastoral purposes;
- modifications in the landscape to manage water flows such as flooding and to create pens etc;
- bridges and other river crossings;
- historically modified trees;
- roads; and
- camps in the stock reserve (indicated by fire and rubbish pits).

A key issue for the archaeological potential of the project area is the presence of the historic Dungowan Station squatting run as discussed in Section 6.2.4. While the headstations, Haig's Dungowan Station (DH17) and Cadell's Dungowan Station (DH 11), are significant and enduring structures, the locations of several outstations associated with the squatting run remain unknown. For example, as outlined in Section 6.2.4, an advertisement in the *Sydney Morning Herald* in 1853 for the sale of Haig's Dungowan Station identified five outstations as part of the property. The exact locations of these outstations are unknown. It is possible that the outstations have been built over with more recent structures (eg DH11 Cadell's Dungowan station, DH09 Ogunbil Shearing Sheds). There remains potential for relics associated with the squatting run outstations to occur throughout the project area.

A study that investigates the distance of outstations to the headstation has not been found, but discussion with landholders on other former squatting, now pastoral, properties raised the idea that 7 miles was a distance that was part of their understanding of their properties' pasts. Seven miles calculates to approximately 11 km, which is a comfortable distance to walk in three to four hours and ride in a horse-drawn buggy in the same amount of time. At a trot, a horse and rider could cover seven miles in about an hour. Review of historical mapping showed several instances that bore similarity to this estimated distance between outstations. Existing historical properties and those now gone (but shown on historical mapping) follow Dungowan Creek from Haig's headstation to the end of the project area at a distance of approximately 7 miles starting with Haig's headstation (demolished and exact location not confirmed). Cadell's *Dungowan Station* (extant) is approximately 10 km (6 miles) downstream (south-east) on Dungowan Creek.

Further downstream is a local heritage item known as the *Ogunbil Shearing Shed and Silo* (DH19), which is another 10 km away. The *Ogunbil Shearing Shed and Silo* date to the late nineteenth/early twentieth century, but its position in this particular location may indicate an earlier structure. Roughly another 3.4 km downstream is another site marked on a historical plan as 'old sheep station' (Plate 7.2). While this location is less than half the nominated distance from the shearing shed and silo, it appears on a patch of flat land just before a sharp rise of the valley begins. No other potential sheep stations or early structures in the project area were found in documents or during fieldwork.

## 7.4 Results of historic document research

Historic maps and plans were reviewed as part of the site evaluation process. The items in Table 7.1 were noted on historical parish maps in the vicinity of the project area. Additionally, the locations of potential sites have been estimated from descriptions of the historical landscape and these sites are also presented below.

The potential archaeological sites in Table 7.1 were not visited as they are not within the project footprint or additional information was discovered after field survey was complete. The purpose of including these potential sites is to assist with future management in the event of impacts and to provide information to redesign options. Only Haig's *Dungowan Station* (DH17) has been assessed for significance, while the other potential archaeological sites listed in Table 7.1 are implicitly included in the assessment of the cultural landscape (DH18). The rationale for this approach is that it is historically known that Haig set up a squatting run in the Dungowan valley, but the provenance of the huts and other features marked on mapping, is unknown at this stage.

**Table 7.1 Sites identified on historic parish maps**

| Site ID | Site name | Site type | Parish map reference |
|---|---|---|---|
| DH17 | Original Dungowan Station/ Haig's Dungowan Homestead | Archaeological – potential relics | estimated |
| DH19 | Hut 1 | Archaeological – potential relics | 1879 Parish of Woolomin |
| DH20 | Hut 2 | Archaeological – potential relics | 1879 Parish of Woolomin |
| DH21 | Hut 3 | Archaeological – potential relics | 1879 Parish of Woolomin |
| DH22 | Hut 4 and yard | Archaeological – potential relics | 1879 Parish of Woolomin |
| DH23 | Hut 5 | Archaeological – potential relics | 1879 Parish of Woolomin |
| DH24 | Hut 6 | Archaeological – potential relics | 1879 Parish of Woolomin |
| DH25 | Well | Archaeological – potential relics | 1879 Parish of Woolomin |
| DH26 | Hut 7 | Archaeological – potential relics | 1879 Parish of Woolomin |
| DH27 | Bridge | Built, archaeological – potential relics | 1893 Parish of Piallamore |
| DH28 | Dungowan Crossing | Archaeological – potential relics | 1909 Parish of Gill |
| DH29 | Huts on Cadell's Dungowan Station (from plan) | Archaeological – potential relics | 1879 Parish of Woolomin |
| DH30 | Woolshed on Cadell's Dungowan Station (from plan) | Archaeological – potential relics | 1879 Parish of Woolomin |
| DH32 | Old sheep station | Archaeological – potential relics | 1880 Parish of Ogunbil |

## 7.5 Results of the field survey

### 7.5.1 Features in the landscape

Field surveys were completed in January, June and September 2020 as well as November 2021. Survey was targeted for the most part and guided by features that indicated an earlier structure, or by standing structures. Field time was a constraint; therefore 100% coverage was not possible, but information was also provided by the field team on survey for the Aboriginal cultural heritage assessment (EMM 2022). Results of the field survey are provided in Annexure A.

The field survey in September 2020 started at Dungowan Dam. The team was accompanied by Tamworth Regional Council personnel, on the lake formed by the existing Dungowan Dam and inside the super- and sub-structure (above the water line and below the water line respectively). The dam was photographed from the southern side, from the northern side from ground level and some internal components of the structure were also inspected and photographed.

Following the dam inspection, the team visited the location where it is believed a man, with the surname Wilson, was buried in the early twentieth century. The burial occurred on the property called *Paradise*, which is on Lot 22 DP 755351, about 650 m north of the existing dam wall. This investigation is discussed in detail in Section 7.5.2 below.

The site of the building group on *Paradise* (Site ID DH02) was revisited with a former resident who is one of the registered Aboriginal parties (RAPs) that was working with the EMM Aboriginal heritage team on archaeological test excavation. While it was planned to revisit the properties and their buildings at *Waterfall* (Site ID DH03) and *Eagle Farm* (Site ID DH04) and the pig shed (Site ID DH05), these structures were demolished sometime between February and September 2020. The stockyard and ramp on Dungowan Creek Road were also demolished between the field programs, while timber bridge providing access to *Waterfall* had been demolished before the first phase of fieldwork commenced, and the abutments that were photographed in February 2020 were demolished later.

Current land uses reflect historical land uses in that the region continues to be used for agricultural purposes (Figure 7.1) The survey tracks from the field survey are provided in Figure 7.2 and all heritage items identified are provided in Figure 7.3a – Figure 7.3e. Further detailed findings from the field survey are provided in Annexure A. In addition to the sites and features discussed above, the cultural landscape of the project area includes the items described below; these have been added to inform modifications should they occur:

- DH10 Surveyor's Tree – approximately 575 m east of a modern survey mark PM54865 (Sixmaps). Parish of Callaghan 1899 map shows a number of survey trees that may still be in the project footprint but nothing in the immediate location of DH10 that was identified within the project footprint.

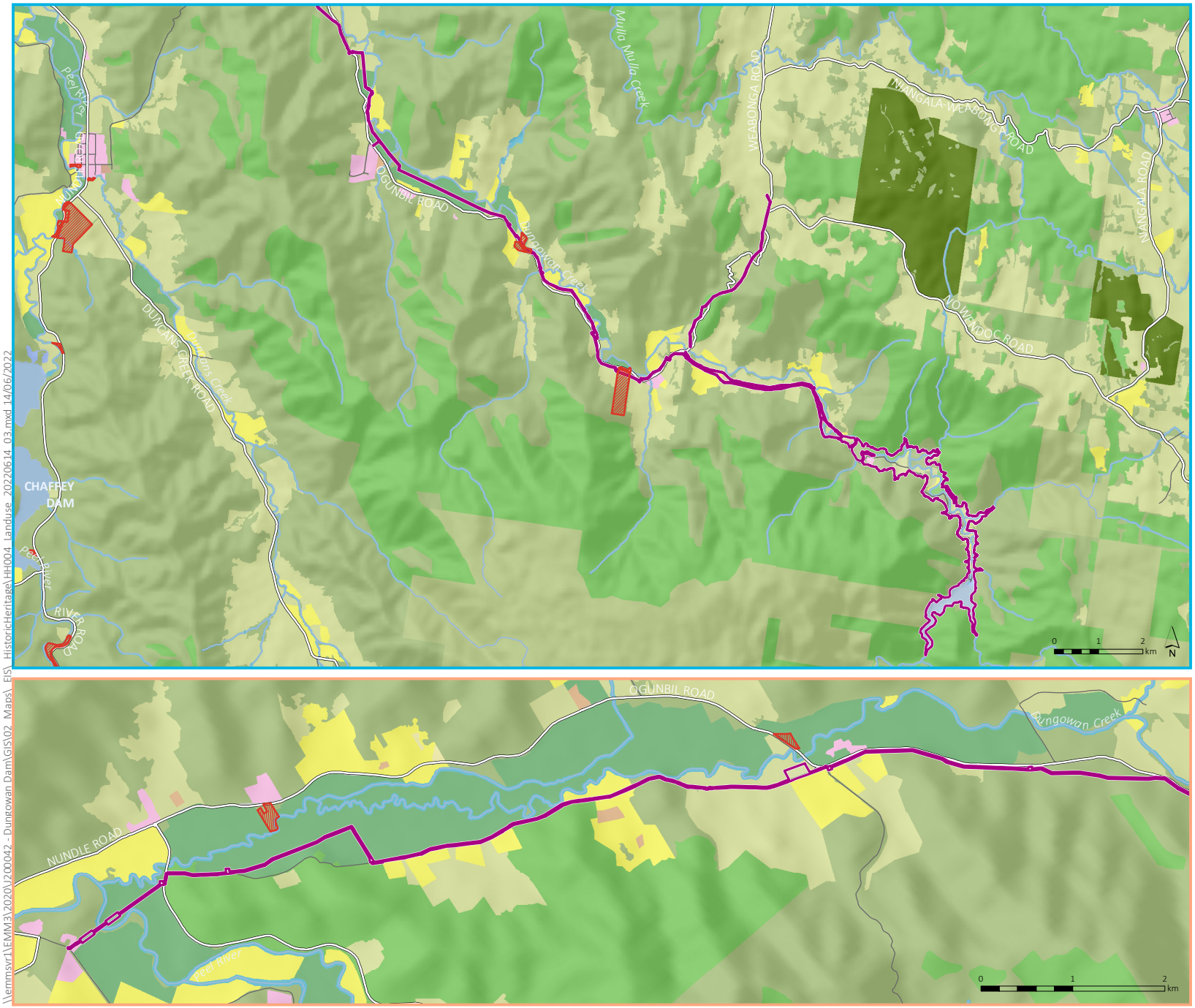
- DH12 Brumby Holding Pen – this item is a late twentieth century holding pen outside the project footprint identified by Donny Fermor, who lived in the project area.

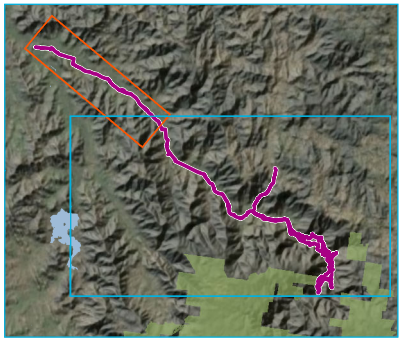
- DH13 Dorset Vale School – identified through documents but not inspected as it is not in the project footprint. The school is adjacent to the pipeline footprint but can be avoided by the works.

- DH14 Wooloban Public School (former c1887–1906) – identified on mapping and road signage after field inspections were undertaken.

- DH15 Casuarina Public School (former 1935–1944) – identified on mapping and road signage after field inspections were undertaken.

- DH16 Dungowan Upper School Union Church – identified through documents and inspected from the public domain. DH16 is not in the project footprint



KEY

- Project footprint
- Major road
- Minor road
- Named watercourse
- Named waterbody
- Travelling stock reserve

Land use

- 1.3.0 Other minimal use
- 2.1.0 Grazing native vegetation
- 2.2.0 Production native forestry
- 3.2.0 Grazing modified pastures
- 3.3.0 Cropping
- 3.4.0 Perennial horticulture
- 4.3.0 Irrigated cropping
- 5.2.0 Intensive animal production
- 5.4.0 Residential and farm infrastructure
- 5.7.0 Transport and communication
- 6.1.0 Lake
- 6.2.0 Reservoir/dam
- 6.3.0 River

Inset legend

- State forest
- Named waterbody




\\emmsvr1\EMM3\2020\I200042 - Dungowan Dam\GIS\02 Maps\ EIS\ HistoricHeritage\HH004 Landuse 20220614 03.mxd 14/06/2022

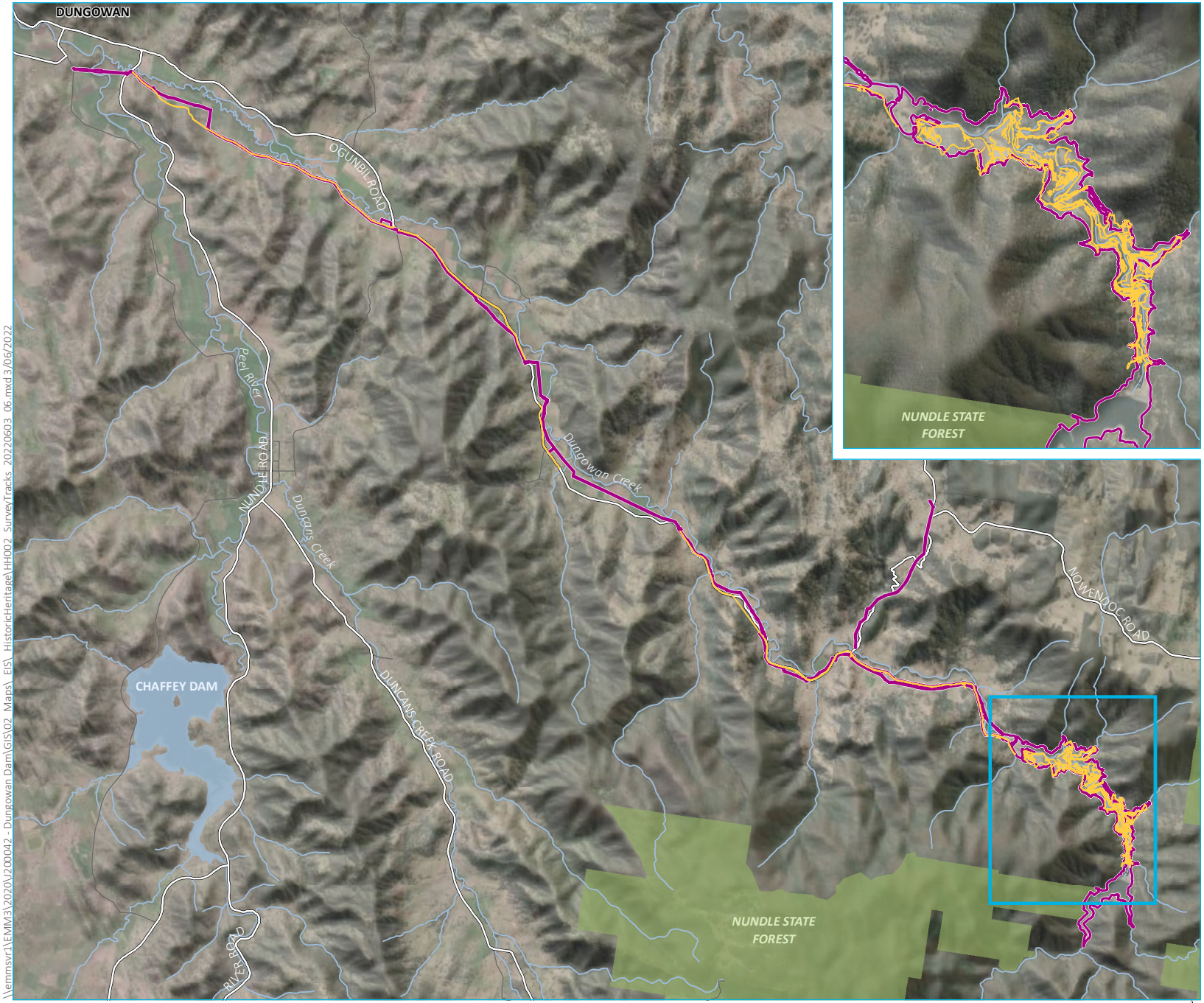
*Source: EMM (2022); WaterNSW (2021); Esri (2019); DFSI (2017); GA (2013); Department of Regional NSW (2017)*

GDA 1994 MGA Zone 56

Land use

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure 7.1

EMM
creating opportunities

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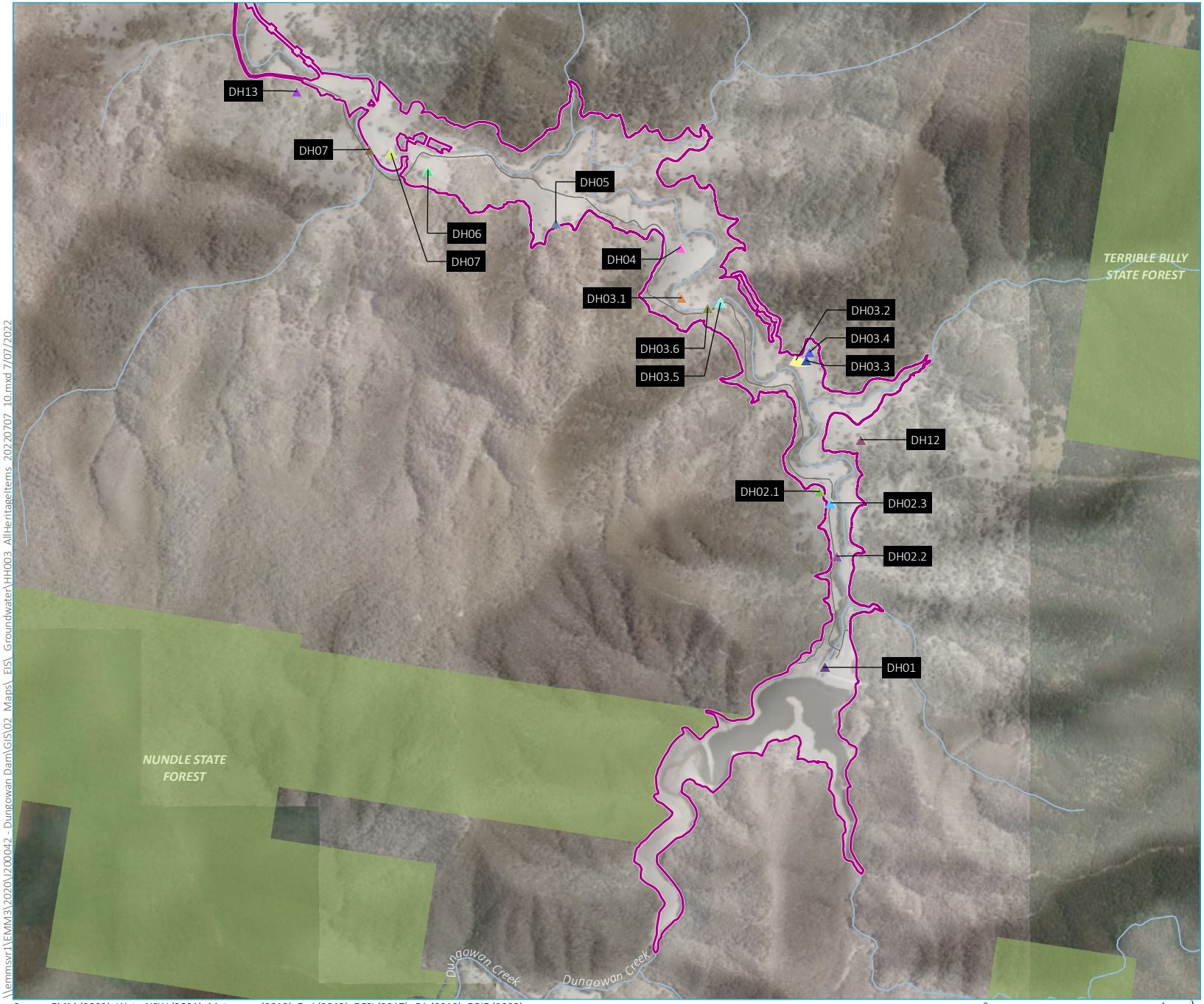
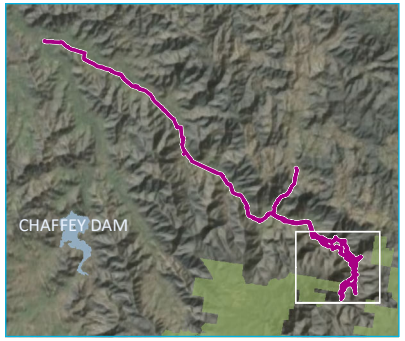
*Source: EMM (2022); WaterNSW (2021); Esri (2019); DFSI (2017); GA (2013)*

Survey tracks

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure 7.2

EMM
creating opportunities




KEY

- Project footprint
- Minor road
- Named watercourse
- State forest

Heritage values in the project area: surveyed sites

- DH01 Dungowan Dam
- DH02.1 Location former Paradise residential group
- DH02.2 Possible burial of John Wilson
- DH02.3 Stockyard and ramp
- DH03.1 Waterfall residential and farm group
- DH03.2 Stone-lined road
- DH03.3 Gate posts
- DH03.4 Paddock and trees
- DH03.5 Stockyard and ramp
- DH03.6 Timber beam bridge
- DH04 Eagle Farm residential and farm group
- DH05 Bee boxes
- DH06 Hillcrest residential and farm group
- DH07 Colorbond sheds x 2 large size
- DH07 Carinya
- DH12 Brumby holding pen
- DH13 Former Dorset Vale School

All heritage sites

Source: EMM (2022); WaterNSW (2021); Metromap (2019); Esri (2019); DFSI (2017); GA (2013); DPIE (2020)

0 1 km

GDA 1994 MGA Zone 56

N

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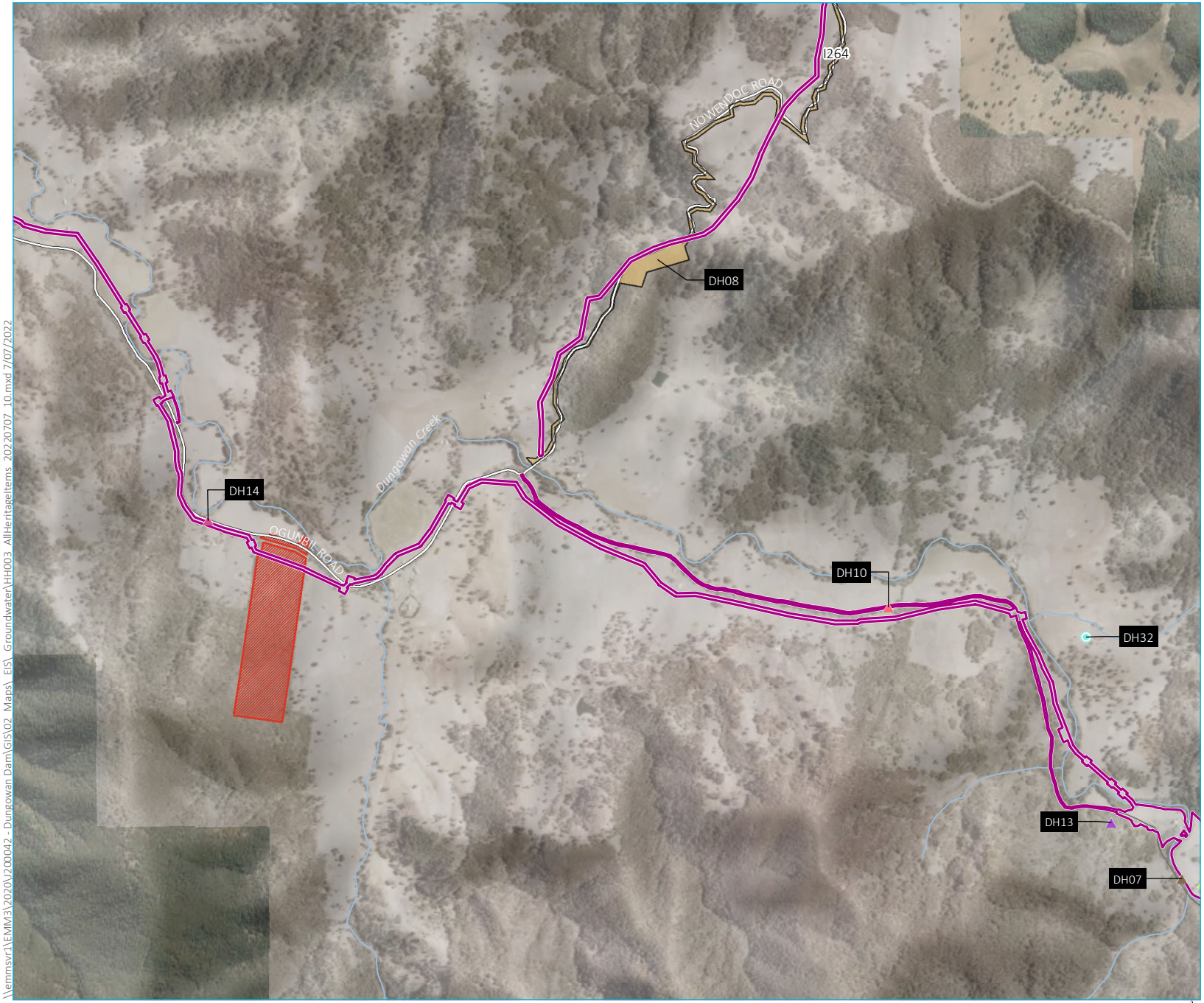
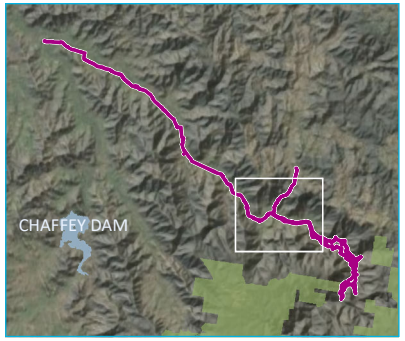
Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure 7.3a

EMM
creating opportunities




KEY

- Project footprint
- Major road
- Minor road
- Named watercourse
- State forest
- Travelling stock reserve
- Register heritage item - I264 Port Stephens Cutting

Heritage values in the project area: surveyed sites

- DH07 Colorbond sheds x 2 large size
- DH07 Carinya
- DH10 Surveyor's tree
- DH13 Former Dorset Vale School
- DH14 Wooloban Public School - former

Heritage values in the project area: from plan

- DH32 Old sheep station

All heritage sites

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure 7.3b

EMM
creating opportunities

*Source: EMM (2022); WaterNSW (2021); Metromap (2019); Esri (2019); DFSI (2017); GA (2013); DPIE (2020)*

0 1 km
GDA 1994 MGA Zone 56

N

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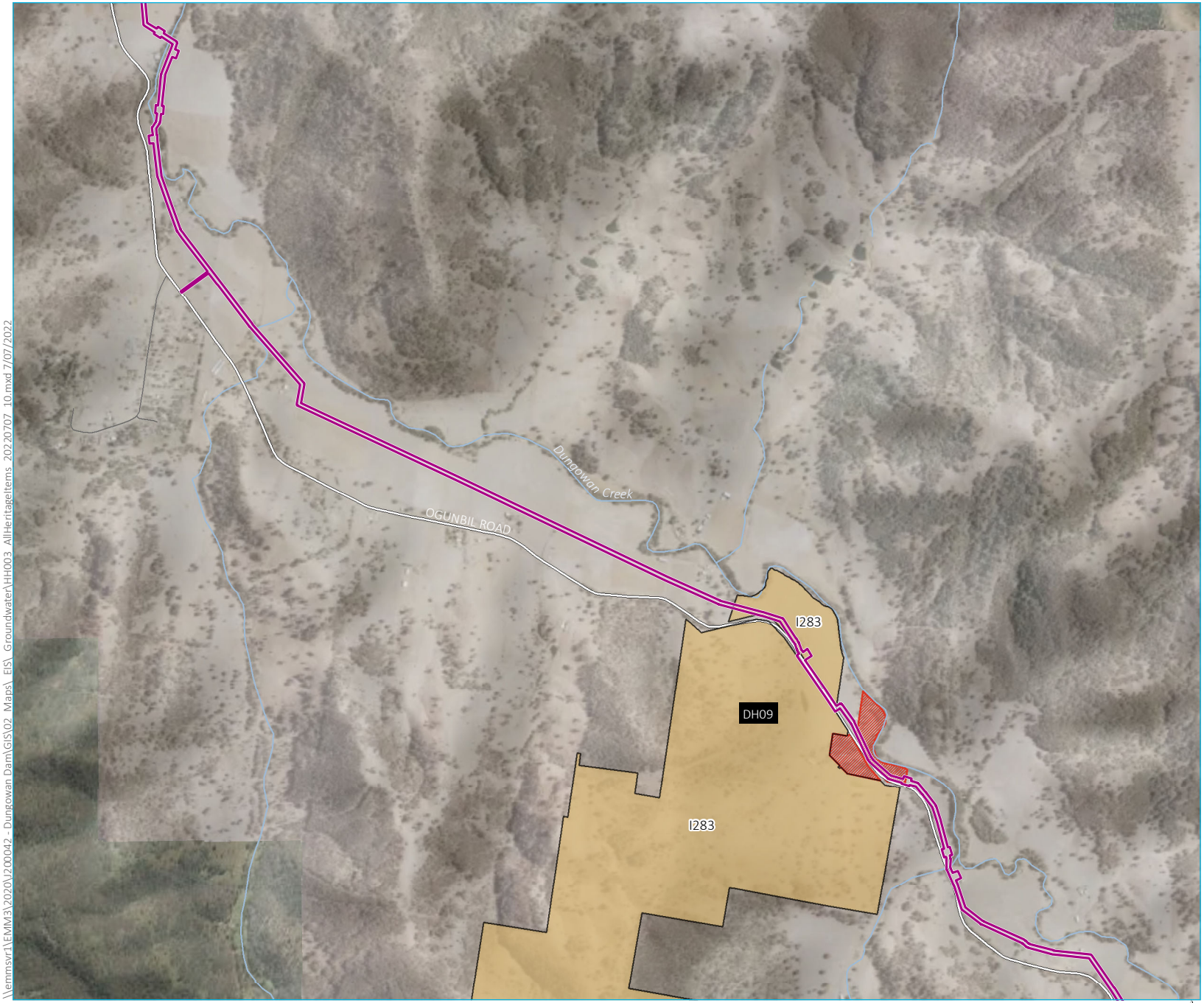


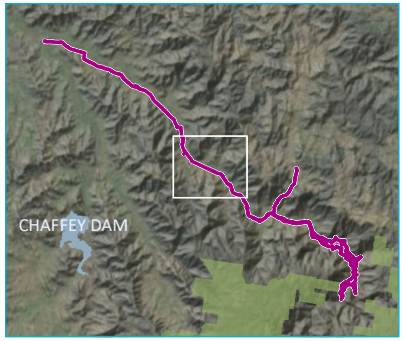


KEY

- Project footprint
- Major road
- Minor road
- Named watercourse
- State forest
- Travelling stock reserve
- Register heritage item - I283 Ogunbil Shearing Shed and Silo

All heritage sites

Source: EMM (2022); WaterNSW (2021); Metromap (2019); Esri (2019); DFSI (2017); GA (2013); DPIE (2020)

0 1 km

GDA 1994 MGA Zone 56

N

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure 7.3c

EMM creating opportunities

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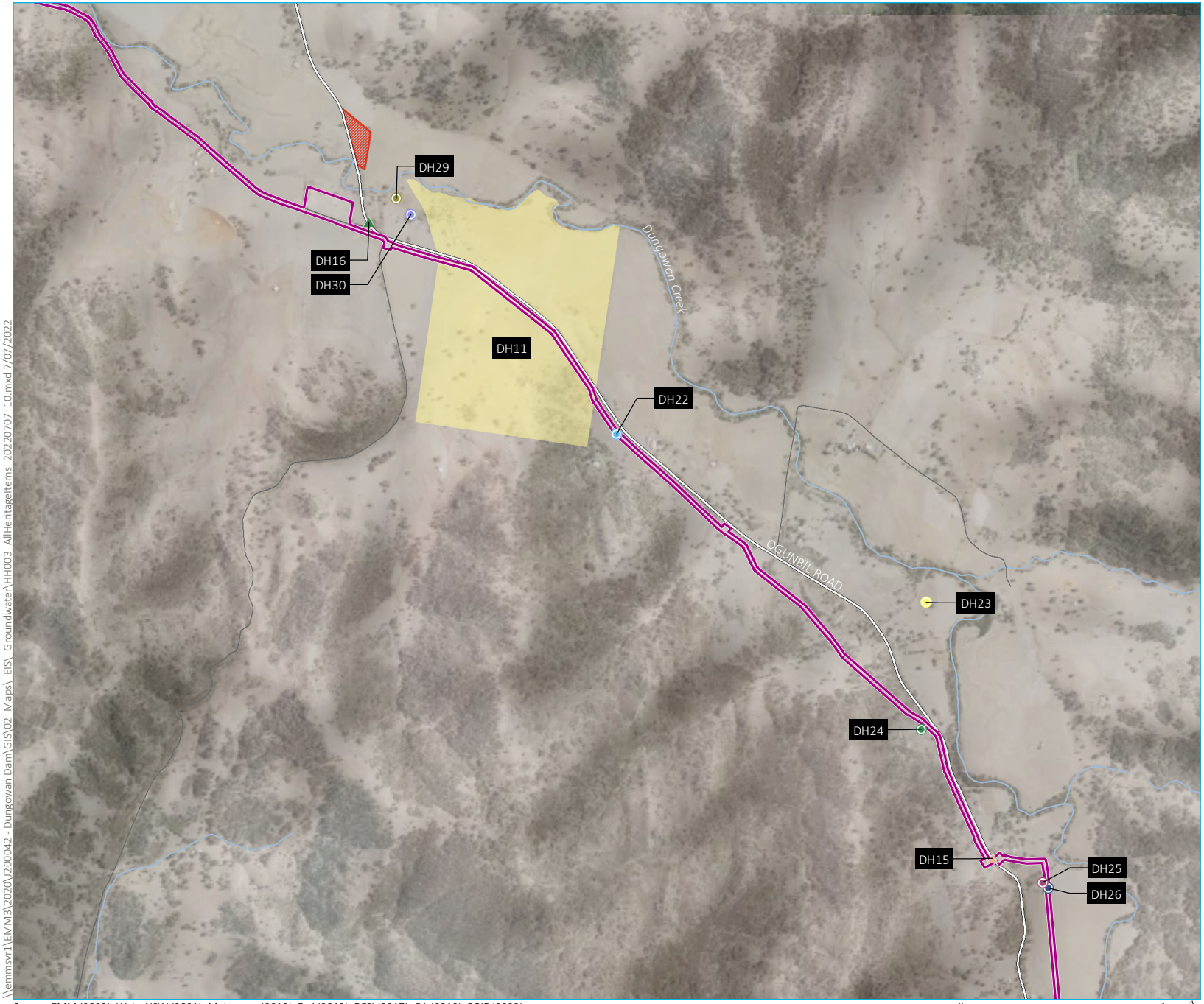


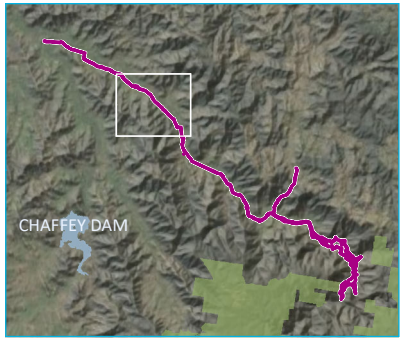


KEY

- Project footprint
- Major road
- Minor road
- Named watercourse
- State forest
- Travelling stock reserve

Heritage values in the project area: surveyed sites

- DH15 Casuarina School 1935-44
- DH16 Dungowan Upper School Union Church 1874-21
- DH11 Cadell's Dungowan Station

Heritage values in the project area: from plan

- DH22 Hut 4 and yard
- DH23 Hut 5
- DH24 Hut 6
- DH25 Well
- DH26 Hut 7
- DH29 Huts on Cadell's Dungowan Station
- DH30 Woolshed on Cadell's Dungowan Station

All heritage sites

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure 7.3d

EMM
creating opportunities

*Source: EMM (2022); WaterNSW (2021); Metromap (2019); Esri (2019); DFSI (2017); GA (2013); DPIE (2020)*

0 1 km
GDA 1994 MGA Zone 56
N

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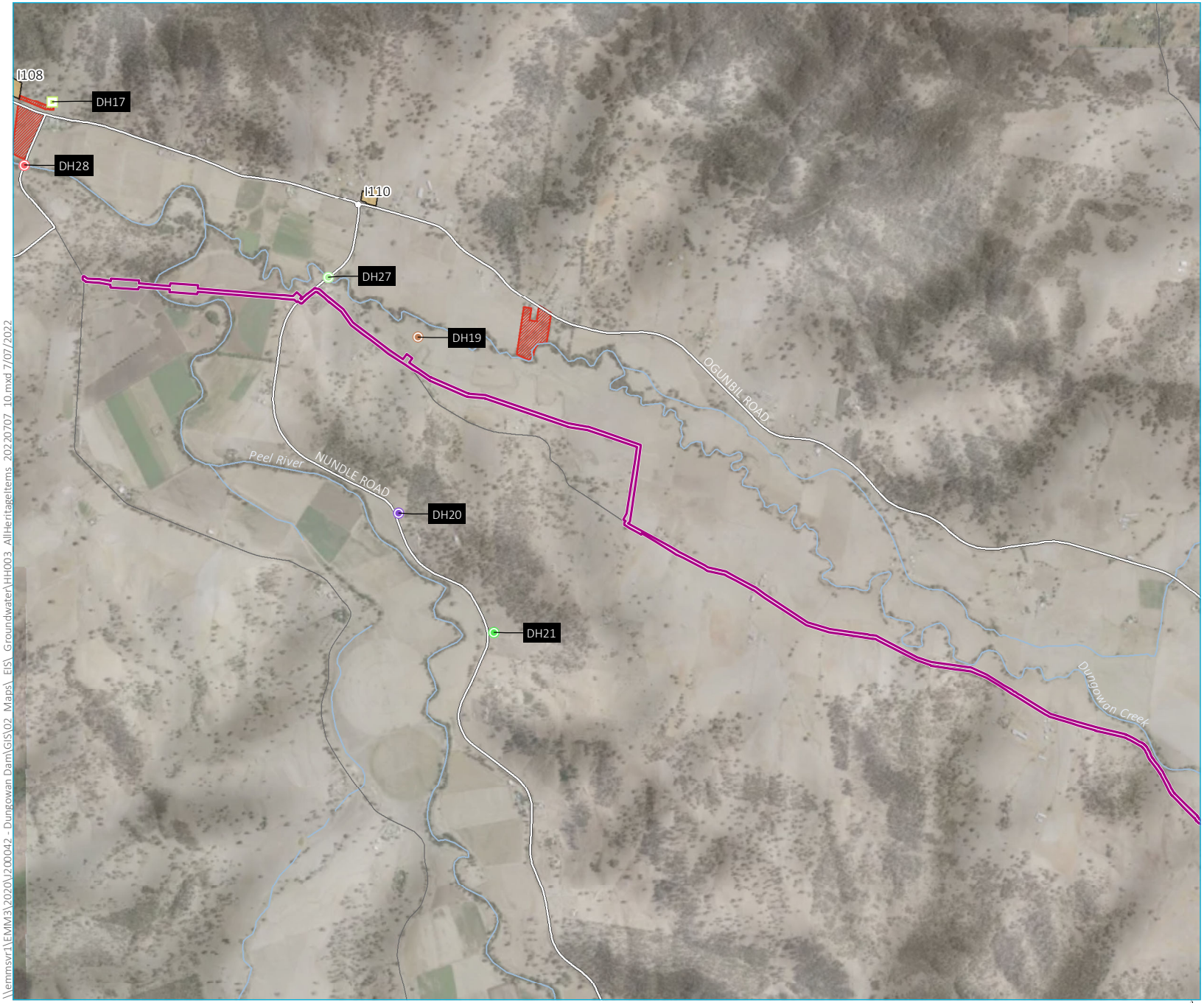


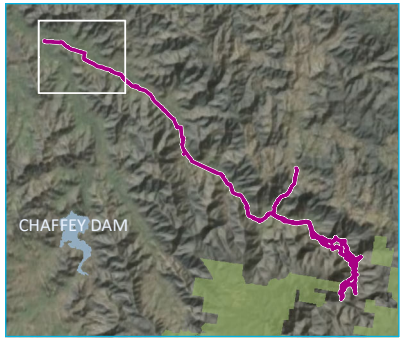


KEY

- Project footprint
- Major road
- Minor road
- Named watercourse
- State forest
- Travelling stock reserve
- Register heritage item - I108 Former Butchery
- Register heritage item - I110 Roman Catholic Church

Heritage values in the project area: from plan

- DH19 Hut 1
- DH20 Hut 2
- DH21 Hut 3
- DH27 Bridge
- DH28 Dungowan crossing

Heritage values in the project area: estimate

- DH17 Original Dungowan Station/Haig's Dungowan Homestead

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*Source: EMM (2022); WaterNSW (2021); Metromap (2019); Esri (2019); DFSI (2017); GA (2013); DPIE (2020)*

0 1 km

GDA 1994 MGA Zone 56

N

All heritage sites

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure 7.3e

EMM
creating opportunities

### 7.5.2 John Wilson's grave

As identified in Section 7.5.1 and further discussed in Annexure A.2, a grave (DU02.2) is believed to exist within the inundation area and was raised by Bill and Noel Webber when they visited the project site while the Aboriginal heritage team was on site. The estimated location of a grave of the man called John Wilson was obtained through an interview with Bill Webber, who grew up on the property. The Webber children were told about the grave by their parents LW and Irene, and he pointed out the location to the best of his recollection. The following sections document additional works undertaken to investigate the reported grave site.

#### i Phase 1 Field investigation

A field investigation was undertaken on Monday 7 February 2022 with the aim of identifying the grave cut. The method to identify the grave cut was to section an area approximately 10 m (east to west) and 14 m (north to south), and remove no more than 500 mm of topsoil, in shallow layers, using an excavator with a smooth-edged mud bucket. The original method allowed for 20 m by 20 m to be scraped, but the size and landform of the paddock restricted the final size.

The area of the paddock to be investigated was divided into quadrants, with each quadrant measuring approximately 7 m (east-west) by 5 m (north-south). Despite information that the burial was in the southern end of the paddock, in the south-east quadrant, it was decided to scrape back the other quadrants first because access to the rest of the paddock would be inaccessible if the scrapes started where Mr Webber pointed and if a grave cut was not found. Time rebuilding the soil profile would be required to move to the other locations.

After a number of hours monitoring the scrapes, the machine bucket removed a load of topsoil and bones were noted, with one bucket load placed in the spoil heap before the machine stopped. It was determined that these bones were most likely to be human and work ceased. The site was secured, and the NSW Police (Tamworth Area Command) were informed.

The Tamworth Police and Detectives inspected the find on Tuesday 8 February 2022 and determined that the remains are not recent in nature and that the coroner did not need to be notified. The Detectives were satisfied that the skeletal remains belong to John Wilson and the site was handed back to WINSW/EMM for management.

The unearthed find was inspected by the attending archaeologist and in addition to bones that were likely to be human, other artefacts were found. There artefacts are one iron shoe heel form, shoe fabric (possibly leather) with eyelets, iron cobbler's tacks and a 'pie-crust' button (Plate 7.1). These items, along with what appeared to be human bones, indicated that a human burial has been uncovered.

Despite the apparent history of the site and human remains, the question of the ancestry of the deceased as being Aboriginal was raised by Warren Mayers, Manager First Nations Project Engagement WINSW. It was agreed that the further exploration of this question is important in planning how to manage the remains and that the remains would not be assumed to be those of John Wilson until further investigations were undertaken to identify the ancestry.

#### ii Phase 2 Field investigation

To respond to the concerns of ancestry, a further site inspection was undertaken with the participation of several of the key Aboriginal parties involved in the project and a physical anthropologist. A physical anthropologist was engaged to inspect the bones *in situ* to try to assess the ancestry of the individual. Dr Sarah Croker (University of Sydney) attended the site on 18 February 2022. As no diagnostic bones were visible, and because *in situ* bones were left intact, a definitive answer could not be made. However, Dr Croker noted that hip bones and femora were found with a fragment of the humerus and a fragment of mandible, and no duplicated bones, therefore no evidence of more than one body. The physical anthropologist report is provided in Annexure C.

The observed bones include (from Croker 18 March 2022):

- hip – both hip sockets, left side of pubic symphysis (where hip bones meet in midline);
- femora (thighs) – both heads, right upper portion, fragments of shafts;
- tibiae (shins) – shaft fragments;
- patella (knee cap) – right side;
- talus (ankle bone) – right side;
- humerus (upper arm) – lower third of shaft on left side;
- radius (forearm) – shaft fragment;
- vertebrae – several fragments; and
- mandible (lower jaw) – fragment from right side, around angle.

There is evidence of osteoarthritic change and areas of polished bone, indicating overuse or advanced age. Using the Suchey-Brooks method, Dr Croker posits that the age of the individual falls within the 27–86-year range and suggest the skeleton did not belong to a young individual. Marked muscle attachment sites and the acetabulum (hip socket) combined indicate a robust individual, consistent with a male human, but Dr Croker notes that muscle mass and robustness is not a definitive indicator of sex. As teeth were not located, nor any bones of the skull, and due to the lack of diagnostic bones, a determination of ancestry was not possible. Her report recommended that the next phase of this investigation would be to excavate the remaining skeleton to attempt a definitive conclusion of ancestry, sex, age and burial method. Investigation of the skeleton is ongoing at this time (June 2022).


**Plate 7.1 Collection of artefacts found with the skeletal material.**

## 7.6 Comparative analysis

### 7.6.1 Introduction

A comparative analysis is prepared to provide an understanding of what structures and relics can be expected to exist within a similar area as well as to provide context, which will aid in the assessments of significance. This comparative analysis was undertaken through a review of documents relating to the squatting landscape discussed in the historical analysis as this is the oldest colonial use of the region.

Individual items identified during field survey and documentary research for this project also provide context with which to assess significance of the items identified within the project footprint.

This comparative analysis is a high-level investigation into squatting and pastoral landscapes to provide context for the assessments of significance, rarity and representativeness in this report. If detailed comparative analysis is required, that is, prior to impacts to known or potential sites, an item specific assessment will be necessary as part of any future archaeological research design.

“Homestead”, in the Australian context, refers to the main house or headstation and its associated outbuildings on a large agricultural holding, (Oppenheimer 2006, p.160). From the earliest days of squatting (c.1820s) homesteads have reflected the financial position of the property owner (Oppenheimer 2006, p.160). During good economic times, the homestead was improved and extended. For example, droughts in the 1830s and 1840s halted pastoral investment but by the 1850s, gold had been discovered, demand for wool was high and the economic mood was optimistic, resulting in the expansion of many homesteads.

Since the colonial government refused ownership of land by free grants or purchase beyond the limits of location until the area had been properly surveyed, squatters did not build permanent homes until they had secured tenure in some form (Oppenheimer 2006, p.163) and large-scale modifications of the property were not undertaken. The initial layout of a squatting run was usually a simple hut and stock yard with an area of cultivation around it (Stuart 1999, p.77). A homestead was in a central place within the run. Run boundaries were marked by watercourses, ridge lines, or in the absence of natural landmarks, by a line of blazed trees or plough lines (Stuart 1999, p.77).

These early homesteads were slab buildings of hardwood timber that were erected quickly and cheaply. The earliest structures were usually a collection of separate huts, one room deep, entered by separate doors from a verandah that connected them. As well as the main hut for the owner or manager, other buildings could include a kitchen, store, dairy, meat-house, stable, milking shed and accommodation for workers. Nearby would be a woolshed, horse-yard, cow-yard and a larger enclosure for sheep or cattle (Oppenheimer 2006, p.163). It is likely that first buildings at *Dungowan Station* would have reflected these temporary structures; this applies to the headstation and its outstations.

Very few of these early headstations have survived. Those still standing include ones at *Wongwibinda*, *Balala* and *Ollera*. *Balala*, near Uralla, was built between 1841–1865 by George Morse and Thomas Tourle. It had a long slab schoolroom and bedroom on one side and a bedroom of basalt and granite on the other. The weatherboard kitchen was replaced in the 1890s. Other original slab buildings included a granary, barn and woolshed.

Homesteads were renewed, extended and rebuilt as the owners prospered and their family grew. Local timber hardwood was plentiful and has survived well. Corrugated iron roofing replaced split shingles or bark following the arrival in the 1880s of the railway.

From the 1860s, bricks made of local clay were more commonly used for homesteads (Oppenheimer 2006, p.167). Homesteads were often built on a hill, for example, *Moonby House*, which was built in a conspicuous location and designed to be a landmark.

Verandahs, although not part of the original plan, were often added later.

### 7.6.2 Detailed comparisons

Comparison with former squatting runs in the New England area provides information that relates to the early squatting run of *Dungowan Station.* The following section discusses, and analyses, former squatting runs located approximately 75 km north-east of the study area.

In 1975, an archaeological survey of *Saumarez* was undertaken by Graham Connah. Findings showed that the present homestead and related buildings occupied much the same site as the earliest buildings. They were located on high ground, near the creek, which was used for sheep dipping, wool washing as well as domestic purposes. The survey identified a considerable number of timber and stone houses scattered across the property. Evidence of agricultural activities showed the changes in the wool industry brought about by changes in technology and transportation.

Sites associated with wool production are located along the western side of Saumarez Creek, adjacent to the homestead. A depression by the creek marks the site of the sheep wash tank, part of the old wash pool, along with the remains of a steam driven pump and ditches leading to and from the dam (Connah nd p.119). Approximately 800 m downstream from the wash pool are the remains of a sheep dip and yards and in between the wash tank and sheep dip is a flat area of ground where the wool shed once stood. For crossing the creek, there was a nearby ford and the remains of a 'flying fox'.

Other sites near the homestead include the sites of houses once occupied by station workers and include a blacksmith's house and shop near the woolshed. Indicators of housing remains are items such as old wells, as well as exotic plantings such as an elm tree or hawthorn bush, fruit trees and sometimes the footings of the building.

Several other timber dwellings are scattered across the *Saumarez* property. These are marked by pine plantings, historical artefact scatters, brick remains, and a fig tree. Investigations of one of the huts (site 39 of Connah's study) showed that it was a two-roomed slab hut with a verandah. Walls had been lined with newspaper. There was no surviving evidence of a chimney.

On the *Gostwyck* run, a series of outstations were spread across the landscape (Ferry 1999, p.52). These outstations consisted of bark-roofed huts, stock pens, a garden and possibly a wheat field (Ferry 1999, p.52). The stations were close to water, in good grazing land where the shepherd could keep an eye on the large flocks under his care. This was before the time of fences, and the flocks were divided into manageable numbers of up to 1,000 sheep per flock (Ferry 1999, p.52). It would also be safe to say that the huts were placed on relatively level ground, since, while the landscape rolls in hills and dales, there were plenty of flat crests or gently sloping ground on which to build.

These practices created a footprint of small outstations in addition to the main homestead and associated station management buildings. The outstations consisted of smaller residential quarters that housed a permanent workforce, namely the shepherds who lived and worked on the stock runs. These shepherds' huts and surrounding cultivated areas made up a network of dwellings, stock facilities and outbuildings spread over the property, which would have housed many of the shepherds employed on the property.

In settled districts, pastoralism was a means for some to live lives of comfort and wealth and to emulate the social systems of the English aristocracy (Lawrence and Davies 2011). In the 1870s, the focus of capital investment on pastoral stations changed from fencing to water conservation (dams and tanks), as the pastoral industry expanded into increasingly arid lands (Stuart 1999, p.124). Wire net fencing was introduced as a measure to control rabbits.

Stuart (1999, p.318) discusses the transition from squatter to squattocracy as part of a process driven by a desire for respectability. Materially, this was expressed through the rapid construction of comfortable houses and landscaped gardens that clearly demarcated their living quarters from the workers and work places, such as the shearers' quarters and shearing sheds. Squatting runs became pastoral runs after land was legally acquired by the squatters, bringing them one step closer to their aspirational objective.

Woodhouse (1993) reconstructs a cultural landscape of a sheep-grazing property in the Flinders Ranges c.1888, known as *Holowiliena*. In the home paddock near Holowiliena Creek, structures were sited on high ground, including the main house and the smithy. A little further away were a woolshed and shearers' quarters, and a number of wells. Woodhouse emphasises the importance of the woolshed as an industrial building reflecting the requirements and practices of a primary industry (Woodhouse 1993, p.93).

Water was an important consideration at *Holowiliena* and considerable effort was invested in ensuring satisfactory watering points (Woodhouse 1993, p.95). In addition, hand drawn wells were located near the main home and throughout the property along with associated structures such as stone tanks and a whim.

Butlin (cited in Stuart 1999, pp.123–4; see also Ferry 1999, p.59) listed the structures that would be present in a typical 1890s sheep station:

- headstation residence;
- outbuildings of kitchen, store, blacksmith's shop, shearing and wool sheds, shearers' hut (extras: dairy, granary, stables and mills for wheat processing);
- outstations scattered over the run;
- washing plant (mainly obsolete except in the more remote interior areas);
- boundary fences in post and wire or posts, rails and wire; and
- dams, tanks, wells and/or bores.

## 7.7 Archaeological potential

This section provides a summary of the archaeological potential and sensitivity of the study area. Matters contributing to the project area's archaeological potential are addressed in Section 7.7.1 with a discussion of squatting and the subsequent historical phases that may be captured in the archaeological resource, historical impacts/site development and a consideration of field results. A statement on the study area's archaeological potential is then provided in Section 7.7.2.

### 7.7.1 Introduction

#### i Squatting

The occupation of land by squatters and the imprint that this left behind in the archaeological record presents a spatially distinct pattern to farms outside the limits of location. The insecure tenure of a property meant that squatters were loath to spend money on erecting fences to define their property and to create paddocks. The distance of squatting runs from established commercial centres also influenced the layout of a homestead or outstation. Only the bare necessities were built – homesteads and huts, stores, sheep folds and stables and, the most important building, the shearing shed.

In the early days, the shepherd was the fence. In the care of a shepherd, sheep were distributed throughout a run. Accommodation for squatters was often bark gunyahs, tents, or nothing, until a more permanent slab or bark hut could be built at the outstation located near water. Shearing initially took place in the open but shearing sheds were soon built. Wool would be washed while it was still on the sheep's backs, often by driving the sheep through running water. The number of sheep managed by a single shepherd ranged from 200 to up to 3,000 in NSW (by the early 1840s) (Pickard 2008, p.60).

Shepherds looked after a flock of sheep during the day and penned them at night in a fold (often a moveable yard) made of hurdles (Pickard 2008, p.55), but in cases where the raw material was abundant, in stone.

This system was efficient because labour was cheap and perimeter fencing was not introduced until the late 1860s. The introduction of perimeter fencing meant that rather than being tended continuously, stock would be mustered at regular intervals (Roberts 2006, p.112).

Sempill held the land for under 12 months from 1842 and there is no evidence that he built any structures or made any improvements. There is a possibility that structures were erected on the property, and if so, Haig may have extended and improved on them. Differentiating the Sempill and Haig phases archaeologically is anticipated to be difficult but as the property was owned for less than 12 months, it is unlikely that a substantial archaeological imprint was formed.

There is a low potential for archaeological evidence of the earliest squatting phase to survive across the project area.

### ii Haig's *Dungowan Station* (Site ID DH17)

The squatting run at *Dungowan Station* took in Dungowan (or Ogunbil) Creek and covered the study area so it would be prudent to consider that early archaeological sites related to Haig's occupation of the land. The 1853 advertisement describes a cottage, garden, kitchen and stores and surrounding farming structures but these buildings would be outside the project footprint as his homestead is described as being close to the Peel River close to the Duri-Dungowan (or Dungowan-Duri) Road (McClelland 1995, p.2–3).

It is possible that locations that were built on were re-used; for example Cadell's *Dungowan Station* established in the 1860s, and the Ogunbil brick shearing shed may comprise former outstations. The Parish of Ogunbil 1880 map marks an "old sheep station" (Site ID DH32), which is in the Parish of Callaghan and across the creek outside of the project footprint (Plate 7.2) (but inside Haig's property boundary), while the 1880 Parish of Callaghan map does not mark the site but it appears to be on land that was later granted to T Sleaman (now Lot 2 DP749796). This "old sheep station" (DH32) (Plate 7.2) is a good contender for another outstation on the Haig's Dungowan Run. The land on the north side of Dungowan Creek was also part of the early squatting and pastoral run.

As discussed in Section 7.3 it is possible that outstations were built over by more recent structures (eg farm buildings such as Hillcrest, Paradise, Eagle Farm and Waterfall) but surface and/or documentary evidence of the existence of an outstation at these locations have not been found. There remains potential for relics associated with the squatting run outstations to occur throughout the project area.

The potential for archaeological evidence of Haig's Dungowan Station is high and may include archaeological sites on Cadell's Dungowan Station and further upstream towards the existing dam.

Archaeological evidence related to the squatting phase of the project area is anticipated to be present, and in some cases, assumed locations can be pinpointed through notations on early maps. Where structures have been captured in early mapping, it is possible that evidence survives archaeologically, but that survival is dependent upon building materials and the processes that accumulated after abandonment or change. Evidence from the squatting period in NSW is also rare, and for this reason, is very likely to reach the significance threshold to be a relic (refer to Section 8.3 for significance assessments). The assessment of potential for squatting-period archaeological resources has been made conservatively, as evidence may be difficult to observe if not specifically targeted.

Archaeological evidence related to the squatting period during Haig's occupation of the land is likely to survive across the project area, including on more recent free-selection properties such as Cadell's Dungowan Station and the early twentieth century lots discussed below.

Refer to the discussion on 'squatting' above, as the entire project footprint is overlaid onto Haig's original run.

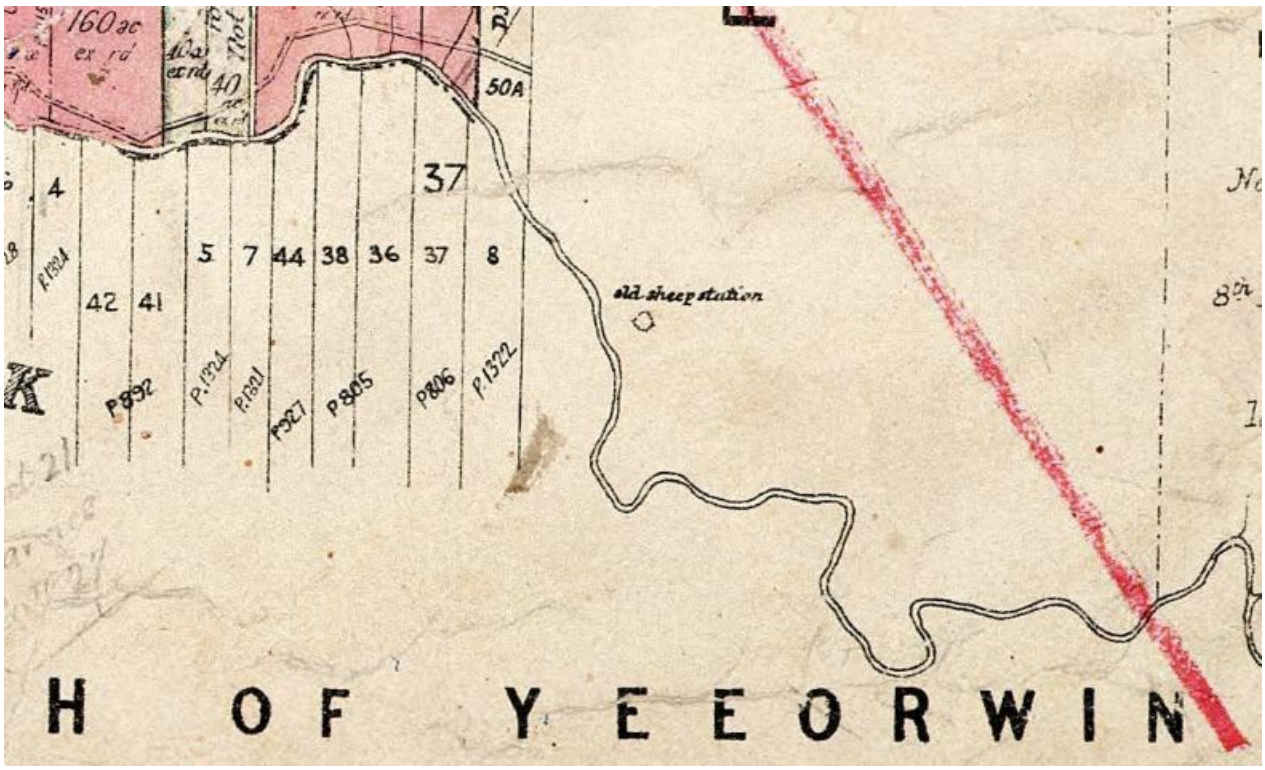


**Plate 7.2 The "old sheep station" marked on the Parish of Ogunbil 1880 map (centre). The old sheep station is in the Parish of Callaghan.**

### iii Cadell's *Dungowan Station* (Site ID DH11)

JJ Cadell purchased the run from Haig just before the Robertson Land Acts came into force. It is possible that Cadell acquired the land that was allocated to leasehold but would soon be divided up for free selection. Documentary evidence indicates that Cadell re-purchased the land where the current *Dungowan Station* is situated, and which is possibly one of the Haig's and then Cadell's (short-lived) outstations.

Archaeological evidence of Cadell's tenure on the larger parcel of land that was the larger Dungowan Station is low, as the property was not in his possession for an amount of time that would leave a legible trace.

### iv Free selection

The size and configuration of Cadell's *Dungowan Station* was ultimately defined by the free selection process, but the lots that were purchased in the early twentieth century are also a result of free selection. The six lots inside the project footprint are discussed in detail in Annexure A; they include *Paradise (DH02), Waterfall (DH03), Eagle Farm (DH04), Bee Boxes (DH05), Hillcrest (DH06) and Carinya (DH07)*. Development of those properties by the free selectors was recent relative to other historical activities in the area, and the structures of those later developments were demolished in 2020-2021. Associated with the later properties were dwellings, sheds, fences and stockyards. A sheep dip and shearing shed located at *Waterfall* were demolished, as was a piggery, built in the 1970s on *Bee Boxes.*

Archaeological evidence associated with Cadell's Dungowan Station (post-1861) is predicted to be high. This is the property on which the Cadell family ran a sheep station, and would have had a dwelling, sheds and other necessities of living a distance from a main centre. Earlier squatting-period archaeological resources may also exist on this property, as it is possible that it was one of Haig's earlier squatting outstations. Archaeological evidence associated with the early twentieth century free selection lots is anticipated to be present on all six properties. Therefore, archaeological potential is high.

The schools that were established after the free-selection phase of the site, that is post-1860, may contain archaeological resources. Information from the Parish maps indicates that the Wooloban schoolhouse (operating from 1886, although formally established in 1887) was located on Lot 43, to the south of the current road. An aerial photograph from 1960 does not show buildings within the project area; however, the school was decommissioned in 1906 so above ground evidence may have been obscured by this time. If a school was in this location there is potential for footings, rubbish deposits, water storage and toilet facilities (likely a cesspit).

Casuarina Public School operated between 1935 and 1944. A historical aerial photograph from 1953 shows structures on the site but no other information about this school was located. The lack of information may relate to the fact that its tenure was short-lived.

Archaeological resources, that is buried evidence of the schools' use may exist, but it is anticipated that archaeological potential close to the road, where the pipeline is being installed, is low.

### v Travelling stock routes and camps

The locations where stock was moved and where stockmen stopped overnight is an often-overlooked area of investigation. The concentration of archaeological material on these sites is sparse, but what remains is an imprint of droving life. Evidence of stock camps was noted during the Hume Highway duplication project close to Tarcutta, where a series of campfire sites were uncovered during road preparation works. This site was investigated after the removal of the top layer of soil and found to be refuse-filled campfire pits. The conclusion drawn at visual inspection was that the stockmen set fires in pits in camp and at daybreak, would put their refuse, consisting of metal cans and glass, into the pits and filling them with soil. The purpose of this activity is likely to have been to remove sharp refuse so that the next herd would not be injured and to put the fires out when camp was demobilised (site observation Pamela Kottaras).

### vi Historical impacts/site developments

By far, the dominant change to the landscape in and around the project area, is the existing Dungowan Dam. Construction of the existing Dungowan Dam modified the landscape behind it and drowned the valley; it also changed the hydrology of the creek although the alignment appears to be as it was on parish maps. Personal communications with a resident of the valley, Bill Webber, indicates that before the dam, Dungowan Creek had numerous swimming holes that were populated by trout. Donny Fermor, who also lived at *Paradise* as a child, remembers the plentiful fish in the creek.

The landscape of the project area has not undergone a significant change of use since the 1840s and therefore has experienced a low level of historical impacts. The most significant changes introduced into the project area are technologically-driven: machinery that allows for more intensive farming; modern fencing replacing earlier fencing; and the replacement of buildings to suit modern life. The most obvious cultural elements in the landscape would have been demolished or abandoned to degrade.

Former residential farming sites identified in the inundation area are:

- *DH02 – Paradise* Lot 22//DP755351, 962 Dungowan Dam Road Ogunbil (unlisted);
- *DH03 – Waterfall* Lot 54//DP755322, Dungowan Dam Road Ogunbil (unlisted);
- *DH04 – Eagle Farm* Lot 10//DP755351, 743 Dungowan Dam Rd Ogunbil (unlisted); and
- DH05 – 'Bee Boxes' (pig sheds) on Lot 20//DP755351; this property does not have an official name but is referred to by its local name (unlisted).

Two properties with potential historical value are located inside the construction footprint:

- *DH06 – Hillcrest* on Lot 1319//DP1240866, 578 Dungowan Dam Road, Ogunbil (unlisted); and
- *DH07 – Carinya* Lot 38//DP755322 (unlisted).

Additional to the properties above, the project pipeline and powerline infrastructure, will travel through a rural landscape as well as within and adjacent to listed and unlisted heritage items:

- DH08 – The Port Stephens Cutting (I264 Tamworth Regional LEP);
- DH09 – "Ogunbil brick shearing shed and silo", (I283 Tamworth Regional LEP);
- DH10 – surveyor's tree (unlisted);
- *DH11 – Dungowan Station* (unlisted and referred to in this report as "Cadell's *Dungowan Station*);
- DH14 – Wooloban Public School (former)(unlisted);
- DH15 – Casuarina Public School (former)(unlisted); and
- travelling stock routes and travelling stock camps.

#### vii Consideration of the field results

The results of the field survey provided evidence of archaeological sites in the inundation area and the construction footprint but did not yield sites with the potential to be early historical in nature. Surface expressions of artefacts dating to the *Dungowan Station* phase of use were not observed in the field, but there are areas that were not visited as part of the field survey as time constraints did not allow for 100% field observation. In addition, the surface expression of artefacts and other archaeological material may not be visible because of the treatment of the land, and as such documents and hypothetical models are important when assessing archaeological sensitivity.

### 7.7.2 Archaeological potential

The project area has a number of locations that are archaeologically sensitive and of varying levels of significance. The early twentieth century farms in the project footprint have largely been demolished, leaving behind only stockyards, fences and other ephemeral structures. Archaeological evidence of these farms is likely to survive.

Early, potentially significant archaeological sites may also be present in the project footprint. It is believed that the sites of greater interest are related to Haig's *Dungowan Station* (1842) and Cadell's *Dungowan Station* (1867). These early dates and the nature of the properties are likely to fulfil the significance criteria from the *NSW Heritage Manual* and have been assessed in Chapter 8 Assessment of significance.

Remnants of stock camps set up by stockmen who were using the long paddock to move cattle and sheep are of high research value into the first part of the twentieth century. An excavation of a sample of fire pits and a spatial analysis could answer questions about how these spaces were used by stockmen, their ethnicity, nutrition on the move and how they lived in general.

Chapter 8 in this report assesses the potential significance of all the archaeological sites that were discovered through archival research and/or field survey.

# 8 Assessment of significance

## 8.1 The significance framework

In NSW, historical value is ascribed to buildings, places, archaeological sites and landscapes modified in the Australian historical period for purposes other than traditional Aboriginal use. The assessment of heritage significance is based on the Burra Charter (Australia ICOMOS 2013) and further expanded upon in *Assessing Heritage Significance* (NSW Heritage Manual Heritage Office 2001). The heritage manual lists seven criteria to identify and assess heritage values that apply when considering if an item is of state or local heritage significance, which are set out in Table 8.1. It also identifies the heritage gradings for which items (or features or components) that were recorded on site have been assessed against, and which provide context for each individual item's contribution to the cultural landscape. The result of the assessments of significance may determine that an individual component does not meet the threshold for local or State significance as an individual item, but that it does contribute to the significance of the cultural landscape.

While the focus of the research presented in this report has been on the items in, or close to, the project area, the assessment of significance is primarily concerned with items within the project footprint.

The assessment of relics is hypothetical as their existence as intact and substantial sites is predicted and not confirmed.

**Table 8.1 NSW heritage assessment criteria**

| Criterion | Explanation |
|---|---|
| a) | An item is important in the course or pattern of NSW's (or the local area's) cultural or natural history (Historical Significance). |
| 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 (or the local area's) cultural or natural history (Associative Significance). |
| 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) (Aesthetic Significance). |
| d) | An item has a strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons (Social Significance). |
| e) | An item has the potential to yield information that will contribute to an understanding of NSW's (or the local area's) cultural or natural history (Research Significance). |
| f) | An item possesses uncommon, rare or endangered aspects of NSW's (or the local area's) cultural or natural history (Rarity). |
| g) | An item is important in demonstrating the principal characteristics of a class of NSW's (or the local area's) cultural or natural places or environments (Representativeness). |

Source: Assessing heritage significance (NSW Heritage Office 2001, p.9).

## 8.2 Significant cultural landscapes

Cultural landscapes come in different forms, from having the appearance of wilderness to countryside to urban areas. The common factor that all cultural landscapes possess is they are a moment in time in a continuum of change created by human action (Meinig 1979).

Cultural landscapes can be broadly defined as designed, evolved or associative (Australia ICOMOS n.d.), with designed landscapes being largely represented by gardens; evolved landscapes by development; and associative landscapes being more indebted to the intangible, the religious or sacred. Cultural landscapes are also dynamic (Stuart 1997, p.28), regardless of the pace of change.

The significance of a landscape is dependent on how it reflects values of the heritage standards in Australia and the *Burra Charter*, which was developed to reflect the values of the community. Interpretability is an important factor, that is, the ability of a landscape to tell a story is a socially and scientifically valuable attribute. So, while all human interactions with nature result in the formation of cultural landscapes, significance varies on what can be identified and interpreted and considered to be valuable to the community.

## 8.3 Statements of significance

The significance of each item identified during field survey and/or research is assessed in Annexure B against each of the NSW heritage assessment criteria (Table 8.1). A summary statement of significance is provided in Table 8.2.

**Table 8.2 Assessment of significance**

| Site | Statement of significance |
|---|---|
| Dungowan Dam (DH01) | The existing Dungowan Dam is of local significance for its place in the historical development of Tamworth and for its research and technological values. The employment of a large Kamilaroi work force is an important element in the history of the dam. The design of the Dungowan Dam possesses research potential that can be accessed through documentation and analysis. It is also of aesthetic significance as a major engineering feat in the Dungowan Valley and is an impressive edifice in an otherwise undeveloped area in the region. |
| Early twentieth century farms and homestead (DH02, DH03, DH04, DH05, DH06, DH07) | The farms that were granted or purchased in the early twentieth century – *Paradise, Waterfall, Eagle Farm,* "Bee Boxes", *Hillcrest* and *Carinya* contribute to the significance of the cultural landscape. These properties were developed much the same way that nineteenth century grants were improved. They are not significant individually as they are representative of small farms in the Dungowan Valley. They have local contributory significance |
| Port Stephens Cutting, Hand Laid Stone (DH08) | The following statement of significance is verbatim from the SHI listing as it is relevant. The listing entry assessed this item at a *State* level of significance. The item is not listed on the SHR.<br>"These sections of original road construction is important in the course of the development of transport routes within the State of NSW, and the consequent opening up of the interior of NSW. They are a rare example of the technical innovation of the time, and hold considerable potential to yield further information with regard to the cultural history of NSW. They are significant in terms of their relationship to convict labour and the cultural and community associations that exist to that significant group. It is a well preserved example of convict construction and is therefore representative of this class of items. Furthermore, these sites are important in terms of their relationship with the Australian Agricultural Company."<br>State Heritage Inventory DB no. 2471186/File no. NIA-008 |
| Ogunbil brick shearing shed and silo (DH09) | The Ogunbil brick shearing shed and silo are of *local* significance for their contribution to the development of the farming industry in the local area. The items are also rare at a local level and aesthetically they stand out in the landscape for their unusual configuration. The concrete silo is rare in the local context.<br>The site has the potential to contain relics at a *State* level if it is demonstrated that the site was once a part of Haig's *Dungowan Run*. As an outstation dating from the squatting period of Tamworth, relics, if they exist, would have research potential that could answer questions relating to these early properties, how the shepherd's or overseers lived and other such questions. |
| Surveyor's tree (DH10) | The surveyor's tree is of *local* significance as a surviving historical survey marker. Originally one of many in the regions, if others survive, they have not been located in the landscape. The tree also contributes to the cultural landscape. |

## Table 8.2 Assessment of significance

| Site | Statement of significance |
|---|---|
| Cadell's Dungowan Station (DH11) | Cadell's *Dungowan Station* is of confirmed *local* significance and potentially of *State* significance for its ability to demonstrate the historical development of the area in two phases; the first as an outstation to Haig's original sheep station, and then in its own right as a sheep station when the original run was subdivided in the 1860s. The property may host sheds dating to Cadell's ownership, but the current house was built in the early twentieth century and while it appears to be a fine example of a brick Federation cottage, it is of *local significance.*<br>Archaeological evidence relating to both phases are likely to reach the threshold for *State* significance. Relics relating to Haig's and Cadell's occupancy have the potential to answer questions about the little-known material life of squatters and early pastoralists in the region as well as in the colony. These questions interrogate how life was lived in these outposts but also could answer questions relating to the spatial arrangements of each building group and how they related to the headstation.<br>Also of *State* significance is the relationship that the Cadell's *Dungowan Station* had to the original headstation. As an outstation, the property that Cadell purchased, is representative of the spatial arrangements of early squatting runs. The lack of fencing early on resulted in residences, large and humble, to be built where shepherds and managers could live to tend to their responsibilities. |
| Brumby holding pen (DH12) | The history of this item is not known but it was identified as a brumby holding pen by a former resident. It is unlikely to possess significance as an individual item but contributes to the significance of the cultural landscape. If it is indeed a brumby holding pen, its existence poses questions about the presence of the animals in this region. The item has local contributory significance. |
| Haig's Dungowan Station (DH17) | Haig's *Dungowan Station* is of *State* significance for its contribution to the development of the wool industry in the colony. It was one of a number of such stations that were occupied illegally from the government but whose value to the economic growth was realised within 20 years and later to become legitimate (in the eyes of the colonial government) pastoral runs. The history of squatting on land is an important aspect of the growth of the colony and while Haig was not the original squatter on this land, he was the person that started 'improvement'.<br>Archaeological evidence relating to both phases are likely to reach the threshold for *State* significance. Relics relating to Haig's and Cadell's occupancy have the potential to answer questions about the little-known material life of squatters and early pastoralists in the region as well as in the colony. These questions interrogate how life was lived in these outposts but also could answer questions relating to the spatial arrangements of each building group and how they related to the headstation.<br>Dr Haig was a notable figure in the local area, firstly as a surgeon, trained at Edinburgh University, as a doctor employed by the AAC, for establishing the first hospital at Tamworth and as a pastoralist, although this profession was short-lived. |
| Cultural landscape (DH18) | The cultural landscape of the project area is of *local* significance for its ability to demonstrate the early historic character of the valley and the higher land to the west. It is the result of about 5,000 years of Aboriginal use of the land and 190 years of occupation by the new immigrants to the colony. Made up of remnant native bushland, exotic and deliberate plantings for ornamental and resource purposes, stock camps, buildings and ruins, creating significant and non-significant archaeological sites. The creek, while modified by the existing dam, and evidence of life around it creates the ambience of a secluded valley and a micro-climate created by the steep flaking hills. The significance of such a landscape is embedded in the layers that created it and the subtlety of those elements. |
| Dorset Vale (DH13); Wooloban (DH14); Casuarina (DH15) public schools | The former public schools identified are of local historical significance as they demonstrate the growth of the Dungowan valley – first in the late nineteenth century and then after the early twentieth century free-selection uptake of property gained momentum. All schools have research potential, particularly with regard to the analysis of documents and their role in the growth of the valley. From an archaeological perspective, Wooloban Public School possesses local significance in the information that could be held in the archaeological resource. All the schools contribute to the representative value of buildings and establishments of their type at a local level. |

## Table 8.2 Assessment of significance

| Site | Statement of significance |
|---|---|
| John Wilson's skeleton (DH34) | The following assessment is based on the assumption that the skeleton described in Section 7.5.2 belonged to John Wilson.<br>The skeleton is of local significance, with the possibility that scientific analysis may provide answers to historical practices that are of State significance. Questions related to the health and lifestyle of itinerant workers could be investigated and shed light on the differences between the sedentary working class and the mobile working class. Historically, the find represents an individual who was provided with little respect when the body was found and placed in a heap to be covered over with soil. This is discordant with the prevalent Victorian Christian beliefs around burial rituals and honouring the dead, which contributes to the broader narrative of historical practices.<br>Socially, the skeleton may illicit a sense of loss in the community for the death of a man who was left unmourned. The greatest value of the skeleton is the potential to discover more about the individual; confirmation of sex, ancestry and age will provide data that can be interpreted to answer questions of lifestyle, associations, health and wealth. This last value is of local significance. |

# 9 Heritage impact assessment

## 9.1 Background to assessing impacts

### 9.1.1 Introduction

The assessment of a project's impacts to the heritage significance of a place or an item is to understand change, if it is beneficial to the place or item, and how changes can be managed to best retain significance. The historical landscape in Australia, be it rural or urban, is by social agreement, a significant aspect of our identity (refer to Section 9.1.2). That agreement is codified in legislation, the intent of which is to encourage the conservation of cultural heritage by incorporating it into development where feasible. In many situations avoiding impacts is impossible, but the aim is to reduce those impacts by either project re-design or managing the loss of information through methods that reduce and/or record significance before it is removed.

The framework around assessing significance and therefore suitable levels of impact is to understand how the place or item came to be, how important it was (and may be still) in the development of the local area or the state (the colony at the time) and providing guidance on its management.

### 9.1.2 Inter-generational equity

Aboriginal cultural heritage management is based on the principle of inter-generational equity, the intent of which is to ensure present generations consider future generations when making management decisions about culture. This principle is possibly the most relevant part of the notion of ecologically sustainable development (ESD) when considering Aboriginal cultural heritage management. The same philosophy is applied to historical heritage management and is covered under the ICOMOS *Burra Charter:*

> Article 1.2 Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present and future generations (Australia ICOMOS 2013, p.2).

The *Burra Charter* continues:

> Places of cultural significance enrich people's lives, often providing a deep and inspirational sense of connection to community and landscape, to the past and to lived experiences. They are historical records, [sic] that are important expressions of Australian identity and experience. Places of cultural significance reflect the diversity of our communities, telling us about who we are and the past that has formed us and the Australian landscape. They are irreplaceable and precious.
>
> These places of cultural significance must be conserved for present and future generations in accordance with the principle of inter-generational equity.
>
> The Burra Charter advocates a cautious approach to change: do as much as necessary to care for the place and to make it useable, but otherwise change it as little as possible so that its cultural significance is retained.
>
> (Australia ICOMOS 2013, p.1)

## 9.2 Sources of impact

Impacts are predicted to occur as a result of construction and operation of the new dam, installation of the pipeline as well as establishment of the new overhead powerline. Decommissioning of the existing dam may also have impacts on surrounding heritage values. Alternatively, the decreased water level at completion may reveal the remnants of buildings that were drowned with the operation of the current dam.

Two main types of impacts have been predicted to occur as a result of the project; these types are described below.

- physical impacts are those impacts that will materially affect the features and sites that are present within the project footprint whether they were found or if they are unanticipated; and
- visual impacts are those impacts that will affect the views and the setting of the cultural landscape and nearby built items within the project footprint and surrounds.

Impacts arising from construction and operation of the project are expected to have minimal impact on heritage values that have been formalised through inclusion on statutory heritage registers and a greater impact on the cultural landscape values in the construction and operational areas specific to the project.

## 9.3 Impact avoidance through design

The project found that many of the impacts associated with the project cannot be avoided but where possible, particularly in the event of relics that may relate to the two phases of *Dungowan Station,* management to ensure that they are not destroyed without mitigation has been identified. In other cases, there may be flexibility to align the pipeline and powerline easements to avoid impacts. A summary of measures undertaken during concept design stage to avoid and minimise impacts is provided in Table 9.1.

**Table 9.1 Consideration of avoidance of impacts**

| Category | Site/site type | Measures to avoid and minimise |
|---|---|---|
| Built heritage | Farm buildings (DH02, DH03, DH04, DH05 and DH06) | Efforts to avoid impacts to built heritage are not applicable to any of the farm buildings that existed in the project footprint. In the first instance, all the identified farms, that is Paradise, Waterfall, Eagle Farm, Bee Boxes and Hillcrest are inside the operational footprint and will be inundated or beneath the proposed spillway. Additionally, the buildings that were still standing, albeit abandoned, were demolished between February and September 2020.<br>These farms have been assessed to be of contributory significance to the cultural landscape and held little individual significance with respect to archaeological values except for the research potential in the associated drop toilets. |
| | Existing Dungowan Dam (DH01) | The project concept design reviewed options to retain the existing Dungowan Dam. The review found that retaining the existing Dungowan Dam would result in unacceptable safety risks of dam failure and high construction costs to upgrade to meet modern dam safety standards. The requirement to decommission the existing Dungowan Dam is thereby considered to be an unavoidable impact of the project. |
| | Port Stephens Cutting (DH08) | The installation of power poles in the vicinity and across this item is a vital aspect of the project as the powerline cannot be installed in an alternative location. Care would be taken to avoid impacts to the heritage item by siting power poles and access tracks to avoid the cutting. |
| | Ogunbil shearing shed and silo (DH09/I283) | The pipeline alignment in this location was sited to maintain a suitable distance from the structures to avoid vibratory or other impacts. |
| Relics and archaeological resources | Cadell's Dungowan Station and the Ogunbil brick shearing and silo (DH09 and DH11) | The preferred heritage management approach would be to avoid impacts to relics; however, their presence has not been confirmed and therefore, efforts to avoid them at this stage cannot be made. It may be possible to adjust the pipeline alignment through detailed design to further minimise impacts within the 20 m pipeline alignment, but would need the input of the engineering and design team (refer to Section 9.4.2 for details). |

**Table 9.1 Consideration of avoidance of impacts**

| Category | Site/site type | Measures to avoid and minimise |
|---|---|---|
| | All other sites | Relics have not been definitively identified in any location within the project footprint, but the potential for their existence is moderate to high. Avoiding these potential sites is not possible as their locations, if they exist, have not been verified. It may be possible to adjust the pipeline alignment through detailed design to further minimise impacts within the 20 m pipeline alignment, but would need the input of the engineering and design team (refer to Section 9.4.2 for details). |
| Other | John Wilson's grave (DH02.2) | The purported grave of John Wilson is in the inundation area. Other than exhumation, the only other and preferred measure is to further investigate in an effort to add evidence to local history. |
| | Significant landscapes | Impacts cannot be avoided. |

## 9.4 Assessment of impacts

### 9.4.1 Impacts to built heritage

#### i Farm buildings in the project area

All built structures identified during the field surveys have been allocated a level of local contributory significance for their contribution to the early twentieth century cultural landscape. Built structures at *Paradise (DH02), Waterfall (DH03), Eagle Farm (DH04),* "Bee Boxes" (DH05), *Hillcrest (DH06)* and *Carinya (DH07)* contribute to the significance of the cultural landscape. Close inspection of the built elements was not undertaken before they were demolished and therefore the loss of significance of individual structures has not been identified. Photographs of all structures were taken, with varying degrees of detail, during the February 2020 field survey.

The main loss of significance arising from the removal of the standing structures is research significance, which would have been able to answer questions relating to the spatial patterns created in the early twentieth century on land that was acquired through a system that was in use early in the colony. The buildings, their uses and the spaces in between may have also provided answers to research questions that could enrich our understanding of the past. As archaeological sites, these properties provide a different perspective on life in the past (refer to the discussion in Section 7.7.2 and the assessment of significance Table 8.2).

#### ii Existing Dungowan Dam

Decommissioning the existing dam will result in the loss of historical and aesthetic (technological) significance.

#### iii Port Stephens Cutting

Construction of the new Dungowan Dam will not have a detrimental impact on the significance of the Port Stephens Cutting. Power poles that need to be installed can be placed in areas that will not physically impinge on the item even inside the listed curtilage.

Instructions on safeguarding this item during the powerline installation will be detailed in the Construction Heritage Management Plan (CHMP), which will be prepared prior to construction.

#### iv Ogunbil shearing shed and silo (I283)

Visual impacts of the project to the shearing shed and silo will be nil, as the pipeline will not be visible when operational. The potential for relics exists on this property (on both sides of Dungowan Road) and consideration should be given to undertaking archaeological test excavation first prior to construction activities (discussed below).

### 9.4.2 Impacts to relics and archaeological resources

Relics are likely to exist in the project footprint, but their location has not been confirmed in this assessment. Predictions can be made on the potential for relics and the archaeological sensitivity of certain locations, but it is likely that relics will occur where they have not been predicted. Therefore, an unexpected finds protocol and process will be provided in the CHMP.

The locations that have been identified with a higher level of potential for relics are those that are associated, or believed to be associated, with the first *Dungowan Station* established by Dr Haig. Based on the spatial patterns of squatting runs, which placed outstations and shepherd's huts at regular intervals (about 12 km), and assuming that Haig's *Dungowan Station* (DH17) is at the northern end of his run as described by McClelland (1991a), the current *Dungowan Station* established by James John Cadell, was probably an outstation or shepherd's hut. Further up (south-east) the valley, is the Ogunbil brick shearing shed and silo, built in the early twentieth century, but in the correct location for another outstation or shepherd's hut. Further up the valley and close to, but outside, the project footprint, a parish map marks an 'old sheep station'. This has potential to be a third outstation (refer to Section 7.7.1ii).

A hut (DH22) located on the 1879 Parish of Woolomin plan, is in close proximity to the current alignment of the pipeline and an associated air valve.

As relics are predicted to occur in the areas where the pipeline intersects with DH11 Cadell's *Dungowan Station* and DH09 the Ogunbil brick shearing shed and silo, it is predicted that impacts may occur to relics if avoidance through redesign of the alignment is not possible.

All other relics will be managed through an unexpected finds protocol. Refer to the management measures for details (Section 9.3 and Table 10.2).

All the former farm compounds are now archaeological sites. Their primary significance was their contribution to the cultural landscape in a region of NSW that was granted or released to free settlers in the early twentieth century. Many of the land grants in the colony were made in the early to mid-nineteenth century and land open to free selectors followed, much of the time in the mid to late nineteenth century. The Dungowan Creek valley is unusual in this respect.

The significance of a component of the archaeological resource has been assessed at a local level, specifically at the pit toilets that were built as part of the residence (refer to Annexure A.2). This significance lies in the research potential of what were essentially early, to mid-twentieth century cesspits. Thus, the pit toilets represent the potential for relics to survive in the project footprint.

Of the two schools identified in the project area, only one – Wooloban Public School (c1887–1906) – has significance for its potential to contain relics at a local level for its historical development in the area. Plans of the school buildings were not located, but a parish map shows lots 43 and 44 as set aside for school purposes. An aerial photograph taken in the 1960 does not show buildings in the area of project impact but as the school was decommissioned in 1906, it is possible that school structures had been demolished by then. If a school was in this location there is potential for footings, rubbish deposits, water storage and toilet facilities (likely a cesspit); however, it is also possible that these former structures were set back from the road.

All other elements of the archaeological sites, including the dwellings, sheds and pens do not meet the threshold for local significance and therefore are not relics. Their significance in their built form for their contribution to the cultural landscape, which was also an abandoned landscape.

### 9.4.3 John Wilson's grave

The existence of a grave was raised early in the investigation. Information was provided to the heritage team by a former local resident of the property, that a man by the name of John Wilson, was buried in one of the paddocks in the project footprint. Subsequent investigations confirmed the existence of the burial, and an assessment of the find's significance was prepared based on the information gathered so far, and the research potential of the skeleton, clothing and manner of disposal. Research on the individual and others like him would also be of value to our understanding of the lifestyle that John Wilson may have led – it is believed he was an itinerant worker or swagman.

In addition to possessing significance in its own right, the burial contributes to the layers of the cultural landscape of the Dungowan Valley. It is one event, in many, that shaped the physical and oral history of the place.

### 9.4.4 Impacts to significant landscapes

The landscape inside the operational footprint, which includes the inundation area will be flooded and therefore inaccessible. Much as the area behind the existing Dungowan Dam retains its bushland appearance, so too will the area above the new inundation levels. While the landscape at the higher elevations is no doubt a cultural landscape with Aboriginal cultural values, evidence of post-settlement values is scant. Information from Bill Webber, a former resident in the valley, indicates that a small hydroelectricity system was set up at one of the waterfalls on the escarpment (outside the project footprint) to provide power for the mines over the mountains. If still in existence, this item would also contribute to the cultural landscape despite being hidden. It is not however, in or near, the project footprint.

The cultural landscape inside and surrounding the project footprint is of local significance and therefore requires some form of management.

### 9.4.5 Impacts to items under the current reservoir

Not considered in this report are the former farms that are currently beneath the Dungowan Dam reservoir. It is anticipated that evidence of these farms may appear when the reservoir is dewatered, which is likely to attract individuals scavenging for historical items inside the catchment. Methods to manage destructive activities, such as scavenging, should be considered at a later stage. Recommendations as to the types of management measures that could be considered are included in Section 10.3.

## 9.5 Statement of heritage impact

Impacts to significance will be experienced through the construction and operation of the new Dungowan Dam and the associated pipeline. There will be loss of significance of the existing cultural landscape, which consists of cleared fields, fences and stockyards, archaeological sites and roads. The current aesthetic is of a compact valley cut through by a creek and is clearly rural in character. The hills on either side are steep and contribute to the enclosed feel of the place.

The former house sites that are now archaeological sites (but not relics) contribute to this landscape that has been formed by thousands of years of Aboriginal life and later occupation by the wave of immigration starting in the late eighteenth century.

Impact may also occur to relics that are related to the early colonial uses of the project area – relics that belong to Haig's *Dungowan Station*, Cadell's *Dungowan Station* and other, unidentified historical activities.

The impacts of the project can be managed through a number of measures as outlined in Chapter 10.

# 10 Management measures

## 10.1 Heritage management objectives

The overriding objective in managing heritage significance is the avoidance of impacts. Avoidance removes the need for mitigation or amelioration and is in keeping with the philosophy of the *Burra Charter 2013* (Australia ICOMOS 2013). In all cases where significant heritage values may be affected by a project, it is prudent to take a precautionary approach by excising the project footprint where it intersects with heritage items or with areas that have been identified as having potential to contain relics. An overarching strategy to protect heritage significance within the project footprint has been followed to date and will continue as needed through adoption of a precautionary approach. This approach will continue to be applied for all activities that could impact on heritage items or potential heritage items. That is, the items will either be completely excluded from the project footprint or its heritage values will be investigated and recorded prior to the works if its removal is appropriate.

## 10.2 General management measures

Management measures that would be implemented to mitigate impacts of the project to historical heritage values are outlined in Table 10.1 below.

**Table 10.1 Description of management measures**

| Management measures | Reference | Description | Timing |
|---|---|---|---|
| Construction Heritage Management Plan | HH01 | A Construction Heritage Management Plan (CHMP) will be prepared and implemented as part of the CEMP. The CHMP will include:<br>• Measures that will be implemented to manage potential impacts on items of heritage significance.<br>• Inclusion of heritage awareness and management training within the site induction process for relevant personnel involved in site works.<br>• Details regarding the conservation and curation of any historical artefacts recovered during works. | Pre-construction<br>Construction |
| Avoid | HH02 | Any items identified in Table 10.2 to be avoided would be made no-go areas and would be identified in the CHMP and the heritage induction. | Construction |
| Archaeological test excavation | HH03 | Three locations in the project area have been identified for archaeological test excavation: the section of pipeline that runs through the Ogunbil brick shearing shed and silo (DH09), the section of pipeline that runs through Cadell's *Dungowan Station* (DH11), and hut 4 (DH22) where it is intersected by the pipeline alignment and air valve.<br>If relics are discovered and it is possible to move the alignment, this would be the preferred method of management to retain heritage significance. If it is not possible to move the alignment, a program of archaeological salvage excavation would need to occur – a detailed archaeological research design with additional research and comparative analysis would need to be prepared prior to excavations commencing. Notification under Section 146 of the Heritage Act would also need to be made to the NSW Heritage Council.<br>The program relies on the design of the pipeline and is therefore scheduled at the post approval stage of the project. | Construction |

## Table 10.1 Description of management measures

| Management measures | Reference | Description | Timing |
|---|---|---|---|
| Archival photography | HH04 | An archival record in the form of digital photography will be prepared to capture the pre-construction state of the landscape; the images will capture fields/paddocks and their relationship to Dungowan Creek, surviving stockyards and ramps, road and tracks, and general landscape features by the former residential group on *Paradise.*<br>The aim of the archival record is to capture the project area before changes occur. The subject of the photography should be general in nature and photographs taken during the field surveys should be incorporated to form one digital report, with minimal text, and referencing the SoHI.<br>The documents listed below are for general guidance as a complete archival record report with printed photographs and a separate report is not required – it is acceptable for the report to be submitted and used as a digital document. This SoHI is an archive of the project area but high resolution digital SLR photographs were not taken of all features, as survey recording was completed using Survey123. The report should include a basic plan showing where the photographs were taken from, a photographic catalogue and reference to the SoHI for detailed information. Photographs should be representative of the project area and be kept to a minimum (as the ease of digital photography can result in an overabundance of photographs that need to be catalogued and mapped). Individual items such as survey trees in close proximity to the project footprint should be photographed to show the historical modifications.<br>The record of the photographs, and any other data relating to the history of the project should be provided to Tamworth Regional Council local studies library (or equivalent).<br>A copy of the archival photographs and related material should be lodged with the Heritage NSW library for access to researchers also.<br>The existing Dungowan Dam will be recorded separately and in more detail.<br>The archival records will be prepared generally in accordance with the following guiding documents:<br>• *Photographic recording of heritage items using film or digital capture* (Heritage Office 2006); and<br>• *How to prepare archival records of heritage items* (NSW Heritage Office 1998).<br>Note that an archival record is not limited to photographic capture and may include other material such as drawings, historic plans and oral history to be added when the opportunity arises external to this project. If photographs are taken during construction activities, they too should be considered for inclusion. | Construction |
| Electronic survey | HH05 | In some cases, electronic survey of former building complexes would be beneficial in collecting data for future research. | Construction |
| Interpretation | HH06 | Interpretation is the logical conclusion of heritage investigation and management and should be implemented if a significant find is uncovered; for instance, if relics are uncovered and require excavation. The report should be made available to the public online, provided to Tamworth Regional Council as well as Heritage NSW for lodgement in their libraries. | Construction |

**Table 10.1 Description of management measures**

| Management measures | Reference | Description | Timing |
|---|---|---|---|
| Unexpected finds protocol | HH07 | Any items of potential heritage conservation significance or human remains discovered during construction will be managed in accordance with the Water Infrastructure NSW Unexpected Heritage Finds and Humans Remains Procedure. Work will stop if objects such as bonded bricks, timber or stones appearing in formation indicating a wall or floor for instance are found, or if soil with artefacts concentrations, is excavated. Items that appear to be small rubbish pits or burning pits may be part of a stock camp – these finds will also stop work. A description of the types of finds that will stop works will be determined prior to construction as part of the CHMP and staff involved in excavation work will be informed about how to apply it.<br>The unanticipated finds protocol will include actions such as:<br>• work will immediately cease within 5 m of the find and the site supervisor or appropriate responsible person will be informed;<br>• an archaeologist will be contacted to assess the find, where relevant, and determine if it is clearly a relic or has moderate to high potential to be a relic (this may require additional research);<br>• if the find is determined to be a relic, a Section 146 notification (under the Heritage Act) is to be forwarded to the Heritage Council who will be consulted on the appropriate management measure; and<br>• if the find is assessed and is not a relic, work inside the area that was made a no-go area can re-commence.<br>Appropriate management measures range from do nothing to archaeological excavation. | Construction |
| Walkover with descendants | HH08 | The sections of the project that are currently beneath the existing Dungowan Dam reservoir may be of interest to descendants visiting the house sites of their ancestors, or, in some cases, their childhoods. The plausibility of this action should be investigated and considered in the CHMP. | Construction |

## 10.3 Site specific management measures

The management measures outlined in Table 10.1 would be applied to each of the sites based on the impact type, and ability to apply each of the measures. A summary of the proposed management and mitigation options for each site are outlined in Table 10.2.

## Table 10.2 Site specific management measures

| Site ID | Site name | Site type | Significance | Impact type | Project modifications | Management or mitigation options |
|---|---|---|---|---|---|---|
| DH01 | Dungowan Dam | Built – dam | Local – not listed | Physical – decommissioning | None possible | Archival photography. |
| DH02.1 | *Paradise* | Archaeological residential group.<br>Landscape features. | Local contributory – not listed | Partial physical – inundation | None possible | Archival photography. |
| DH02.2 | *Paradise* | Human burial – Wilson's grave | Local | Physical – inundation<br>Full exhumation possible. | None possible | The skeleton and associated artefacts will be excavated and inspected, if possible, *in situ* to ascertain the ancestry, sex and age of the individual. If *in situ* identification is not possible, the skeleton will be fully exhumed and analysed in a laboratory.<br>Should the skeleton be found to be Caucasian, the probability of it being the remains of John Wilson are high and consultation with WINSW, Heritage NSW, NSW Health and other identified stakeholders will be held to decide on the final resting place.<br>Should the skeleton be found to be of Aboriginal ancestry, consultation will be held with the Aboriginal stakeholders, WINSW, Heritage NSW, NSW Health to agree on a final resting place. |
| DH02.3 | *Paradise* | Stockyard and ramp | Local contributory – not listed | Physical – inundation | None possible | Archival photography. |
| DH03.1 | *Waterfall* | Archaeological residential and farm group.<br>Landscape. | Local contributory – not listed | Physical – inundation | None possible | Archival photography. |
| DH03.2 | *Waterfall* | Stone lined road | Local contributory – not listed | Physical – inundation | None possible | Archival photography. |
| DH03.3 | *Waterfall* | Gate posts | Local contributory – not listed | Physical – inundation | None possible | Archival photography. |
| DH03.4 | *Waterfall* | Paddock (including mature trees) | Local contributory – not listed | Physical – inundation | None possible | Archival photography. |

## Table 10.2 Site specific management measures

| Site ID | Site name | Site type | Significance | Impact type | Project modifications | Management or mitigation options |
|---|---|---|---|---|---|---|
| DH03.5 | *Waterfall* | Stockyard and ramp | Local contributory – not listed | Physical – inundation | None possible | Archival photography |
| DH03.6 | *Waterfall* | Timber beam bridge | Local contributory – not listed | Physical – inundation | None possible | Archival photography |
| DH04 | *Eagle Farm* | Archaeological homestead;<br>Landscape; | Local contributory – not listed | Physical – Inundation; operational footprint;<br>borrow areas | None possible | Archival photography |
| DH05 | "Bee Boxes" | Landscape | Local contributory – not listed | Physical – inundation | None possible | Archival photography |
| DH06 | *Hillcrest* | Archaeological homestead;<br>Ruins;<br>Landscape; | Local contributory – not listed | Physical – future spillway | None possible | Archival photography |
| DH07 | *Carinya* | Archaeological homestead;<br>Landscape; | Local contributory – not listed | Physical – construction camp | None possible | Archival photography |
| DH08 | Port Stephens Cutting | Built – road | Local – I264 | Visual – power poles | None possible | Archival photography<br>Ensure that power poles avoid significant locations. |
| DH09 | Ogunbil brick shearing shed and silo | Built and archaeological;<br>Potential relics;<br>Landscape | Local – I283 | Physical – pipeline | To be determined | Archival photography<br>Archaeological test excavation;<br>Interpretation if relics are found. |
| DH10 | Surveyor's tree | Landscape item | Local – not listed | None | Not necessary | Archival photography<br>Interpretation<br>Identify and protect during construction activities |

## Table 10.2 Site specific management measures

| Site ID | Site name | Site type | Significance | Impact type | Project modifications | Management or mitigation options |
|---|---|---|---|---|---|---|
| DH11 | Cadell's *Dungowan Station* | Built;<br>Archaeological;<br>Potential relics | State – potential | Physical – pipeline | To be determined | Archival photography<br>Archaeological test excavation<br>Interpretation if relics are found. |
| DH12 | Brumby holding pen | Built;<br>Landscape | Local | Various – physical, visual, setting | None possible | Capture in archival photography of the landscape – detail not necessary |
| DH13 | Dorset Vale School (former) | Archaeological | Local – contributory | None | Not necessary | Avoid |
| DH14 | Wooloban Public School (former) | Archaeological | Local – contributory | Physical - pipeline | Not necessary | Unexpected finds procedure |
| DH15 | Casuarina Public School (former) | Archaeological | Local – contributory | Physical - pipeline | Not necessary | Unexpected finds procedure |
| DH16 | Dungowan Upper School Union Church | Built | Local – contributory | None | Not necessary | Avoid |
| DH17 | Haig's Dungowan Homestead | Archaeological – potential relics | State – potential | None | Not necessary | Avoid |
| DH18 | Cultural landscape | Landscape – modified and natural;<br>Stock routes and camps | Local | Various – physical, visual, setting | None possible | Archival record as described in the items above |
| DH19 | Hut 1 (plan) | Archaeological – potential relics | Local – contributory | None | Not necessary | Avoid |
| DH20 | Hut 2 | Archaeological – potential relics | Local – contributory | None | Not necessary | Avoid |
| DH21 | Hut 3 | Archaeological – potential relics | Local – contributory | None | Not necessary | Avoid |
| DH22 | Hut 4 and yard | Archaeological – potential relics | Local – contributory | Physical – pipeline | To be determined | Archival photography<br>Archaeological test excavation<br>Interpretation if relics are found |

## Table 10.2 Site specific management measures

| Site ID | Site name | Site type | Significance | Impact type | Project modifications | Management or mitigation options |
|---|---|---|---|---|---|---|
| DH23 | Hut 5 | Archaeological – potential relics | Local – contributory | None | Not necessary | Avoid |
| DH24 | Hut 6 | Archaeological – potential relics | Local – contributory | Physical – pipeline | To be determined | Archival photography<br>Archaeological test excavation<br>Interpretation if relics are found. |
| DH25 | Well | Archaeological – potential relics | Local – contributory | Physical – pipeline | To be determined | Archival photography<br>Archaeological test excavation<br>Interpretation if relics are found. |
| DH26 | Hut 7 | Archaeological – potential relics | Local – contributory | Physical – pipeline | To be determined | Archival photography<br>Archaeological test excavation<br>Interpretation if relics are found. |
| DH27 | Bridge | Built and archaeological – potential relics | Local | Local | None | Not necessary |
| DH28 | Dungowan Crossing | Archaeological – potential relics | Local – contributory | None | Not necessary | Avoid |
| DH29 | Huts on Cadell's Dungowan Station (from plan) | Archaeological – potential relics | State – potential, contributory | Physical - pipeline | To be determined | Archival photography<br>Archaeological test excavation<br>Interpretation if relics are found. |
| DH30 | Woolshed on Cadell's Dungowan Station (from plan) | Archaeological – potential relics | State – potential, contributory | Physical - pipeline | To be determined | Archival photography<br>Archaeological test excavation<br>Interpretation if relics are found. |
| DH32 | Old sheep station | Archaeological – potential relics | Local – contributory | None | Not necessary | Avoid |
| | Unknown outstations of Dungowan Station squatting run | Archaeological – potential relics | Local – contributory | Unknown | Not necessary | Unexpected finds procedure |

**Table 10.2 Site specific management measures**

| Site ID | Site name | Site type | Significance | Impact type | Project modifications | Management or mitigation options |
|---|---|---|---|---|---|---|
| | Places under the reservoir | | | | | Descendant's walkover<br>Electronic survey<br>Archival photography<br>interpretation |

# 11 Conclusion

The project footprint is anticipated to have minimal impact on heritage values that have been formalised through inclusion on statutory heritage registers and a greater impact on the cultural landscape values in the construction and operational areas specific to the project. The cultural landscape that will be affected by construction and operational activities of the project is locally significant for its ability to demonstrate changes that have resulted from natural forces and human agency, both pre- and post-British settlement. While some physical impacts will occur as a result of the construction of the dam wall as well as ancillary activities such as borrow pits and the accommodation camp, the majority of the impact will be through inundation, which will obscure the landscape rather than destroy it.

The project pipeline will be installed through a landscape that was once a part of *Dungowan Station*, a squatting run that was established in 1847. The original headstation belonging to the run is in proximity to the northern extent of the pipeline but well clear of the project footprint. The survival of any features built or archaeological, of the headstation, is unknown and as the northern extent of the pipeline infrastructure is outside the property boundary, the project is unlikely to impact upon relics or ruins associated with Haig's headstation. However, two extant properties being the second *Dungowan Station* (unlisted) that is operating as a farm, and the 'Ogunbil brick shearing shed and silo' (LEP I283) may be related to the original *Dungowan Station* headstation and may possess relics that relate to the historical period. As relics are predicted to occur in the areas where the pipeline intersects with DH11 Cadell's *Dungowan Station* and DH09 the Ogunbil brick shearing shed and silo, impacts to relics may occur if avoidance through redesign of the alignment is not possible. Archaeological test excavation, and subsequent interpretation if relics are found is recommended for these locations.

The installation of a new overhead powerline will occur in the vicinity and across the locally listed Port Stephens Cutting on Nowendoc Road (LEP I264). However, construction of the powerlines will not have a detrimental impact on the significance of the Port Stephens Cutting and can be placed in areas that will not physically impinge on the item even inside the listed curtilage.

The existing Dungowan Dam is also considered to hold local significance and therefore, its decommissioning should be recorded.

The primary aim for retaining heritage values is to avoid impacts. In many situations, such as this one, avoidance is not possible for some of the individual features or the landscape of the valley at the southern end of the project area, or for the new Dungowan Dam. These identified impacts can be managed so that irreversible and/or unrecorded damage does not occur. The assessment of heritage impacts arising from the project and the statement of heritage impact (Section 9.5) have informed the management measures in Chapter 10, which are commensurate with the levels of significance in the project footprint and the project area.

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# Abbreviations & acronyms

| Abbreviation | Long form |
|---|---|
| AHD | Australian Height Datum |
| AZP | Archaeological zoning plan |
| CHL | Commonwealth Heritage List |
| DAWE | Department of Agriculture, Water and the Environment (Commonwealth) |
| DCP | Development control plan |
| DECCW | Department of Environment, Climate Change and Water (NSW) (a former division of the Government of NSW) |
| DP | Deposited Plan |
| DPE | NSW Department of Planning and Environment |
| EIS | Environmental Impact Statement |
| EP&A Act | *Environmental Planning and Assessment Act 1979* |
| EP&A Regulation | Environmental Planning and Assessment Regulation 2000 |
| EPBC Act | Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* |
| EPIs | environmental planning instruments |
| ESD | ecologically sustainable development |
| ha | hectares |
| Heritage Act | NSW *Heritage Act 1977* |
| CHMP | Construction heritage management plan |
| ISEPP | State Environmental Planning Policy (Infrastructure) 2007 |
| km | Kilometre(s) |
| LALC | Local Aboriginal Land Council |
| LEP | Local environmental plan |
| LGA | local government area |
| m | metres |
| Mm | millimetres |
| MNES | matters of national environmental significance |
| MP | management plan |
| NHL | National Heritage List |
| NSW | New South Wales |
| OEH | Office of Environment and Heritage (NSW) |
| PAC | Planning Assessment Commission (now the Independent Planning Commission) |
| PMST | Protected Matters Search Tool |

| Abbreviation | Long form |
|---|---|
| PSI | preliminary site investigation |
| RAP | registered Aboriginal party |
| RMS | NSW Roads and Maritime Services, now Transport for NSW (TfNSW) |
| SEARs | Secretary's environmental assessment requirements |
| SEPP | State Environmental Planning Policy |
| SHR | State Heritage Register |
| SSD | State significant development |
| SSI | State significant infrastructure |
| TfNSW | Transport for New South Wales |
| VENM | Virgin excavated natural material |
| WWI | World War I |
| WWII | World War II |

# Annexure A

## Field assessment results

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## A.1 Dungowan Dam (site ID: DH01)

### A.1.1 Location

Lots 29, 28, 48 // DP755351; Lots 29, 11, 12, 7 // 755339; Lot 33 // DP 755351; Lot 1 // DP723520 between Lot 29 DP 755339 and Lot 48 DP //755351.

### A.1.2 History

Refer to Section 6.2.7 of this report.

### A.1.3 Field survey

Field survey of the existing Dungowan Dam was undertaken on 15 September 2020 by Anthony Dakhoul and Pamela Kottaras. The dam was visually inspected and photographed.

The team was accompanied by Tamworth Regional Council (TRC) personnel, who facilitated access to both the lake formed by the dam barrier and internal and external areas related to the super- and sub-structure.

The first area inspected was the reservoir behind the dam. The lake is fed by two bodies of water, the Dungowan Creek and the Lever Creek. The surrounding context is predominantly bush and scrub land (Plate A.1) with segments of the lake edge, near to the dam structure, that have been modified. Within the lake, the internal dam wall was able to be observed (Plate A.2) as well as a single secondary structure related to the function of the dam (Plate A.3) This cylindrical water intake structurally connected to the dam substructure and is used to withdraw water from the lake and is an indicator of current water levels within the dam (Plate A.4).

**Plate A.1 Landscape surrounding the reservoir; view south-east along Lever Creek.**

**Plate A.2** **Dam wall rear; view north-east.**

**Plate A.3** **Dam intake relative to the dam wall; view north-west.**

**Plate A.4 Dam intake with water level; view south-east**

The dam was then inspected to its northern elevation and within the internal spaces and components of the substructure located at the ground level. The dam structure is the dominant feature consisting of a concrete form with a heavily modified surrounding landscape (Plate A.5). A number of smaller, secondary buildings relating to the dams function are located at its base (Plate A.6 and Plate A.8). Internal spaces were entered, inspected, and photographed. The secondary buildings act as either access points to lower level or subterranean zones that include subterranean tunnel systems or spaces that contain electrical and other services related functions (Plate A.9).

**Plate A.5** **Dam spillway, northern elevation; view south-west.**

**Plate A.6** **Water pipe at dam base; view south.**

**Plate A.7** **Water pipe shown above; view north-east.**

**Plate A.8** **Secondary structure at dam base; view south-west.**

**Plate A.9 Subterranean tunnel system with services.**

The upper structure of the dam was then inspected. Access to the upper levels is through a roadway along the dam wall crest (Plate A.10) that leads directly to an elevated walkway above the main dam structure (Plate A.11). Along this walkway, views to the base of the dam and the modified landscape were observed as well as the primary and secondary dam slipways (Plate A.13 and Plate A.14). There are two secondary, concrete structures to the right and left of the main slipway associated with the function of the dam. They both contain access points to the internal, lower levels of the structure. The eastern dam wall to the southern elevation was also inspected through access down to the water level of the dam lake. The wall extended to the east at a regular angle and had a shotcrete surface applied to its structure. The western segment of the dam wall was not accessible.

**Plate A.10 Dam wall crest and access driveway; view east.**

**Plate A.11 Elevated walkway above main dam spillway.**

The two phases of the dam are clear in Plate A.12 with the darker lower section the original dam height; the lighter coloured concrete above is the 1980s addition. This photograph was taken eight months after the severe bush fires of 2019-2020 and the burnt runoff is visible on the water.

**Plate A.12 Secondary structures to upper dam; view west.**

**Plate A.13** **Primary and secondary spillways; view north-west.**

**Plate A.14** **Zone at dam base to the north.**

A preformed concrete causeway is located along the roadway to the north of the dam structure, at the end point of the main spillway.

**Plate A.15** **Southern elevation of the dam wall; view west.**

**Plate A.16** **Small causeway south of the dam, outside the project area.**

### A.1.4 Archaeological potential

The archaeological potential in the location of the existing dam is low for anything but dam construction. However, the reservoir behind the dam may hold archaeological resources relating to farms that are now in the inundation zone. Information provided by Bill Webber formerly of *Paradise*, has the Dignam (mother's family) and Bright (maternal aunt's family) farms now under water along Lever Creek. The remnants of these farms may become visible when the reservoir drains but they are not in the project footprint where construction will have an impact.

Inside the project footprint and directly related to the existing Dungowan Dam, there is very low potential for historical archaeological resources, therefore very low potential for relics.

## A.2 *Paradise* (site ID: DH02)

### A.2.1 Location

**Address:** 962 Dungowan Dam Road, Ogunbil;

West of Dungowan Creek - Lot 22 // DP755351; Parish of Yeerowin, County of Yeerowin;

East of Dungowan Creek – Lot 5 // DP755339; 63 & 64 // DP618784; Parish of Scott, County of Parry;

As shown in Figure A.1.

**Heritage listing:** Not listed

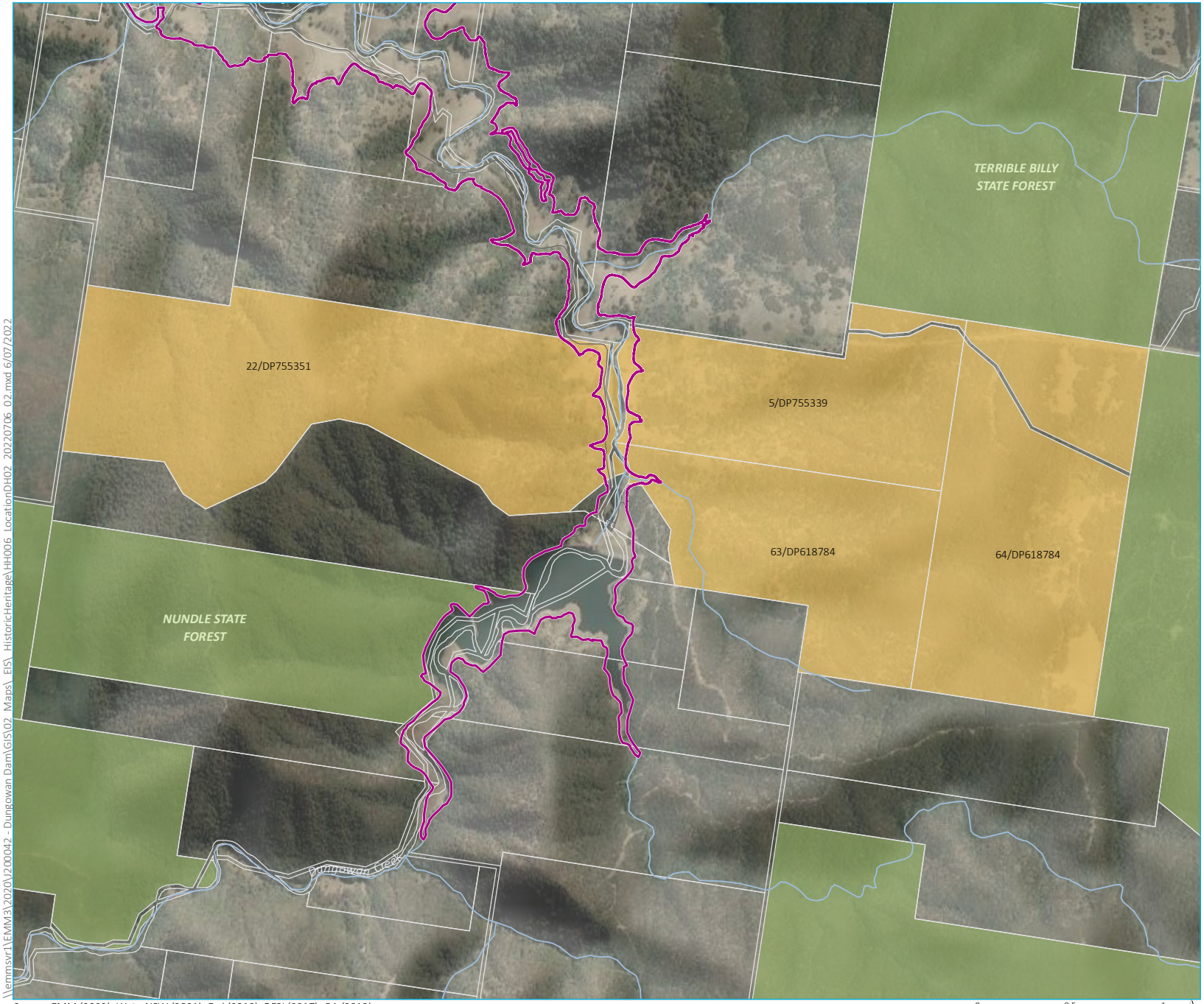
### A.2.2 History

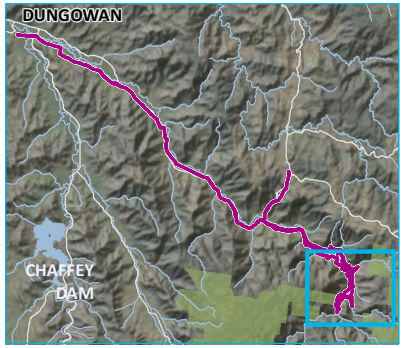
Lot 22, DP755351 is the most southern of the group. The property on the western bank Dungowan Creek in the parish of Yeerowin. A group of approximately four structures, some with corrugated iron roofing, were located in the north-eastern corner of the lot boundary. These structures were demolished prior to February 2020.

The 960 acres (388 ha) of Lot 22 were subdivided from Crown Land within *Dungowan Station* prior to 1906, but likely no earlier than 1890. The first lease holder was John McFarlane. McFarlane forfeited the lease some time before 1912.

The land on the western side of Dungowan Creek was purchased from McFarlane by George Webber in 1913 and the land on the east was acquired by Walter Leslie (who referred to himself as Leslie Walter (LW)) Webber as a land grant, (*pers. comms*. Bill Webber October 2020). The house and outbuildings that stood on the lot were built by the Webber brothers and the surrounding land was used for crops as well as sheep and cattle. LW also built a slab hut on the eastern side of the creek over the mountain (now Lot 64 DP618784), which he would stay at when tending to the family's flock of sheep. The property got its name from Paradise Creek, which flows through the eastern allotment. A 287-acre (116 ha) portion of Lot 22, DP755351 was included in Tamworth Council's resumption of land for the construction of Dungowan Dam. The resumption of land occurred around 1950.

The following history of the site was developed after two conversations with Bill Webber, and his son, Noel Webber and additional written information provided by Bill. Bill was born in 1933 while the family lived at Ogunbil and grew up on the property with his brothers Athol and Charlie and two sisters, Lorna and Cybill. Text in quotation marks are direct quotes from Bill Webber.




KEY

- Project footprint
- Paradise (site ID: DH02)

Existing environment

- Minor road
- Named watercourse
- State forest
- Cadastral boundary

Paradise (site ID: DH02)

Source: EMM (2022); WaterNSW (2021); Esri (2019); DFSI (2017); GA (2013)

0 0.5 1 km

GDA 1994 MGA Zone 56

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Historical heritage assessment & SoHI
Figure A.1

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**Plate A.17** **Aerial photograph of the residential group at Eagle Farm. The house and associated buildings are on the western side of the road (north is up).**

The land acquired by LW and George was just north of the confluence of Dungowan and Lever creeks. George took up the land on the western side of Dungowan Creek and Bill took up the land on the eastern side. George had planned to go to war (WWI), and the night before he left, he was found in the barracks toilet with his throat cut, but he survived. Incapacitated by the injury, George suffered from epilepsy as a result and went to live with his mother Mimmi (Mary Jane Webber née Dunbar) and LW took over working the property; the family lived in a house on the western side of the creek. George drowned in the McDonald River in his 30s in 1933. “Granny never spoke about George after he died”.

Bill remembers when he was a boy, doing some clearing close to where the wall of Dungowan Dam is now – “about 8 or 9 year old”. He walked to the creek by a big old stump and found a cross-cut saw in the sand; His dad (LW) said that George had lost it in that location about 30 years ago.

LW and his wife, Irene (née Dignam) built a house with outbuildings on the spur above the river and raised their children there. Irene had been a neighbour who grew up on a property close by, that had Lever Creek running through it. That property is now under the reservoir. Everyone pitched in to do the daily chores to keep the farm going and the family fed. Life followed a routine: out of bed at 6 am, to icicles in the winter and in bare feet, feed the sheep and cattle and bottle feed the lambs. Back home at 8 am for breakfast. Cold feet were put in a dish of water “that mum had warmed, to stop them from paining”, then head to school.

Home at 4 pm and head across the creek to pick tomatoes, cabbage and potatoes, corn – “whatever was growing” and taking them to the shed behind the house to sort sometimes to 8 pm. Some days they were sorting and loading the 1938 Ford ute until 12 am to take to the Tamworth Markets. The family did not make much and occasionally was given a bill for dumping tomatoes that could not be sold at the markets. “At the time, there were a lot of growers in the area”.

Irene Webber (née Dignam) raised her sister’s children after her sister, Iris (m. Ben Bright) died of pleurisy, pneumonia, and yellow jaundice. Iris and Ben Bright lived in on a property on Lever Creek (now under the reservoir). On Saturdays, the Webber kids and LW would go up the mountain to pull a highly invasive weed called *Berbinia*. Trout fishing was also a valued pastime and the river provided plentiful opportunity to catch the fish to feed the family. Bill describes Dungowan Creek as the most beautiful trout creek; “lots of beautiful water holes with trout ended with the dam”. Rabbit was also trapped for food.

School was up the road at Dungowan and was attended by the Webber children and their neighbours and school friends, Beryl, Fred and Thelma Morris from *Eagle Farm* and their cousins, Gloria and Bob Morris from *Waterfall.* Frida and Evelyn Morris from *Eagle Farm* were too old to go to school, and Gordon Morris, from *Waterfall,* too young. The kids walked to and from school, which was a few miles away.

The Webber family lived in a single-storey weatherboard house built in the vernacular Federation style (Plate A.21) group also consisted of two sheds and a “thunderbox” - a long-drop toilet, which was near the car shed (to the south). Athol Smith (the eldest half-sibling) dug a second toilet just before he left for WWII; it was a big square hole in the ground about 30 yards (27 m) from the house.

The house was sold to Percy Newman in 1943, and then to Russell Manuel. The Fermor family was the last to live in the house before it was left. Eventually the house burnt down after it was left and used by fisherman (as told by Cybill).

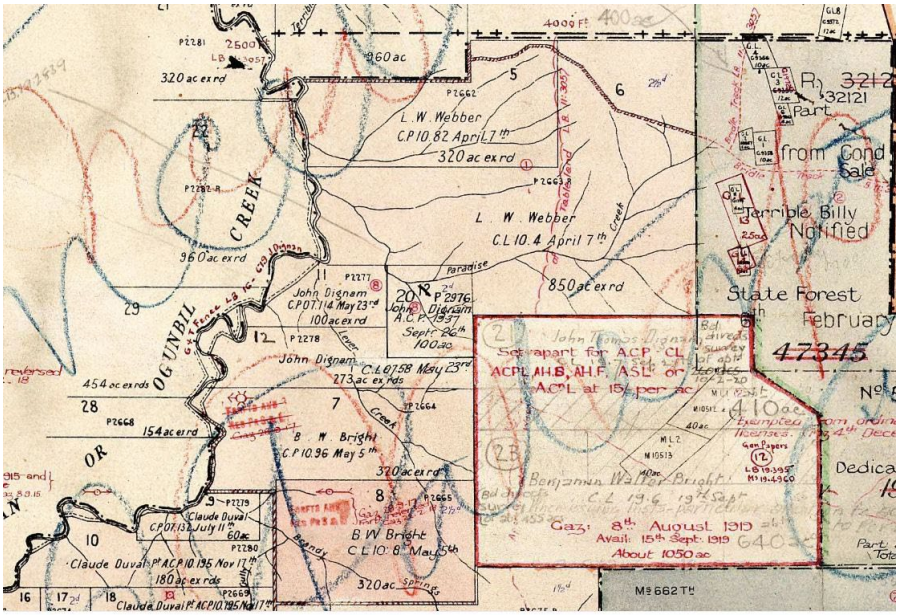



**Plate A.18** **County or Parry, Parish of Scott 1913, showing the land taken up by LW Webber on the eastern side of Dungowan Creek (roughly the centre).**

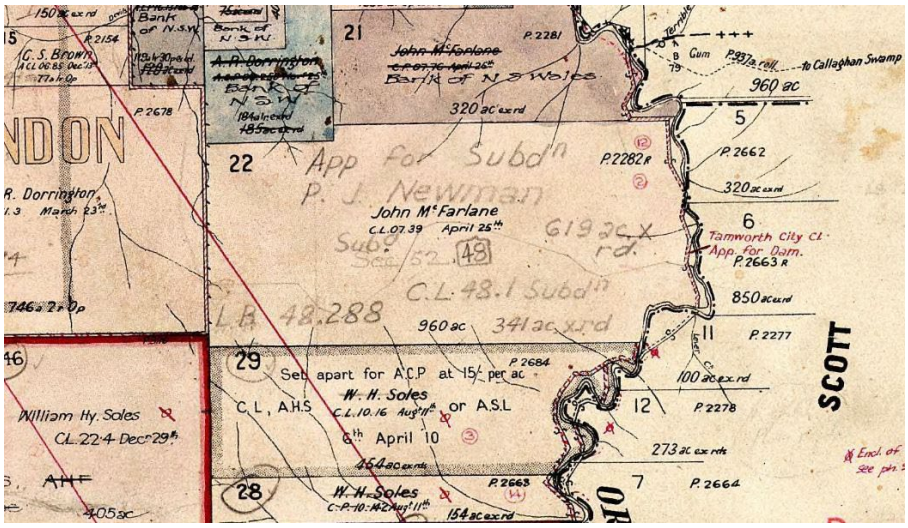



**Plate A.19** **County of Parry, Parish of Yeerowin 1918, showing the land on the western side of Dungowan Creek taken up first by John McFarlane and then by George Webber.**

The parish maps in Plate A.18 and Plate A.19 provide visual historical context for the property of *Paradise.* Council has made an application for the existing dam, and the Webber family is shown in proximity to their neighbouring relatives.

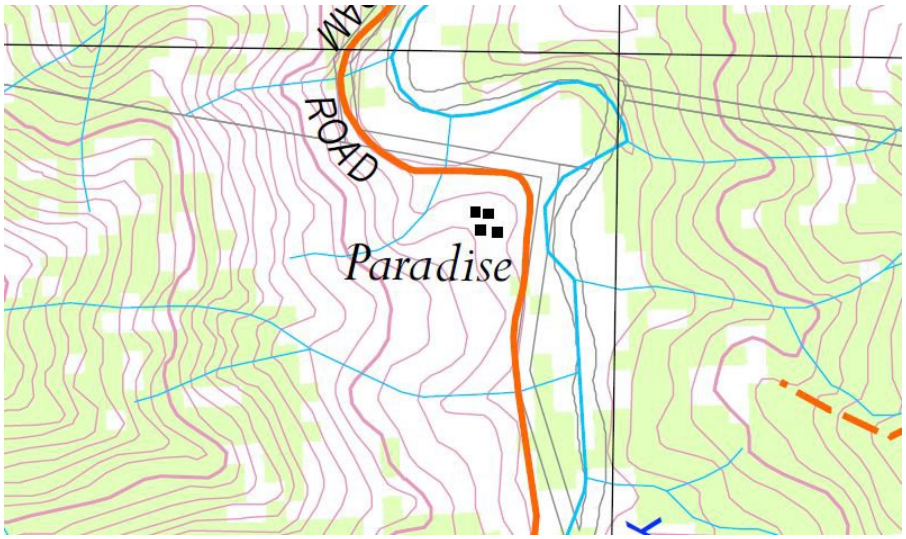
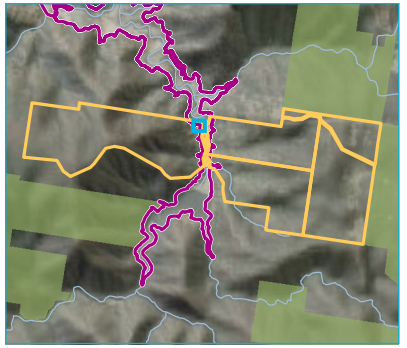



**Plate A.20 The cluster of buildings that the Webber family built; later owned by the Fermor Family. Source: 9135-2S SCOTT topographic map.**

Four buildings, including the main house, two sheds and an outhouse, are visible on the south-west side of the road; a shed is visible on the north-east side of the road but had been demolished by the time of the first field visit. The buildings in the aerial photograph shown in Figure A.2 and the topographic map above were demolished before February 2020.

KEY

- Project footprint
- Paradise (site ID: DH02)

Existing environment

- Minor road
- Named watercourse
- State forest

Source: EMM (2022); WaterNSW (2021); SIX Maps (2013); DFSI (2017); GA (2013)

0 25 50 m

GDA 1994 MGA Zone 56

N

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Buildings identified Paradise (site ID: DH02)

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure A.2

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**Plate A.21** **Lesley Walter Webber, free selector, on his horse. The house that the Webbers lived in is in the background, view south-west. The date of the photograph is unknown but is probably around the 1930s. Source: Bill Webber.**

Plate A.22 The photograph of Lesley Walter in front of the house on the location after it was demolished. Source: Bill Webber.

Plate A.23 Bill Webber (centre) with his sisters Lorna, to the left, and Cybill, to the right. Sandy the sheepdog is at the top of the stairs.

**Plate A.24 Bill Webber as a young boy, with his grandfather's pipe. This photograph shows the rear of the house so the aspect should be west.**

### A.2.3 Field survey

Field familiarisation was undertaken by Pamela Kottaras in February 2020, during which time, photographs of the landscape and the location of the residential group site was taken. The location of the Webber house and outbuildings was identified as a potential archaeological site due to the levelling of some of the spur and the brick, metal and glass and ceramic fragments across the area. Later research confirmed that this was the location of a house and outbuildings that was demolished in the 1950s.

More detailed survey was undertaken in September 2020, by Pamela Kottaras and Anthony Dakhoul. It was during this time that a conversation was had with Donny Fermor who lived in the house with his family for a time. Donny Fermor is a registered Aboriginal party for the Aboriginal heritage assessment being prepared for this project and informed the team about the name behind the 'killing tree' and how the family would hide in the bush when 'welfare could be seen coming down the road' (*pers. comm* Donny Fermor September 2020).

Evidence of the residential group survives in the form of level areas on the spur, bricks, metal, glass, and ceramic. The location of the pit toilets was not verified while on site but a description by Donny Fermor suggests that the building to the south-east (Figure A.2) is the "dunny", which would make it the large pit toilet dug by Athol Smith before he left for the war.

The tree in Plate A.25 was called "the killing tree" by the Fermor family and used to hang carcasses to bleed (*pers. comm.* Donny Fermor September 2020).

**Plate A.25** **View west-south-west of Paradise¸ where a collection of buildings, including the Webber home once stood. The killing tree is left foreground.**

**Plate A.26** **View south from the killing tree across Paradise to the location of the house.**

The spur (Plate A.26) had at least four buildings at one stage, including the house, two sheds and an outhouse. A shed was visible on the north-eastern side of the road also, but this too was demolished by February 2020. The "original slab hut" desribed by Bill Webber (*pers. comm* 22 October 2020) as well as Donny Fermor in the cultural mapping interview (EMM 2022) is visible in Plate A.24 where a young Bill Webber stands by a weatherboard building with a large slab lean-to at the rear of the house and another smaller lean-to on the side. Another structure is visible to the left (south). A shearing shed was located on the other side of the existing road but had been demolished at the time the site familiarisation and survey visits were conducted.

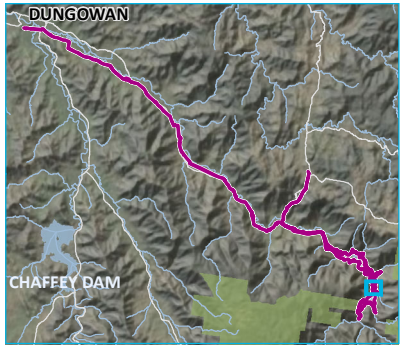
A grave (DU02.2) is believed to exist within the inundation area and was raised by Bill and Noel Webber when they visited the site while the Aboriginal heritage team was on site. The estimated location of a grave of the man called John Wilson (Figure A.3) on *Paradise* was obtained through an interview with Bill Webber, who grew up on the property. The Webber children were told about the grave by their parents LW and Irene, and he pointed out the location to the best of his recollection (marked by the blue arrow in Plate A.27). There is nothing on the surface to indicate a human burial in this location. Neither of the parents witnessed the burial (LW was three and Irene hadn't been born yet) but the story persists.

However, the *Armidale and New England General Advertiser* (Thursday 19 December 1893, p.6), describes in detail, the discovery of the body of John Wilson, 83 years of age. The *Maitland Mercury and Hunter River General Advertiser* (Thursday 7 December 1893, p.5) also mentions the discovery of the body of a man "found on Monday about 40 miles (62 km) up Dungowan Creek in the direction of Swamp Oak".

A search on *Ancestry.com* returned a record for John Wilson, 83, born in England, with place of death "upper Dungowan Creek near Nundle". The cause of death was "no evidence to shew" by the coroner, GF Scott, at Nundle in the district of Tamworth. The article does not provide definitive information about where Mr Wilson was found, as Nundle is on the Peel River at least 23 km west (in a straight line) of Dungowan Creek but the story was taken up by the Webber family, and other local families.

It is possible, and in fact probable, that the body of John Wilson was so decomposed the coroner came to the site and the man was "rolled into a grave" as the story goes.

**Plate A.27** **View east. The confirmed location of John Wilson's burial site is indicated by the blue arrow.**


KEY

- Project footprint
- DH02.2 Indicative location of grave

Existing environment

- Major road
- Minor road
- Named watercourse
- Named waterbody
- State forest

Indicative location of grave

Source: EMM (2022); WaterNSW (2021); Metromap (2019); DFSI (2017); GA (2013)

0 100 200 m

GDA 1994 MGA Zone 56

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Figure A.3

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### A.2.4 Archaeological potential

The house and outbuildings on *Paradise* were occupied until the land for Dungowan Dam was resumed for a maximum of 40 years. The landscape on the spur ridge was moderately eroded in places and did not show extensive evidence of deeper deposits where archaeological resources may survive. It is known that at least two drop-toilets were dug into the property surrounding the house and thus, these features are very likely to hold archaeological deposits. Shallow footings for the main house and the sheds may also survive but generally, it is anticipated that the deep cesspit deposits and artefact scatters represent the most substantial artefacts.

The potential for archaeological resources in discrete locations is high; their status as relics is discussed in the assessment of significance in Section 8.

## A.3 *Waterfall* (site ID DH03)

### A.3.1 *Location*

**Address:** No street address; Lot 54 // DP755322; Parish of Callaghan, County of Parry – as shown in Figure A.4.

**Heritage listing:** Not listed

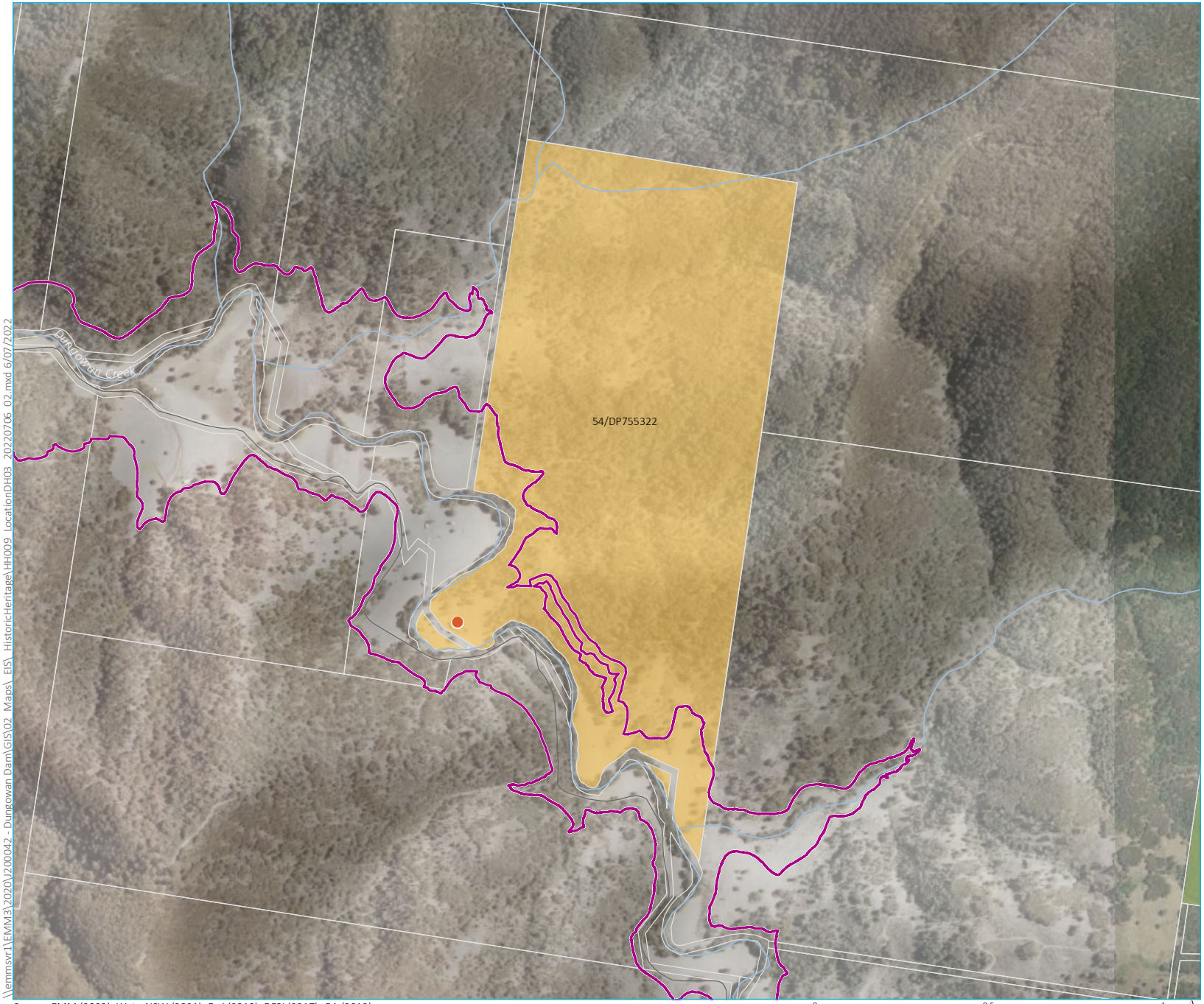
### A.3.2 History

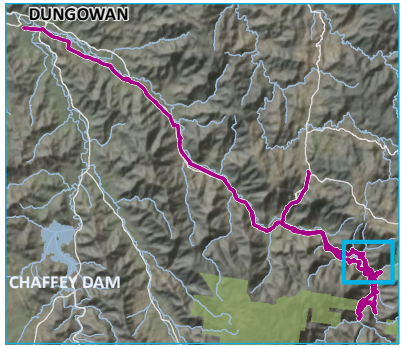
The 640 acres of Lot 54 were subdivided from Crown Land around 1895. The property was lease was granted to John Gardiner in July of 1895 (*New South Wales Government Gazette*, 27 September 1895, p.6285). The property address is recorded as "Swamp Oak" and was leased at a cost of £2 per annum. Gardiner forfeited the lease in 1899.

An annotated version of the 1880 Callaghan parish map records a long, thin, 40-acre (16 ha) section of property in the middle of Lot 54. It is numbered Lot 6 and was granted to T. Jones. A note dating to 1899 indicates the lease was forfeited in 1892. The boundary of lot 6 is printed, as opposed to Lot 54 which is drawn in blue ink, meaning this lot was established prior to 1880. A Thomas Jones is recorded as living in "The Swamps", Dungowan, in 1870 (*New South Wales Government Gazette*, 12 August 1870, p.1740). Jones was a farmer and carrier (carter) and appears to have also rounded up escaped horses (*New South Wales Government Gazette*, 12 August 1870, p.1740; *New South Wales Government Gazette*, 28 November 1876, p.4843). Jones died in 1876.

The Lot 54 lease was taken up by Fredrick (Fred) Coonan around 1900. The lease, however, was for 320 acres but the boarders of the property did not change. Coonan also leased the neighbouring 980 acres of Lot 55. Coonan was still living on the property in 1911 (*The Tamworth Daily Observer*, 3 February 1911, p.2).

Frederick Coonan (the elder) was born to Mary Ann Morris (née Parker) and William Morris, so perhaps were related to the later owner of *Waterfall*, Frederick Morris who acquired the property in 1939 after a caveat was placed and then withdrawn in 1936 and 1939 respectively.
Fred Morris married Dora "Dolly" J Brown in 1898. Together they had six children, one son and five daughters (*pers. comm.,* Bill Webber October 2020). It is easy to imagine that life on *Waterfall* was like that on *Paradise* as described by Bill Webber.




KEY

- Project footprint
- Waterfall building group
- Waterfall (site ID: DH03)

Existing environment

- Major road
- Minor road
- Named watercourse
- State forest
- Cadastral boundary

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*Source: EMM (2022); WaterNSW (2021); Esri (2019); DFSI (2017); GA (2013)*

0 0.5 1 km

GDA 1994 MGA Zone 56

N

Waterfall (site ID: DH03)

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure A.4

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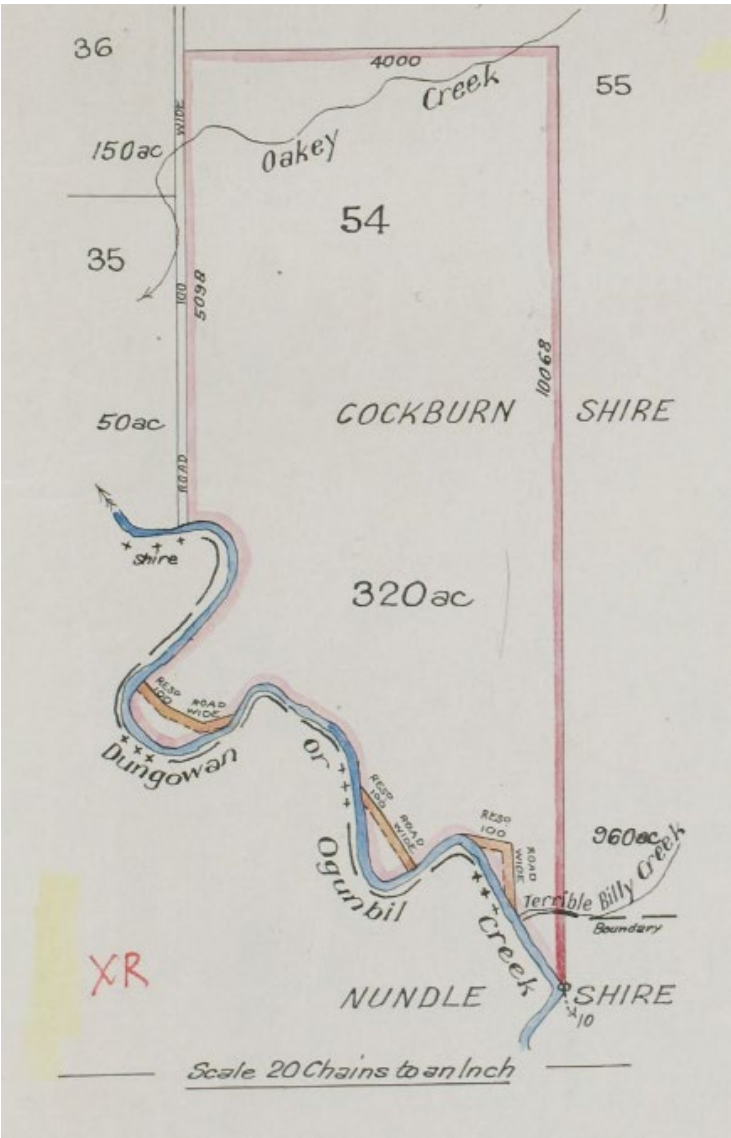



**Plate A.28** **The extent of *Waterfall* as a grant to Frederick Coonan and then owned by Frederick Morris. Source: HLRV Vol 4810 Fol 9**

The property boundary included Dungowan Creek to the south-west. The plan is oriented slightly to -10$^0$.

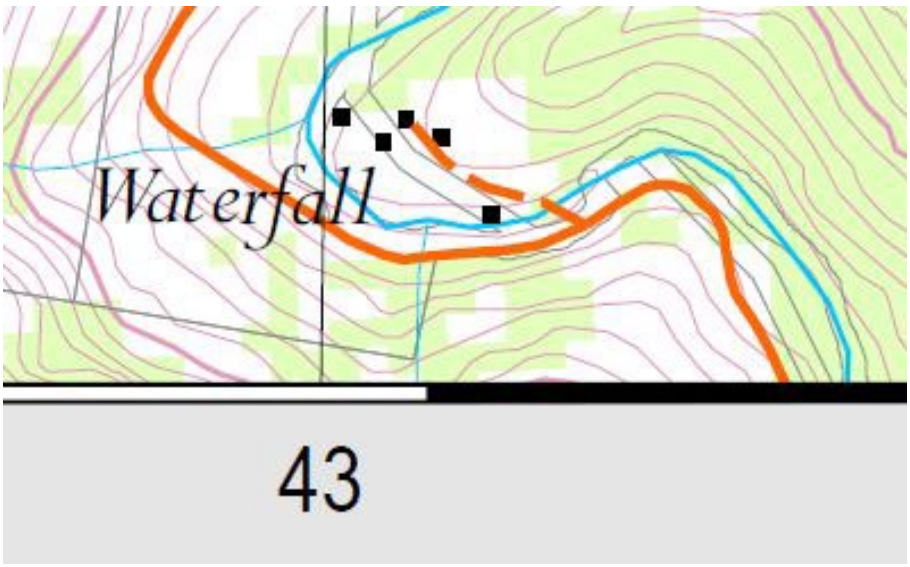
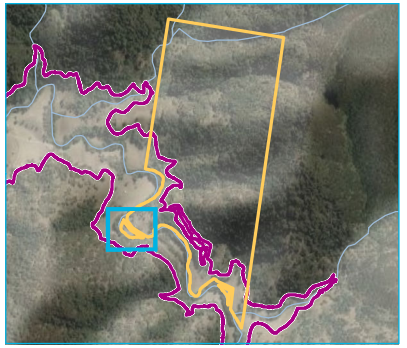



**Plate A.29 The location of the building group on *Waterfall* as depicted in the 2135_2N NIANGALA topographic map.**

### A.3.3 Field survey

The buildings on Waterfall, which was south of Eagle Farm. These buildings were at the southern end of the property and close to Dungowan Creek. The building group consisted of a shearing shed, stockyards and a sheep dip (pers. comm.) as well as timber bridge abutments. In addition to the structures, a number of buildings visible on aerial photography, had been demolished before February 2020. A group of fruit trees was located on the western side of the buildings.

At the time of the February 2020 survey, only the shearing shed and stockyards (1), the sheep dip (2), a large shed (3) and the fruit trees (4) survived on site (Figure A.5). What is believed to have been the residence is number 5. It is assumed that the other buildings were farm sheds. The buildings and structures were demolished sometime between February and September 2020.

KEY

Project footprint

Waterfall (site ID: DH03)

Existing environment

Minor road

Named watercourse

Buildings identified Waterfall (site ID: DH03)

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure A.5

Source: EMM (2022); WaterNSW (2021); Esri (2019); DFSI (2017); GA (2013)

0 25 50 m

GDA 1994 MGA Zone 56

N

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EMM creating opportunities

**Plate A.30** View north-east. Shearing shed with external pens to the right. The soil in the pen area was contaminated with arsenic.

**Plate A.31** View north-west inside the shearing shed. The pens are visible to the right. The sheds had been connected to power at some point

**Plate A.32** View north-west showing the shearing shed sub-floor. This image is directly beneath that taken in the photograph of the inside

**Plate A.33** View south-west from the shearing shed. The view descends to Dungowan Creek, indicated by the end of the grassed area.

Plate A.34 The animal pens (probably sheep) to the south west of the shearing shed. View south-east.

Plate A.35 View north-east from the sheep dip to the shearing shed. Dungowan Creek is in the foreground.

**Plate A.36** **View south-west to a bore and fruit trees. Dungowan Creek is behind the fruit trees and not visible in the background. Pre-February 2020 aerial photography has a building in this location and based on the roofline, it appears to have been the residence.**

**Plate A.37** **An example of the brick type found across the project area. This was on Waterfall in the rough location of the house.**

A sample of the bricks that were found on the site. Bricks with the same frog were found on other sites in the valley, indicating that these bricks are from the same source. They may have been made locally as they were of varying colour and quality. Brick making facilities were not located inside the study area.

The bricks were approximately 350 mm in length, 110 mm wide and 100 mm deep. Other artefacts found in the vicinity and across other sites includes window glass, bottle glass, nails, metal brackets and dinnerware.

**Plate A.38** **View north from Waterfall to the sheds on Eagle Farm.**

**Plate A.39** **View east of the Waterfall stockyard and ramp (February 2020).**

At one stage, a creek crossing in the form of what appears to have been a bridge linked *Waterfall* to the Dungowan Creek Road. It is likely that the bridge was of timber beam construction of rudimentary construction. The feature was demolished by October 2020.

Plate A.40 View north into Waterfall from Dungowan Creek Road at the bridge abutments. Scale = 1 m (February 2020).

Plate A.41 View north of the northern bridge abutment at Dungowan Creek (February 2020).

**Plate A.42 View north to a random rubble retaining wall along a track. (September 2020).**

A stone retaining wall beneath track (Plate A.42), which is also stone lined. This feature is on *Waterfall* south of the former building complex. It continues as a road to a gate, marked by two timber posts, and into a paddock. The paddock is at a lower level than the surrounding landscape, making this place unlikely as a house platform. The surrounding area was searched in detail, but no evidence of a building was noted.

The retaining wall in the image above, is a part of the road/track on Waterfall. The length of the visible road is supported by a low retaining wall of local stone, either roughly hewn or naturally occuring and stacked around 400–600 mm high. Approximately 110 m of this track was visible and if it extended, it would have been to the west to join Dungowan Creek Road and where the current track is.

The road width is approximately 3 m and is bound by a steep slope to the north and the stone retaining wall to the south. Visibility is impeded by vegetation.

**Plate A.43 View east. This gate marks the visible extend of the stone-lined track.**

The stone-lined track ends at a gate (Plate A.43) and leads to a paddock surrounded by higher ground. A track circles the paddock, which is surrounded by a steep slope. The timber post on the left (north) is split; the post on the right is circular in cross section and machine cut.

### A.3.4 Archaeological potential

*Waterfall* consisted of a house with sheds, stockyards, a stock ramp next to the public road and a track to a low-lying paddock to the south-east of the building group. The track was built up by local stones that acted as a low retaining wall on the downslope side; it ends at the remnants of a gate that leads into the low-lying paddock. All these features are the material remnants of land ownership and the use of this property. They contribute to the physical cultural landscape.

The potential for archaeological resources in discrete locations is high; their status as relics is discussed in the assessment of significance in Section 8.

## A.4 *Eagle Farm* (site ID DH04)

### A.4.1 Location

**Address:** 962 Dungowan Dam Road, Ogunbil; Lot 10 // DP755351; Parish of Yeerowin, County of Parry – as shown in Figure A.6.

**Heritage listing:** Not listed

### A.4.2 History

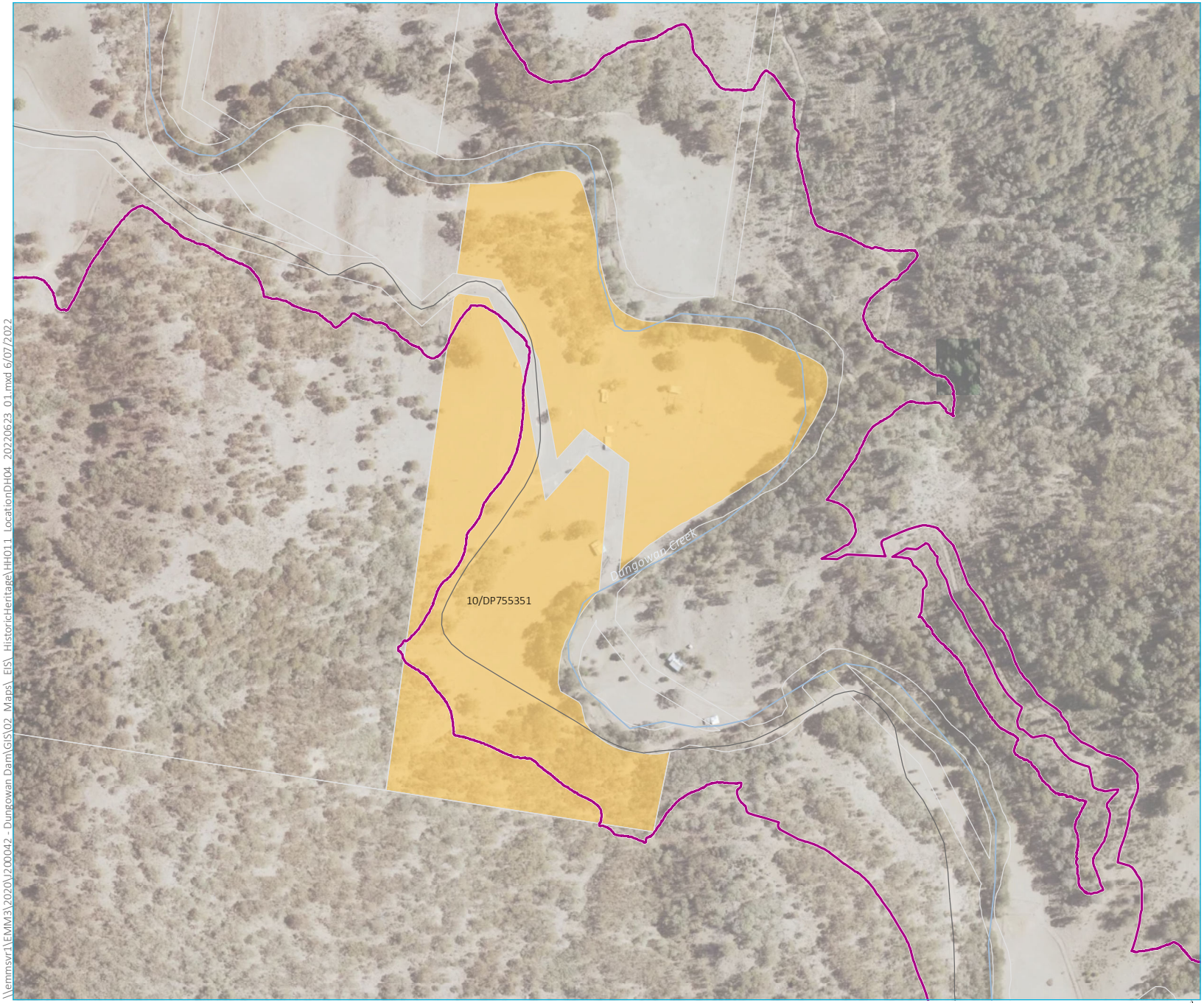
Forty acres (16 ha) granted to George Alfred Morris of Walcha on 24 September 1908. His widow, Clara Ellen Morris (née Taylor), born in Scone in 1894 and died in Tamworth in 1993, was transferred the property 1963 (Vol. 4859; Fol. 88). Clara Ellen's occupation is described as "home duties" on the 1932 Electoral Role (under her married name). She bore 12 children (ancestry.com).

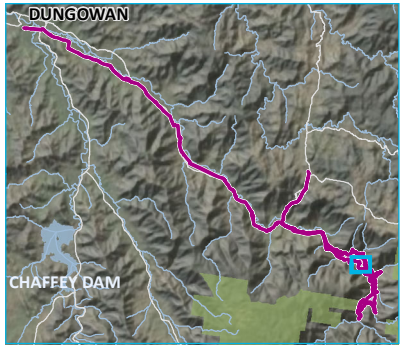
George Alfred Morris was born in Walcha in 1887 and died in Tamworth in 1942. The property was not registered to anyone between his death and the transfer to Clara Ellen.

The 40-acre (16 ha) lot was subdivided from prior to 1906. The 1906 Yeerowin parish map records John McCoy, as the land holder. Sarah Sleaman and her children were living on the property in 1911 (*The Tamworth Daily Observer*, 3 February 1911, p.2) who was leasing the land from McCoy, but it appears that McCoy may have lived on, or at least visited, the property also. The Australian Electoral Rolls for 1913 record Sarah and Arthur Gilbert Sleaman (labourer, possibly a brother or cousin, b. Dungowan 1891) as residing at Ogunbil. Sarah Sleaman was married to George Stephen Partridge in 1916 and it is possible she moved away at that time (*The Armidale Chronicle*, 7 July 1916, p.2).

A series of interviews with Bill Webber, who grew up south of *Eagle Farm* on *Paradise* (Section A.2), indicates that life here was similar to that on *Paradise*. The Webber children went to school with Clara Ellen and George Morris' children, Beryl, Fred, and Thelma. Ellen bore 12 living children.

The property was acquired by Ross McClelland in 1986 and then by Tamworth Regional Council. It appears that it was in use until 2019 (Plate A.50).




KEY

- Project footprint
- Eagle farm (site ID: DH04)

Existing environment

- Major road
- Minor road
- Named watercourse
- Cadastral boundary

Eagle farm (site ID: DH04)

Source: EMM (2022); WaterNSW (2021); Esri (2019); DFSI (2017); GA (2013)

0 100 200 m

GDA 1994 MGA Zone 56

N

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure A.6

EMM creating opportunities

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Plate A.44 1960 aerial photograph of Eagle Farm; the main residence and two sheds were in existence at this time.

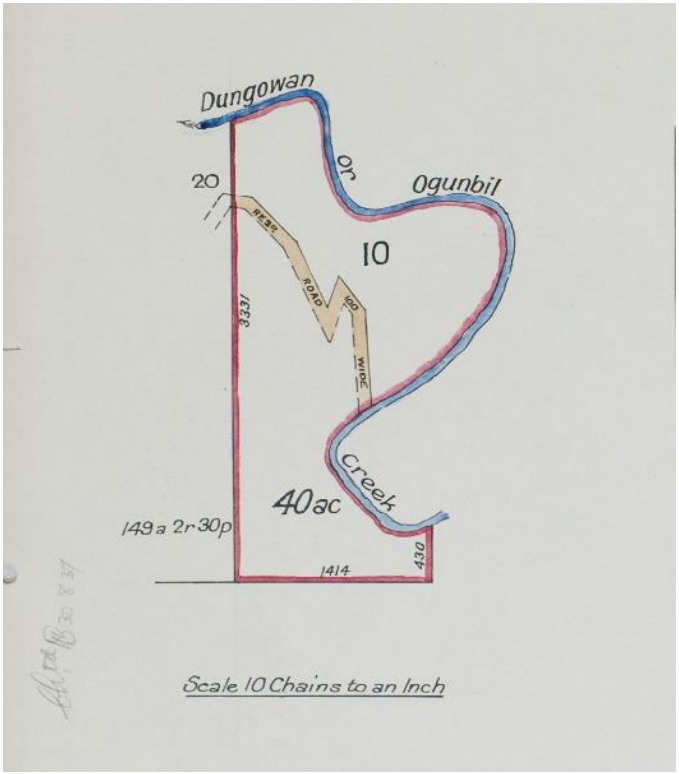



Plate A.45 The real property acquired by George Morris through the free selection process. Source: HLRV Vol 4859 Fol 88.

### A.4.3 Field survey

Field familiarisation was undertaken by Pamela Kottaras in February 2020, during which time, photographs of the landscape and the location of the residential group site was taken. As the February field survey was a familiarisation exercise with limited time, detailed assessment was not undertaken; however, the main residence was entered, and photographs were taken of some features.

The site was not visited during the second field visit, as the buildings had been demolished. Photographs taken during the first trip are included below. The site was captured in February 2020 with some detail with the plan to return to survey in greater detail in September 2020. This did not occur as the surviving structures on Eagle Farm were demolished sometime in the interim. Nevertheless, a photographic record was made (not archival quality), some of which is shown in the plates in this section.

Plate A.46 is a view of the main residence and some sheds on the property. The view is to the north-east and captures the surrounding landscape, as does Plate A.48, looking to the south-east. A photograph of the inside of the house (Plate A.49) shows the weatherboard construction.

**Plate A.46 View north-east, Eagle Farm residence and outbuildings.**

**Plate A.47** View north-east of the residence on Eagle Farm (February 2020).

**Plate A.48** View south-east of the Eagle Farm group (February 2020).

**Plate A.49** **The inside of the north, front room of the main residence.**


**Plate A.50** **Calendar on the wall in the kitchen open to October 2019.**

**Plate A.51** The kitchen door and chimney of the main residence; view north-east (February 2020).

**Plate A.52** Two of the sheds on the property; view south (February 2020).

Plate A.53 Abandoned farm machinery, fencing and apple trees; view east (February 2020).

Plate A.54 The sheds on Eagle Farm viewed from the south (February 2020).

### A.4.4 Archaeological potential

The property of *Eagle Farm* was occupied for approximately 40 years. During that time, the soil profile would have accumulated a variety of evidence of life from domestic and industrial uses. As with all properties on the site, life's activities would have left their mark. Soil profiles on *Eagle Farm* appear to be intact with little erosion visible at the first field survey.

The potential for archaeological resources is high, their status as relics is discussed in the assessment of significance in Section 8.

## A.5 Bee Boxes (site ID DH05)

### A.5.1 Location

**Address:** Dungowan Dam Road, Oganbil; Lot 20 // DP755351; Parish of Yeerowin, County of Parry. As shown in Figure A.7.

**Heritage listing:** Not listed

### A.5.2 History

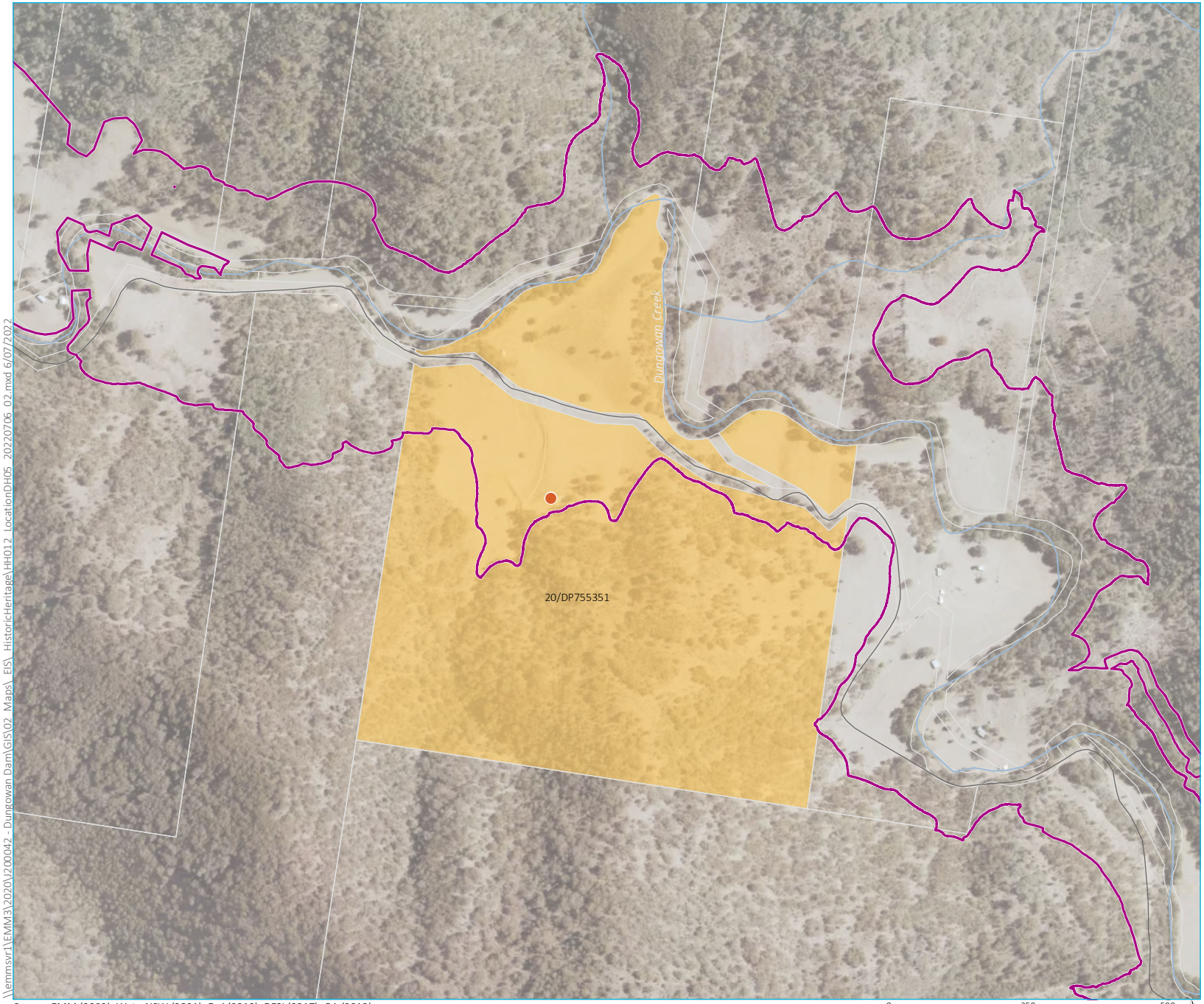
Volume-Folio: 13188-139 (no results returned on HLRV).

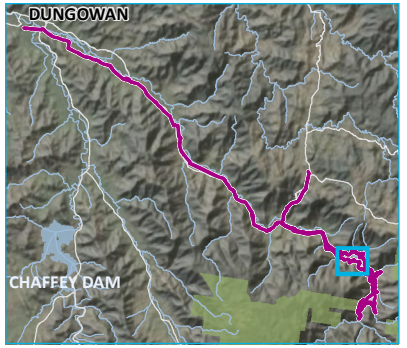
Lot 20, DP755351 is the most northern of the properties of interest. The property on the western bank Dungowan Creek in the parish of Yeerowin. A cleared paddock and long shed structure, previously identified as a piggery, is present in the north west of the property, south of Dungowan Dam Road. Modern satellite photographs also suggest evidence of a demolished structure north of the outbuilding. Another structure is present in the same quadrant north of the road.

The 149.2.30 acres (60 ha) were subdivided from Crown Land prior to 1906. Alfred Richard Dorrington is the recorded lease holder in 1906. Dorrington, recorded living in the Nundle district, registered a brand for cattle/horses in 1901 (*Government Gazette of the State of New South Wales*, 31 July 1907, p.4345). Dorrington married Ellen Arkworth Drinkwater (1890-191) with whom he had five children. He married Hilda Mary Ann Cranston in the same year as Ellen's death (Ancestry.com). Information from the LTO Charting map on HLRV records the purchaser as "B D Taylor & others (former C P. 70.7)".

By 1952 the land was being leased by A.R. Murray, likely Allan Murray (McClelland 1991b, p.3). The Murray family held numerous lots around this region of the Dungowan Valley by the 1950s (McClelland 1991b, p.3). Alan and Malcom Murray were farming lucerne on their properties south of Lot 20.

According to a former resident of the valley, Bill Webber, the piggery was built in the 1970s and the property gained its unofficial name, "Bee Boxes" because of the number of beehives that it had.




KEY

- Project footprint
- Pig sheds photographed during field survey
- Bee boxes (site ID: DH05)

Existing environment

- Major road
- Minor road
- Named watercourse
- Cadastral boundary

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*Source: EMM (2022); WaterNSW (2021); Esri (2019); DFSI (2017); GA (2013)*

0 250 500 m

GDA 1994 MGA Zone 56

N

## Bee Boxes (site ID: DH05)

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure A.7

EMM
creating opportunities

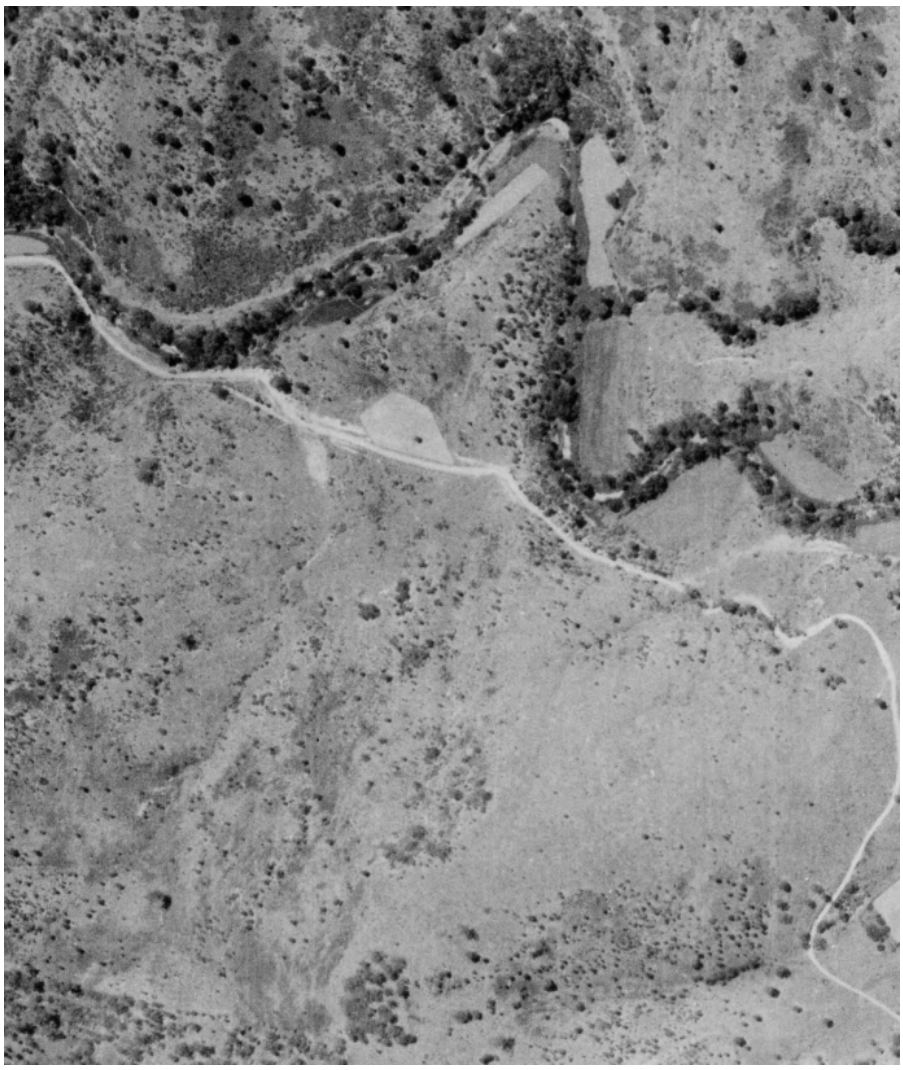


**Plate A.55 1960 aerial photograph of Bee Boxes; no buildings are visible on the site.**

### A.5.3 Field survey

Field familiarisation was undertaken by Pamela Kottaras in February 2020, during which time, photographs of the landscape and piggery were taken. Identification of the building as a piggery was made through the design of the structure, which possessed a concrete floor with a deep gutter around the inside perimeter of the buildings, the silos and pig bones. The function was later confirmed through a series of telephone conversations with Bill Webber, who grew up on the property known as *Paradise* and was familiar with all the children and properties in the valley.

The building was a timber-framed, corrugated iron construction with a concrete floor. Two circular and one rectilinear silo were attached to the north-western end of the building. To the rear (south and upslope), was a small pen (Plate A.57) constructed with concrete-bonded stones. It is not clear what the use of this feature was, but it may have been a piglet pen.

More detailed survey was not undertaken in September 2020, as the building and all other structures had been demolished.

**Plate A.56** **The pig shed and food silos. The dam into which effluent from the shed emptied into is partially visible to the left. View east-north-east.**

The piggery building (Plate A.56) faced downslope towards Dundowan Creek and approximately 163 m from Dungowan Creek Road. A large dam was located 65 m to the building's west and a smaller dam to its north at the front of the building.

Beehives were not noted during the field survey, which is not surprising as they would have been moved with the owner.

**Plate A.57** **An external pen at the rear of the pig shed. View south-west.**

### A.5.4 Archaeological potential

There is likely to be evidence of the past uses of the site embedded in the soil profile where it has not eroded. The potential for archaeological resources is moderate to low on this knoll; their status as relics is discussed in Section 8 of this report.

## A.6 *Hillcrest* (site ID: DH06)

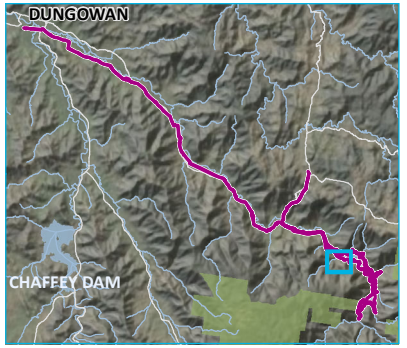
### A.6.1 Location

**Address:** 578 Dungowan Dam Road, Obunbil; on Lot 1319 // DP1240866; Parish of Yeerowin, County of Parry
Volume-Folio: 4641–106; 4748-185.
As shown in Figure A.8.
**Heritage listing:** Not listed

### A.6.2 History

The land formed part of *Dungowan Station* and was purchased by the Bank of New South Wales in February 1907. After a caveat was placed in 1934 and removed in 1936, the property was transferred to John William Style and Harry Charles Style, (both of Ogunbil, farmers and graziers) and to Ada Louisa McClelland (wife of Thomas McClelland – farmer and grazier) as tenants in common (possibly related to the author Thomas McClelland).

The three owners then transferred the land to Harry Charles Style in December 1935, who consolidated two other lots (19 and 9). Lot 9 is outside of the main construction and dam area but will have the pipeline travelling through it.


KEY

- Project footprint
- Hillcrest (site ID: DH06)

Existing environment

- Major road
- Minor road
- Named watercourse
- Cadastral boundary

Hillcrest (site ID: DH06)

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure A.8

EMM
creating opportunities

*Source: EMM (2022); WaterNSW (2021); Esri (2019); DFSI (2017); GA (2013)*

0 250 500 m

GDA 1994 MGA Zone 56

N

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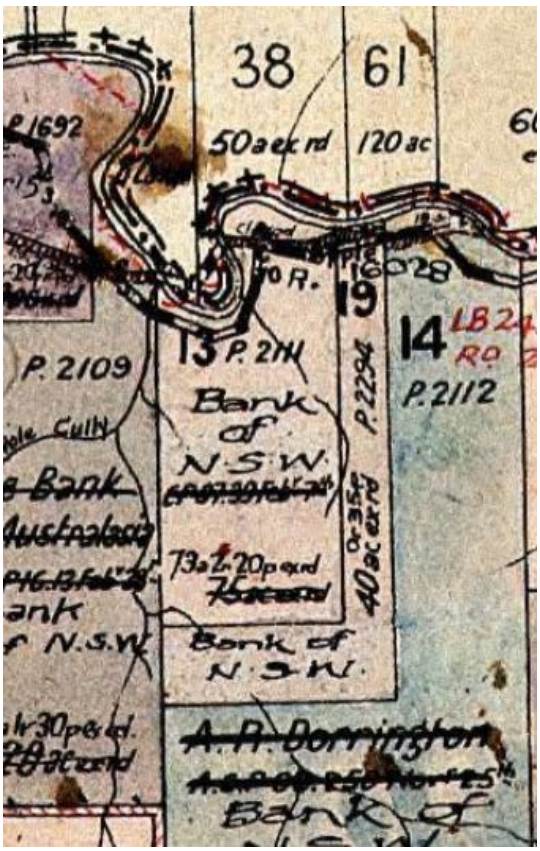



**Plate A.58** **1918 Parish of Yeerowin map. The relevant lots are numbers 13 and 19.**

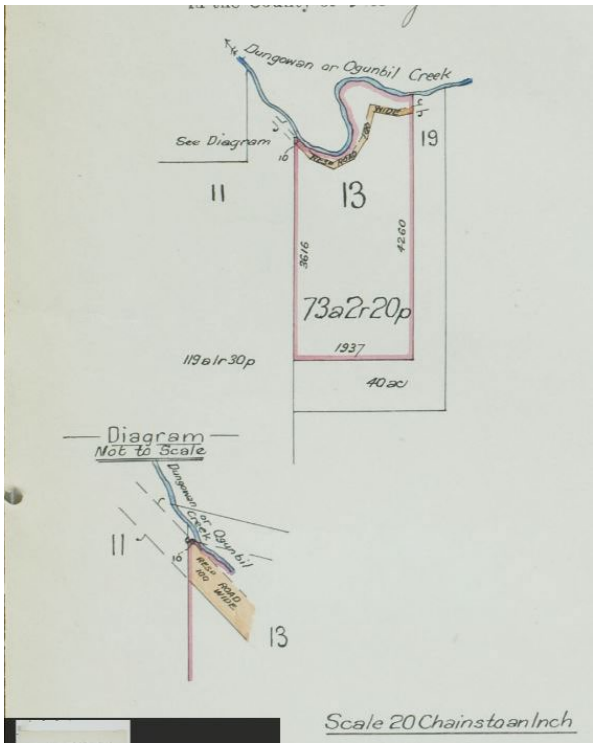



**Plate A.59** **The purchase of land in 1935 by Style, Style and McClelland. Source: HLRV**

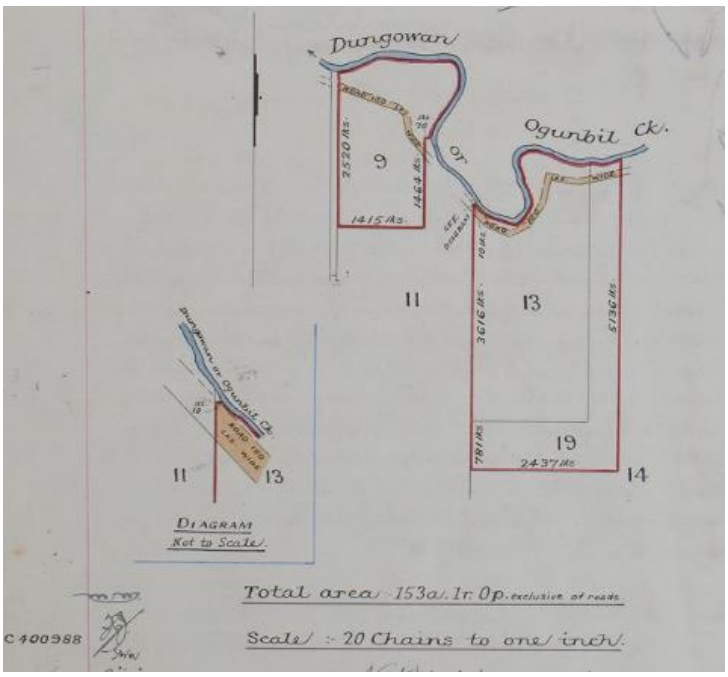



**Plate A.60** **Additional lots purchased in 1936. Source: HLRV.**


**Plate A.61** **A detail of the Parish of Callaghan 1899 map that marks a survey tree on *Hillcrest*. It is marked with a broad arrow, "Apple c 70" beneath the number 13.**

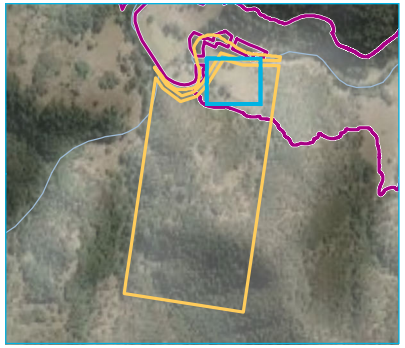
An apple tree on Hillcrest was used as a benchmark shown in the 1899 parish of Callaghan map (Plate A.61). This tree was not seen during the field survey and may still be present on site.

### A.6.3 Field survey

Field familiarisation was undertaken by Pamela Kottaras in February 2020, during which time, photographs of the landscape and the location of the residence were taken. More detailed survey was undertaken in September 2020, by Pamela Kottaras and Anthony Dakhoul, during which a walkover was conducted, and more detailed photographs were taken (Plate A.63 to Plate A.68). The building visible in this aerial photograph below (Plate A.62 and Figure A.9) were demolished by February 2020 but the chimney, low retaining wall and building stumps were present in September 2020.

The site was covered in long grass in September 2020 and a clear assessment of the landform could not be made. It is clear however, that a house was on this property that is unlikely to have been connected to town services when first built. Evidence of the building at *Hillcrest* survives in the form of a chimney (Plate A.63 to Plate A.67), part of the building platform, brick piers, a retaining wall (Plate A.69) and scattered artefacts. The chimney was constructed of local bricks with the same frog (Plate A.68) as all bricks noted on the site. Bricks and refuse lie across the site.

Other structural elements that were recorded include brick footings (Plate A.70), a threshold (Plate A.71) leading to the outside of the house at the rear.

KEY

- Project footprint
- Hillcrest (site ID: DH06)

Existing environment

- Minor road
- Named watercourse

Source: EMM (2022); WaterNSW (2021); Esri (2019); DFSI (2017); GA (2013)

0 25 50 m

GDA 1994 MGA Zone 56

N

Buildings identified Hillcrest (site ID: DH06)

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure A.9

EMM creating opportunities

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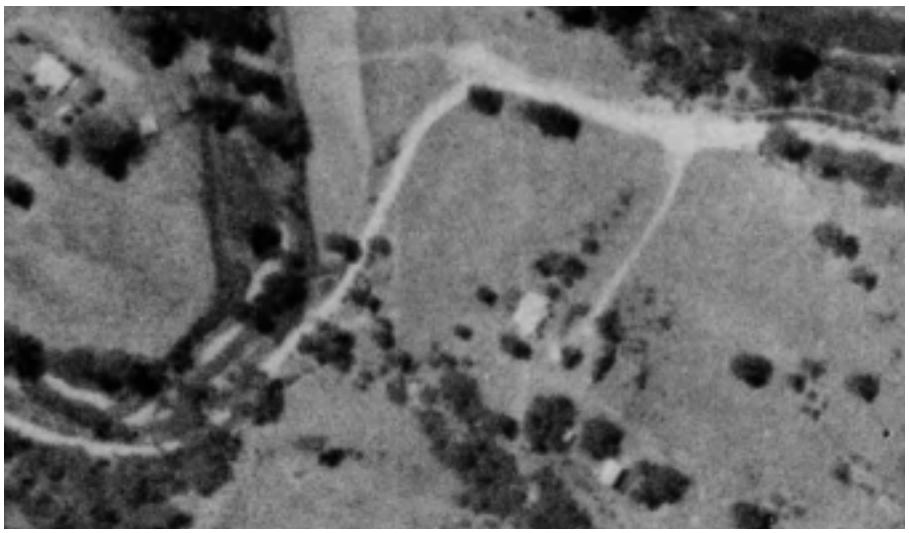


**Plate A.62** **The 1960 aerial photograph of roughly the same area shown in Figure A.9**

**Plate A.63** **The surviving chimney on *Hillcrest* as seen from the public road. View south.**

**Plate A.64** **The external elevation of the chimney stack at *Hillcrest* showing reused brick, repointing, and scale. View north-west; scale = 2 m.**

**Plate A.65** **Detailing of the external side of the chimney stack. View north-west.**

Detail of the rear of the chimney stack showing two different lime and cement mortar, indicating repair and patching. The stepped design indicates an inter war design influence. Some of the bricks in this elevation were reused as noted in Plate A.66 and Plate A.67.  This side (south-east) is of the external elevation of the chimney.


**Plate A.66** **Detail of the chimney stack – external face.**

**Plate A.67** ***Warmglo* wood heater. View south; scale = 1 m.**

Plate A.68 Example of the brick type used at *Hillcrest* and other buildings in the project area.

Plate A.69 The retaining wall behind the chimney stack. View east-south-east; scales = 1 m.

The view east-south-east of the small retaining wall behind of the chimney is shown in Plate A.69.The wall is of dry slate construction, topped with mortared bricks. The wall is a generally linear with curved ends. The space behind the retaining wall is also part of *Hillcrest* and it seems that this was an aesthetic component of the design of the house. Given the land was acquired in the 1930s and the surviving glimpses into the design of the chimney, it is likely that this building was largely comprised of brick in an inter war style. Perhaps not bungalow, but with some inter war elements.

The house was connected to electricity at some point but retained the *Warmglo* wood heater.

**Plate A.70 Brick footings belonging to the residence on *Hillcrest*. View south-west.**

**Plate A.71** **A threshold, presumably leading outside to a small rear yard behind the chimney. View east-south-east.**

### A.6.4 Archaeological potential

The site was occupied for at least twenty years, possibly becoming a secondary residence towards the 1950s. There is a high potential for archaeological resources to exist in this area of the house and sheds. The status of these resources as relics is discussed in Section 8.

## *A.7 Carinya* (site ID: DH07)

### A.7.1 Location

**Address:** 578 Dungowan Dam Road, Obunbil (as with *Hillcrest*); on Lot 38//DP755322; Parish of Callaghan, County of Parry; Vol 4590 Fol 243

As shown in Figure A.10.

**Heritage listing:** Not listed

### A.7.2 History

The land was part of the squatting run *Dungowan Station* but was granted to Charles Pacey (640 ac – 259 ha) (1881 Parish Map), which was cancelled, subdivided and 50 ac (20 ha) were granted to GA Rowlison (no date).

The Bank of New South Wales acquired the land as a grant under conditional purchase in 1906 after which it was sold to Oswald Paul Cox, grazier, in 1935. It was re-mortgaged in the 1980s.

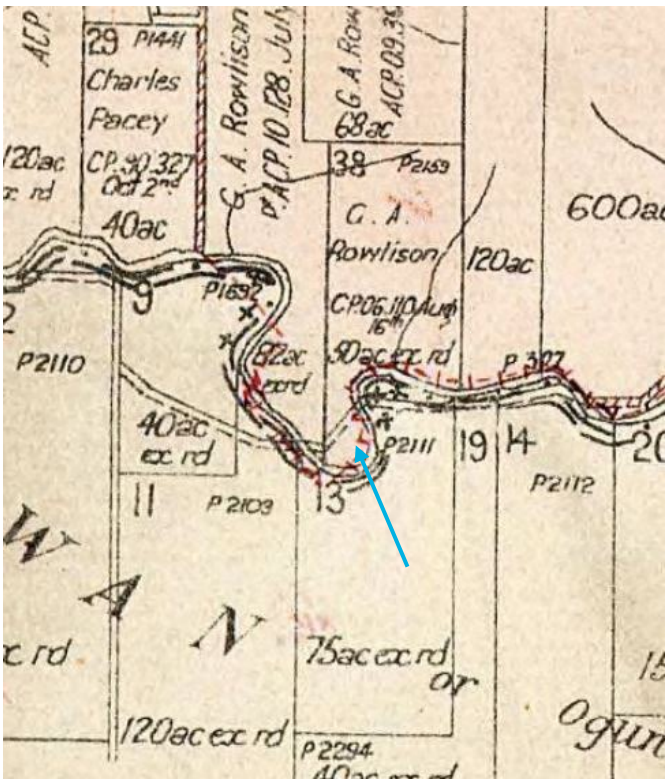
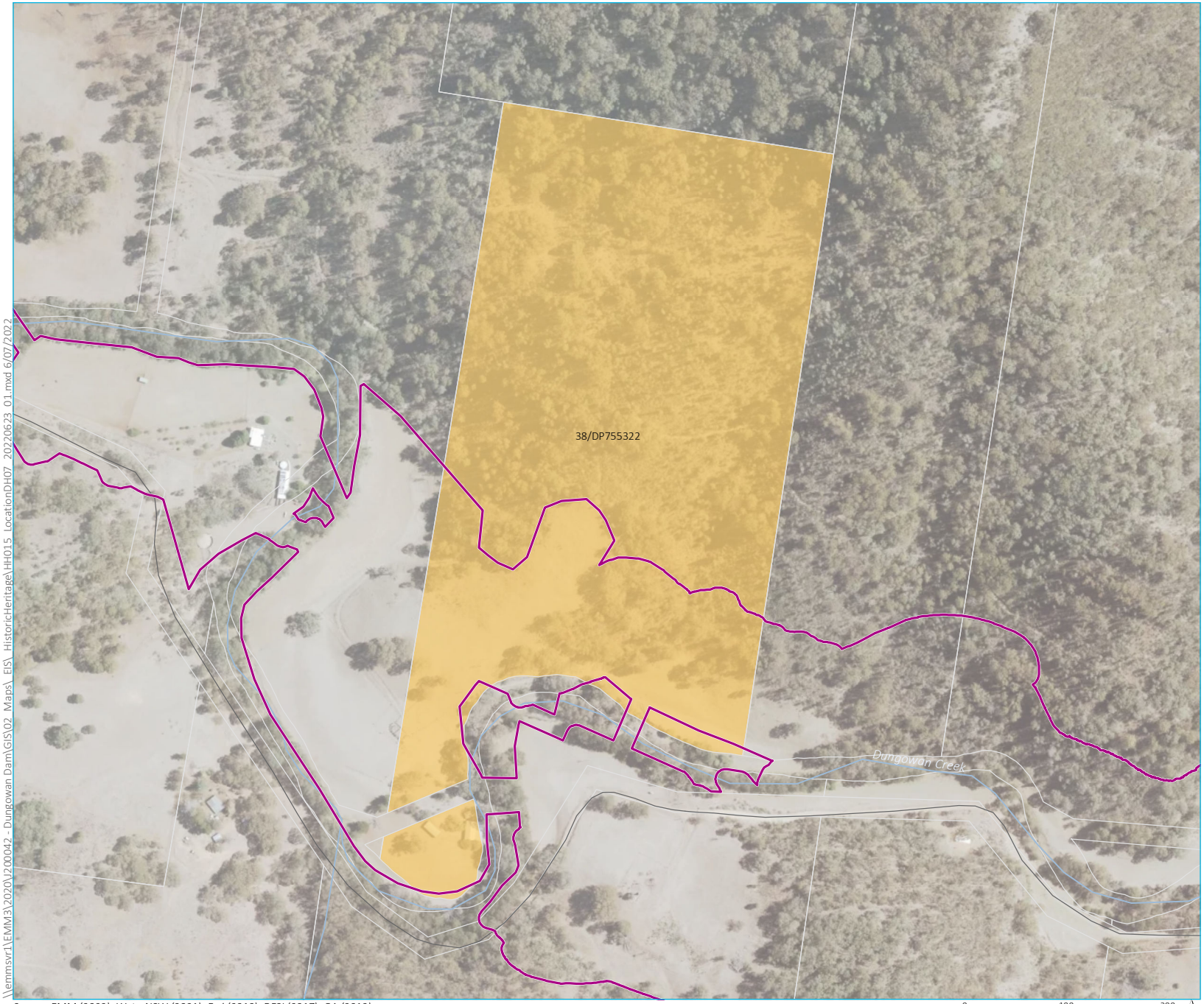
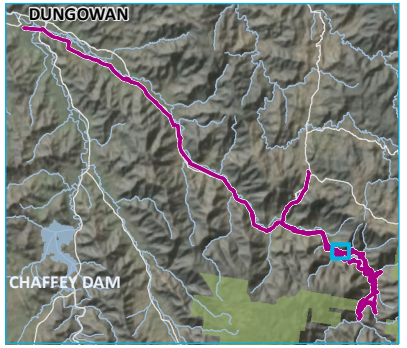



**Plate A.72** **Parish of Callaghan, County of Parry 1919 map. Carinya was built on G A Rowlison's land indicated by the blue arrow. The point of the arrow is roughly where the buildings stood.**




KEY

- Project footprint
- Carinya (site ID: DH07)

Existing environment

- Major road
- Minor road
- Named watercourse
- Cadastral boundary

\\emmsvr1\EMM3\2020\200042 - Dungowan Dam\GIS\02 Maps\ EIS\ HistoricHeritage\HH015 LocationDH07 20220623 01.mxd 6/07/2022

*Source: EMM (2022); WaterNSW (2021); Esri (2019); DFSI (2017); GA (2013)*

0 100 200 m

GDA 1994 MGA Zone 56

N

Carinya (site ID: DH07)

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure A.10

EMM
creating opportunities

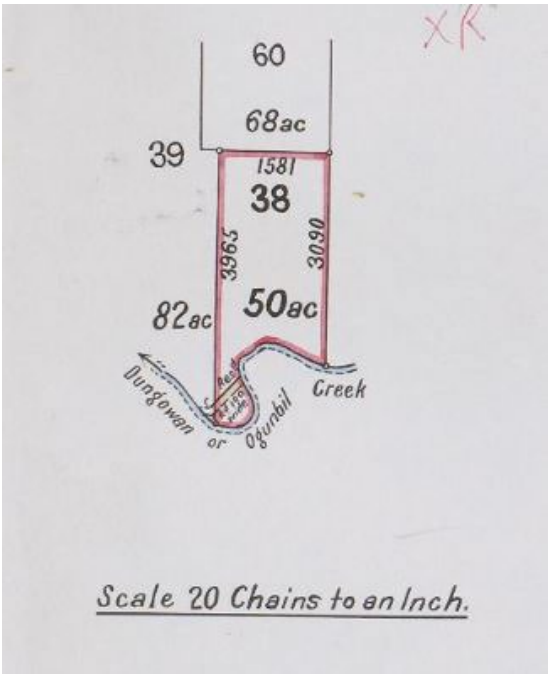



**Plate A.73** **The real boundary of lot 38 as it appears on the land title document Vol 4590 Fol 243.**

This property, like many of those in the small valley to the east along Dungowan Creek, was a sheep farm and held a house (demolished), modern shed (standing), a smaller shed (demolished), stockyards and a ramp.

Buildings are present on the property in 1960 but probably date to the earlier in the twentieth century, much like the other properties in the small valley.

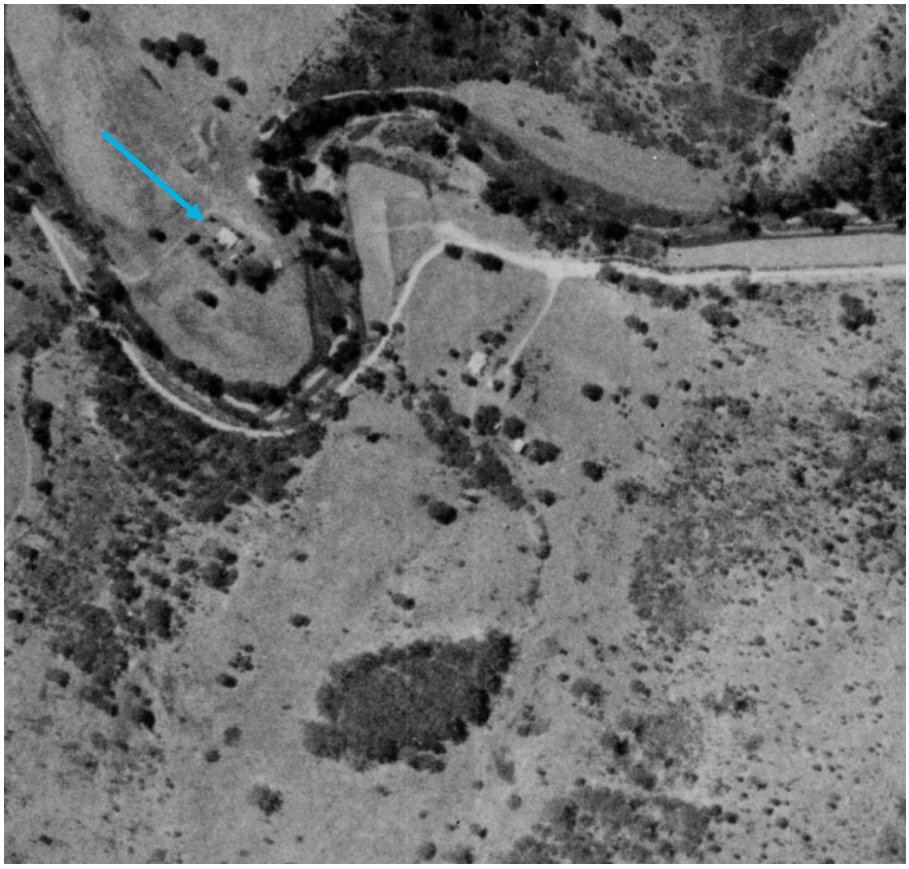


**Plate A.74** **The property in 1966 (indicated by blue arrow) and its relationship to *Hillcrest to the east.***

### A.7.3 Field survey

This property was not visited during the field familiarisation exercise in February 2020. It was investigated during field survey in September 2020 and the remaining buildings were photographed along with evidence of former buildings.

The remaining structures on site were two modern coloured steel (possibly Colorbond) sheds, timber post and wire fences, a large stockyard and ramp. Lemon trees and palms trees surrounded a small open area that resembled a building platform. Aerial photographs confirm that this area was where the home stood. It was grassed and had the appearance of having been demolished at least one or two years ago, if not more.

A small area to the north-east of the house site showed signs of being recently bulldozed with upturned earth marking approximately 10 m by 4 m. The soil contained fragments of cut timber, glass fragments and iron pieces.

**Plate A.75** ***Carinya*** **view south-west of the palms and fruit trees and further along to Dungowan Creek.**

**Plate A.76** **The stockyard and ramp at *Carinya,* north-west of the house. View north-west.**

**Plate A.77** **View north-west across the recently (to September 2012) area where historical aerials show a structure, probably a shed**

**Plate A.78** **Artefacts collected from the bulldozed area.**

**Plate A.79** **The letterbox belonging to *Carinya* and the view north along Dungowan Creek Road.**

**Plate A.80** **View south-east along Dungowan Creek Road; photograph taken beside the letterbox in Plate A.79.**

### A.7.4 Archaeological potential

The site was occupied for at least forty years, and therefore has a high potential for archaeological resources to exist in this area of the house and sheds. The status of these resources as relics is discussed in Section 8.

## A.8 Port Stephens Cutting (site ID: DH08)

### A.8.1 Location

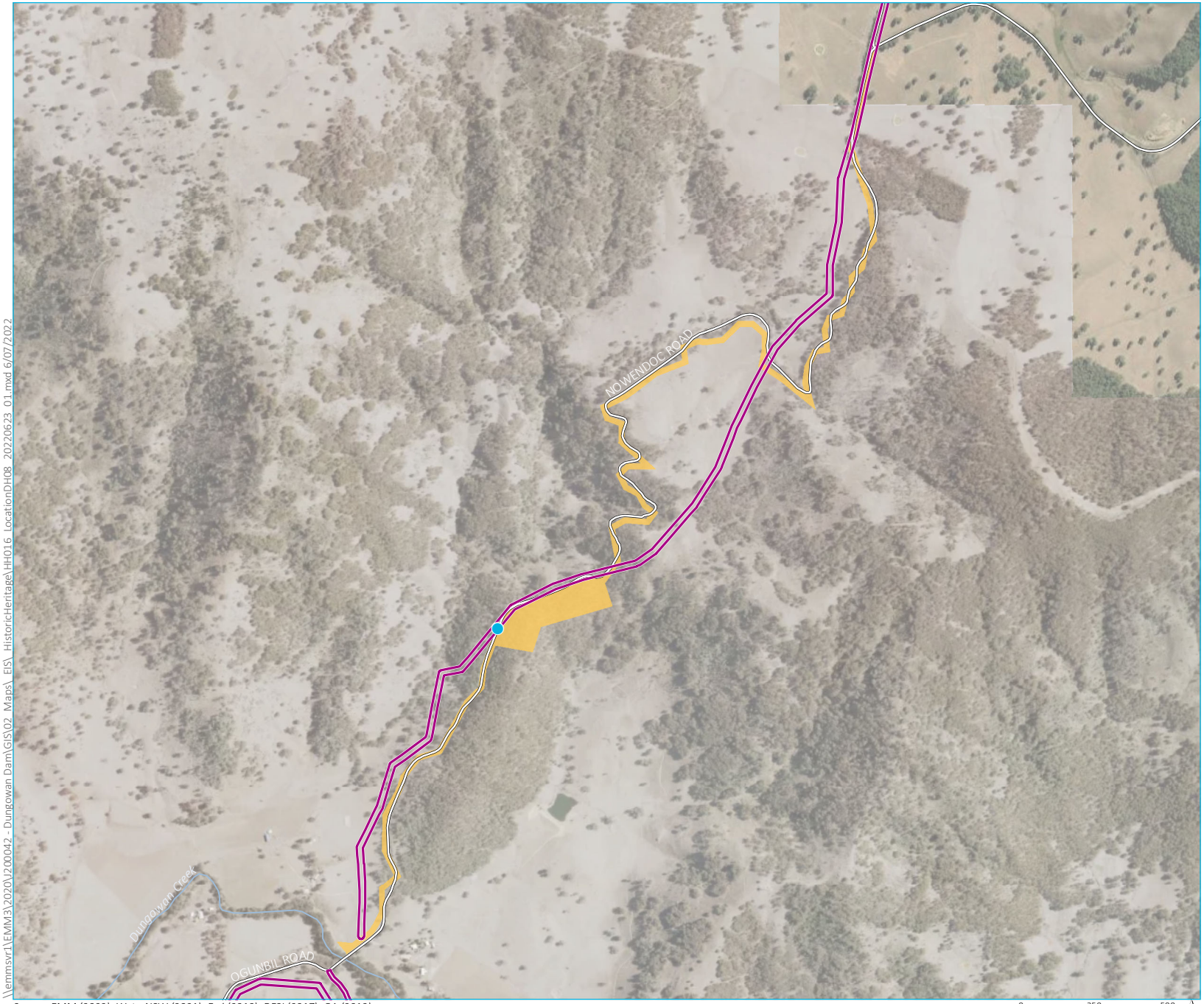
**Address:** Nowendoc Road, Obunbil; approximately 5.3 km of Nowendoc Road from the junction with Dungowan Dam Road in the south, to the junction with Weabonga Road in the north. As shown in Figure A.11.

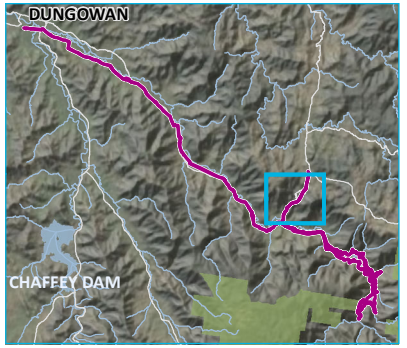
**Heritage listing:** I264 *Tamworth Local Environmental Plan 2010*

The listed portion of Nowendoc Road is shown above. It joins Dungowan Dam Road in the south-west corner of the image. The images below were taken from the location indicated by the blue dot (above).

### A.8.2 History

Known as the Port Stephens Line, the road was initially surveyed in 1832 to provide access to the AAC at Port Stephens to its estates in the Peel Valley. A better road was surveyed in 1836 by William Telfer and it was this new road that was used more frequently. The Port Stephens Line remained a minor route and was upgraded in the 1840s and 1850s, and generally used for stock (State Heritage Inventory I264).




KEY

- Project footprint
- Port Stephens Cutting (site ID: DH08)
- Photo site

Existing environment

- Major road
- Minor road
- Named watercourse

Port Stephens Cutting
(site ID: DH08)

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure A.11

EMM
creating opportunities

*Source: EMM (2022); WaterNSW (2021); Esri (2019); DFSI (2017); GA (2013)*

0 250 500 m
GDA 1994 MGA Zone 56
N

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### A.8.3 Field survey

The alignment travels east-west on the north side of the project area.

**Plate A.81 The image above is taken from Nowendoc Road where the listing widens from the lay-by (shown by a blue dot in Figure A.11). View east.**

Close up, the shale has an irregular pattern where it has broken off and/or eroded. At a distance, regular cuts are visible, which are likely to be tamping scars. Evidence of hand laid stone was not seen, but the entire alignment was not inspected.

**Plate A.82** **Detail of the cutting face showing the natural breakage of the shale as well as possible tamping scars (indicated). View south-east.**

### A.8.4 Archaeological potential

The Port Stephens cutting, and the hand laid stone is an item of established local significance. As road infrastructure, the item is classified as a work. Buried or remnant evidence of its creation and purpose is also classified as a work rather than a relic but the significance of the item is clear.

The potential for archaeological resources related to the item's construction and early use is high in discrete locations; as such they may be significant but would be classified as relics; however, management measures to avoid impacts to the item and its buried elements would still be required. Significance is discussed in Section 8.

## A.9 Ogunbil Brick Shearing Shed and Silo (site ID: DH09)

### A.9.1 Location

**Address:** Ogunbil Road, Ogunbil, NSW 2430; lot 1 DP807846, Parish of Woolomin; County of Parry. As shown in Figure A.12.

**Heritage Listing:** I283 *Tamworth Regional Local Environmental Plan*

The Ogunbil brick shearing shed, and Silo is on Ogunbil Road, Ogunbil, approximately 9 km west of the proposed dam. The heritage-listed site comprises a red brick, corrugated iron hipped roof shearing shed. Associated stock pens and other timber elements are intact internally. A concrete block silo is adjacent. The silo has a corrugated iron roof. Both items are in need of repair. The group is visible from the road.

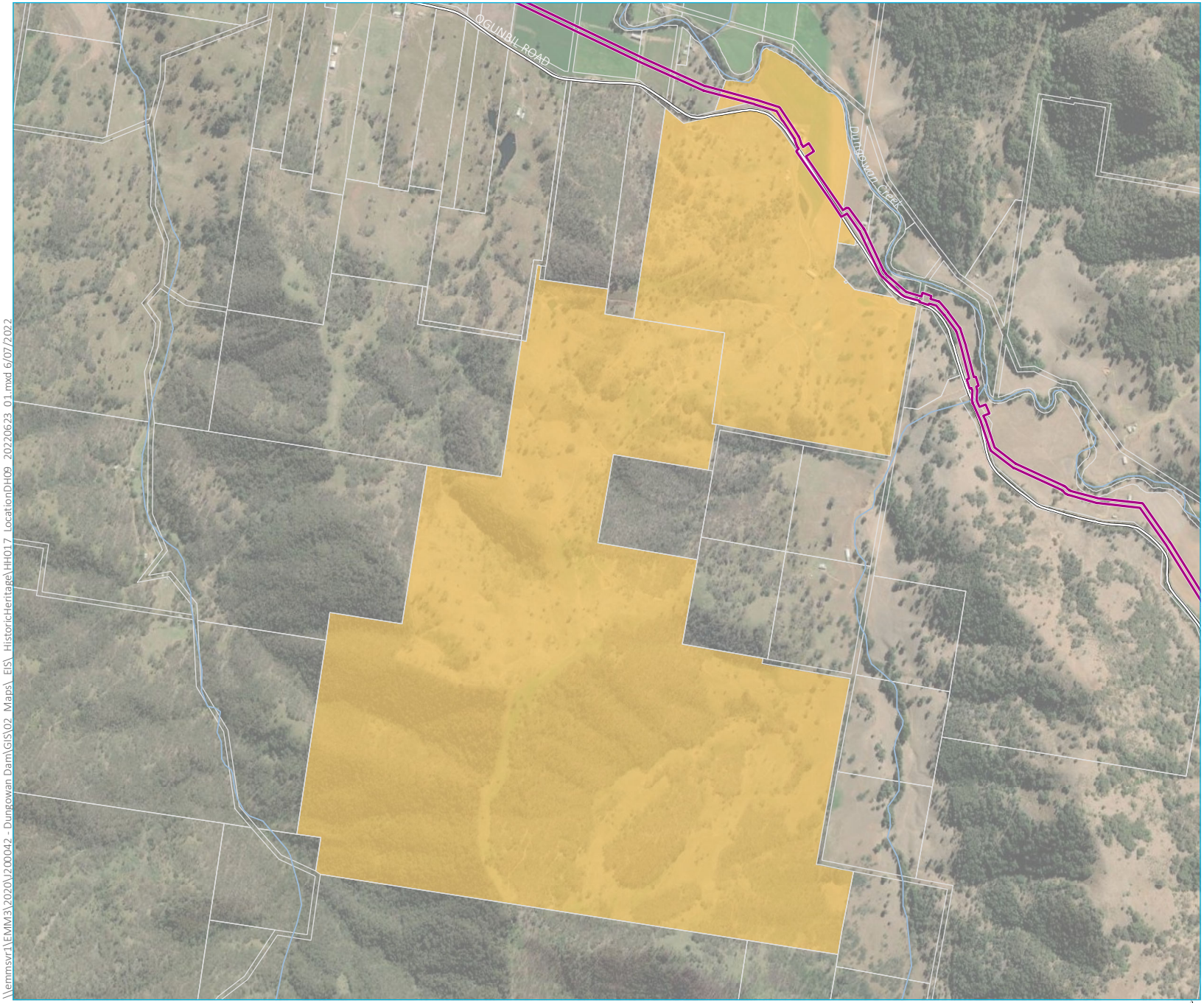
### A.9.2 History

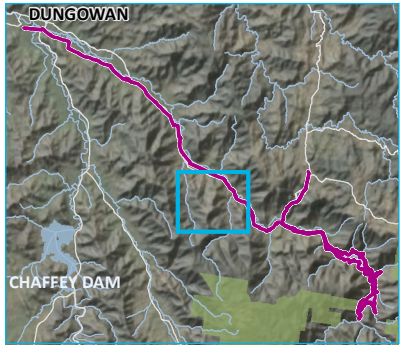
Ogunbil was within the bounds of the *Dungowan Station* run and approximately 14 miles from Haig's headstation. The property formed part of the subdivision that occurred with the implementation of *The Crown Lands Alienation Act* of 1861. In 1869 the c. 320-acre (129.5 ha) property was classed as a temporary reserve (No. 302) for the preservation of the water supply or public use (*New South Wales Government Gazette*, 11 March 1868, p.682). This reserve was temporary as the reserve status was revoked in 1879 (*New South Wales Government Gazette*, 29 September 1879, p.4296). Ogunbil Road was constructed through the property in 1882 but the property was not leased for some time (*The Maitland Mercury and Hunter River General Advertiser*, 8 June 1882, p.5).

The first leaseholder of the property was Nathan Cohen, managing director of *Nathan Cohen & co.* an auction firm and stock and station agents based in Tamworth (*The Maitland Daily Mercury*, 16 August 1910, p.5). Cohen, however, did not hold the land long as the 1896 Woolomin Parish map notes F.F. Albertson as the leaseholder of the property. The property also numbered Lot 43.

F.F. Albertson was a member of the Albertson family who held the lease for the properties to the south and east of Lot 43 from at least 1879. F.F. Albertson was a grazier and member of the NSW Grazier's Association (*The Sydney Stock and Station Journal*, 14 June 1918, p.5). The Albertson's primarily grazed sheep but a Mrs John Albertson is also recorded managing a mixed farm with a dairy (*The Tamworth Daily Observer*, 13 January 1912, p.3). Albertson named the property as Weenallan (also Ween Allyn), an Aboriginal word of unknown origin meaning "you and I" or "we together" (*The Catholic Press*, 4 May 1916, p.4). It was during Albertson's tenure that the silo was constructed.

Albertson began the construction of the concrete silo in 1919 (*Daily Observer*, 9 May 1919, p.5). The silo was built to hold 100 tonnes of fodder and was considered the "starting point of a new era of stock raising in the district" (*Daily Observer*, 23 September 1919, p.5). At the same time Albertson also constructed a brick shelter (or possibly shelters) to house lambs and ewes during the winter. A shearing shed owned by Messers. A.N. and W. Albertson is recorded in early 1919 but it is unclear if the standing brick "shearing shed" is this shearing shed or the winter shelter (*Daily Observer*, 14 June 1919, p.7). It is possible the standing building was used both as a shearing shed and winter shelter. F.F. Albertson retired in 1944 and the property was passed to Colin Fraser Albertson.




KEY

- Project footprint
- Ogunbil Brick Shearing Shed and Silo (site ID: DH09)

Existing environment

- Major road
- Minor road
- Named watercourse
- Cadastral boundary

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*Source: EMM (2022); WaterNSW (2021); Esri (2019); DFSI (2017); GA (2013)*

0 250 500 m

GDA 1994 MGA Zone 56

N

Ogunbil Brick Shearing Shed and Silo (site ID: DH09)

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure A.12

EMM creating opportunities


**Plate A.83 Detail of the concrete silo. Image source: SHI (DB No 2471662; image by EJE).**

It does not appear that Colin Fraser Albertson farmed the property as in 1948 Kemp, Norman and Beck registered a stock brand based at *Weenallan*, Ogunbil (*Government Gazette of the State of New South Wales*, 20 August 1948, p.2145). The grazing company Ween Allyn Pty Ltd. was established prior to 1958 when the company installed a water pump on Lot 43 (*Government Gazette of the State of New South Wales*, 10 January 1958, p.61). Various coalitions ran stock on the property under Ween Allyn Pty Ltd. until the company went into liquidation in 1990 (*Commonwealth of Australia Gazette. Business*, 3 July 1990, p.1824).

### A.9.3 Field survey

The site was viewed from the road as the pipeline is proposed directly adjacent to the fence line and deviates north-west through the property for approximately 85 m. No artefacts indicating the potential for relics were noted.

**Plate A.84** The shearing shed and its relationship to the silo is shown in the image above. View north. Source: EMM.

**Plate A.85** The roof of the Ogunbil silo (October 2020).

**Plate A.86 The silo at Ogunbil. View north. (October 2020).**

The shearing shed is approximately 14 m from Dungowan Road. The shearing shed and silo are on the north side of the road. The concrete silo is approximately 60 m from Ogunbil Road.

### A.9.4 Archaeological potential

The property was purchased in the late 1870s and the current buildings were put there in around 1910. While there is potential for archaeological resources that relate to this phase of development, it is also worth noting that the Ogunbil brick shearing shed and silo are land between Dungowan Creek and Dungowan Creek Road and is approximately 12 km (7 miles) from Cadell's *Dungowan Station*.

The advertisement for the sale of Haig's *Dungowan Station* includes "five outstations in good working order, having hurdles for 10,000 sheep" (*Sydney Morning Herald*, Wednesday 21 December 1853, p.7). Although no evidence of huts or infrastructure, such as stockyards, have been found on historic maps, this property is generally in the location where a shepherd's hut or an outstation may have been situated (based on the seven-mile distance between huts on squatting runs).

The status of these potential resources as relics is discussed in Section 8.

## A.10 *Dungowan Station* (site ID: DH11 [Cadell's] and DH17 [Haig's])

### A.10.1 *Dungowan Station* (Cadell's) Location

**Address:** Dungowan Creek Road; 87//755350

Parish of Woolomin; County of Parry.

As shown in Figure A.13.

**Heritage listing:** Not listed but is not the site of one of the outstations of the original *Dungowan Station.*

Lot 87 is intact (Vol-Fol – 141-211).

Lot 86 has been subdivided into 15//635156; 14/635156; 1//724426; 1//923633; 1//166461; originally Vol-Fol 141-211. Lot 81 also granted to JJ Cadell. Cadell was listed in the New South Wales Government Gazette for 1891 has holding Dungowan Station, in the Tamworth District.

### A.10.2 History

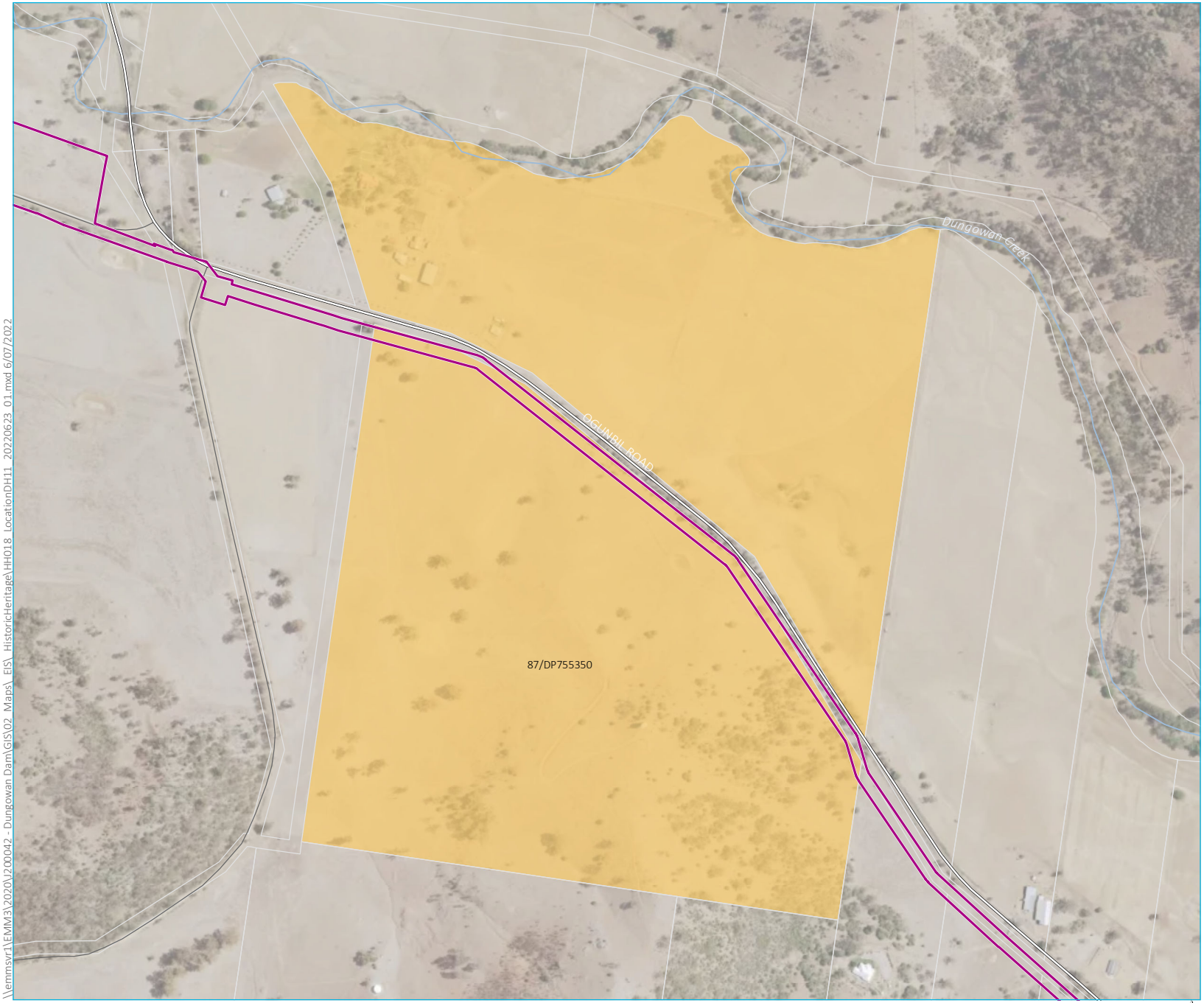
#### i Cadell's Dugowan Station

The property known as *Dungowan Station* is the second of the same name, having been moved by J J Cadell in the 1860s from the original site that Isaac Haig selected.

James John Cadell was born 1815 in West Lothian, Scotland and died at Raymond Terrace in 1884. Cadell married Catherine Cadell, possibly a cousin, who was from Midlothian, Scotland. Catherine died in 1862 at 40 years of age, of typus fever (https://www.jenwilletts.com/james_john_cadell.htm) after bearing 11 children. JJ Cadell married Elizabeth Harriet Richardson in 1863 and added another four children to the Cadell clan. Elizabeth died in 1884, also at Raymond Terrace (Ancestry.com). Other sources name his second wife Elizabeth Harriet Cahill (ABD: Rawson, Wilhemina Frances) Australian Medical Pioneers Index online http://www.medicalpioneers.com/cgi-bin/index.cgi?detail=1&id=2165).

Cadell was a doctor, trained in Scotland and practiced in the colony. Dr Cadell is referred to in an article in the *Sydney Morning Herald* (20 November 1914, p.3) about his son, Mr William T Cadell, as the "Laird of Deepwater". In the article, Dr Cadell ran a sheep station near Tamworth. The station of Dungowan is described as "mountainous and unfenced" where dingos took sheep and lambs and "sorely tried the patience and skill of the shepherds, as well as the pockets of the squatters" (*Sydney Morning Herald* 20 November 1914, p.3). the Bailliere's *New South Wales Gazetteer* lists J J Cadell at *Dungowan Station* with 37,000 acres (14,973 ha), with grazing capacity for 8,000 sheep (Bailliere 1866, p.191).

At the time of resumption of *Dungowan Station*, Dungowan Creek (also known as Ogunbill Creek) was the dividiving line. The total area of the holding, before resumption, was 96,500 acres (39,052 ha). The estimated location of the original homestead is on the north side of the Peel River; the current *Dungowan Station* homestead is on the south side of Dungowan Creek (see Figure A.14 and Figure A.15).




KEY

- Project footprint
- Dungowan Station (site ID: DH11)

Existing environment

- Major road
- Minor road
- Named watercourse
- Cadastral boundary

Dungowan Station (site ID: DH11)

Source: EMM (2022); WaterNSW (2021); Esri (2019); DFSI (2017); GA (2013)

0 250 500 m

GDA 1994 MGA Zone 56

N

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure A.13

EMM creating opportunities

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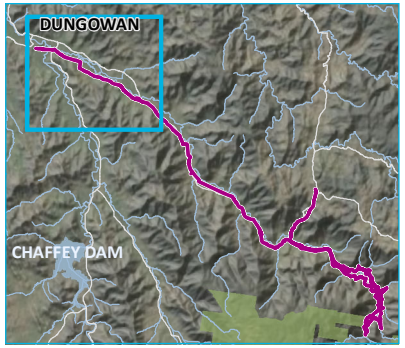


KEY

- Project footprint
- Haig's Dungowan homestead (site ID: DH17)
- Cadell's Dungowan Station (site ID: DH11)

Existing environment

- Major road
- Minor road
- Named watercourse

\\emmsvr1\EMM3\2020\200042 - Dungowan Dam\GIS\02 Maps\ EIS\ HistoricHeritage\HH019 LocationDI7RelativeDH11 20220623 01.mxd 6/07/2022

*Source: EMM (2022); WaterNSW (2021); Esri (2019); DFSI (2017); GA (2013)*

0 0.5 1 km

GDA 1994 MGA Zone 56

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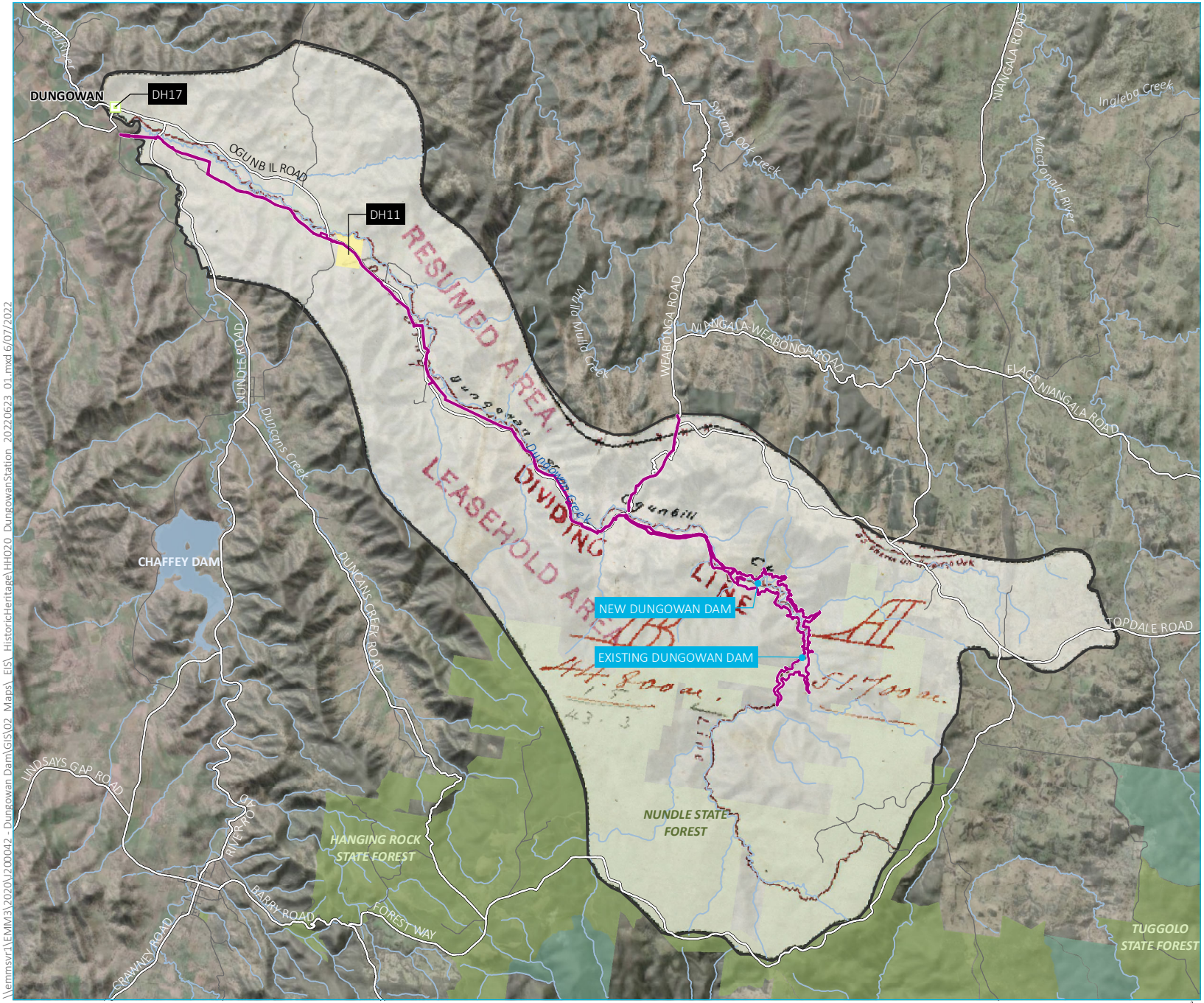
# Haig's Dungowan homestead (DH17) relative to Cadell's Dungowan Station (DH11)

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure A.14

EMM
creating opportunities




KEY

- Project footprint
- DH17 Original Dungowan Station/Haig's Dungowan Homestead
- DH11 Cadell's Dungowan Station

Existing environment

- Major road
- Minor road
- Named watercourse
- Named waterbody
- NPWS reserve
- State forest

Source: EMM (2022); WaterNSW (2021); Esri (2019); DFSI (2017); GA (2013); HLRV map number 572352 (1850)

0 2.5 5 km

GDA 1994 MGA Zone 56

N

Total area of original Dungowan Station

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure A.15

EMM creating opportunities

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**Plate A.87** **Haig's headstation is estimated to be shown by the red arrow. JJ Cadell's holding is indicated by the blue arrow is represented by the two green lots south of Dungowan (or Ogunbil) Creek. No date for the map**

JJ Cadell's holdings, that is, the location of the second Dungowan headstation is indicated by the blue arrow. It comprises the two light green lots south of Dungowan Creek. The location of the original homestead is indicated by the red arrow. The existing homestead was built in 1903 by Leslie Sprague, who also donated approximately 3 acres (1.2 ha) of land for a church. This church is the Upper Dungowan Uniting Church (DH16).

This plan does not cover the southern extent of the project; the connecting plan could not be found.

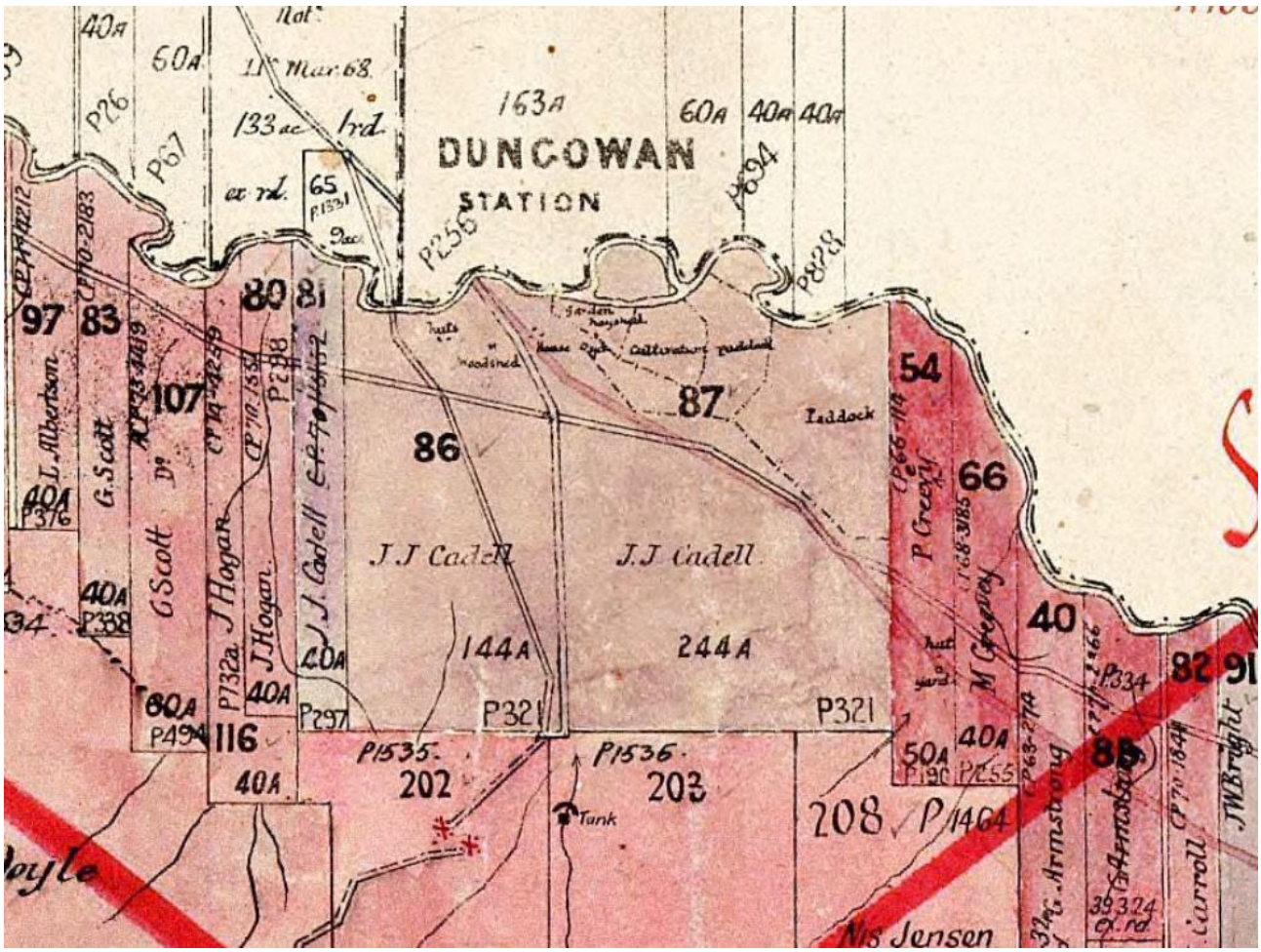



**Plate A.88** **Parish of Woolomin 1879. Huts, woolshed, house, garden, cultivation, paddock, paddock. HLRV**

The 1879 Parish of Woolomin map (Plate A.88) has annotations that assist with identifying the rough location of various structures. The two annotations on Lot 86 are (from left to right) “huts” with two dots and “woolshed” with one dot. On Lot 87 (from left to right) three dots are labelled “House”, “garden hayshed (?)”, “Cultivation”, “paddock” and “Paddock”. What appears to be two buildings are shown inside the fence line directly east of the “House”. It is very likely that these structures were the work of JJ Cadell.

The land to the north was purchased in the name of family members to extend the *Dungowan Station* holding and as indicated by the label north of the creek.

### ii Haig’s Dungowan Station

The image above is from the project Collector map; it shows the current *Dungowan Station* in the lower right corner and the estimated location of the original headstation (blue circle).

When advertised for sale by Haig, in 1853, *Dungowan Creek* was described with:

> an excellent four-roomed cottage, shingled, with garden in front, detached kitchen and stores, stables and fowl houses, wool shed, milking yard, and men’s hut. There are (5) FIVE OUT-STATIONS in good working order, having hurdles for 10,000 sheep.
>
> *Sydney Morning Herald*, Wednesday 21 December 1853, p.7

Historical sources do not identify *Dungowan* as a squatting run in the early days but given that it is in an area that was claimed by white settlers, it was unfenced and because over half was resumed by government, it is likely that it was.

George Fullwood claimed leasehold of approximately 25,303 acres (10,240 ha) in 1846 and sold the lease to Isaac Haig the following year. It was Haig who built a homestead on the land south of the confluence of the Peel River and Dungowan Creek. The exact location of the original headstation has not been ascertained, but the description "along the Peel River around the Dungowan-Duri Road", places it close to the existing Dungowan Hotel and approximately 12 km from the current property known as *Dungowan Station.* When J J Cadell acquired the property, he moved the headstation to the location that it is now. The current location is close to 12 km from Haig's headstation, approximately 7.5 miles, indicating that this property is at the standard distance from the Haig's headstation for this to have been an outstation or the location of a shepherd's hut at the start of the lease.

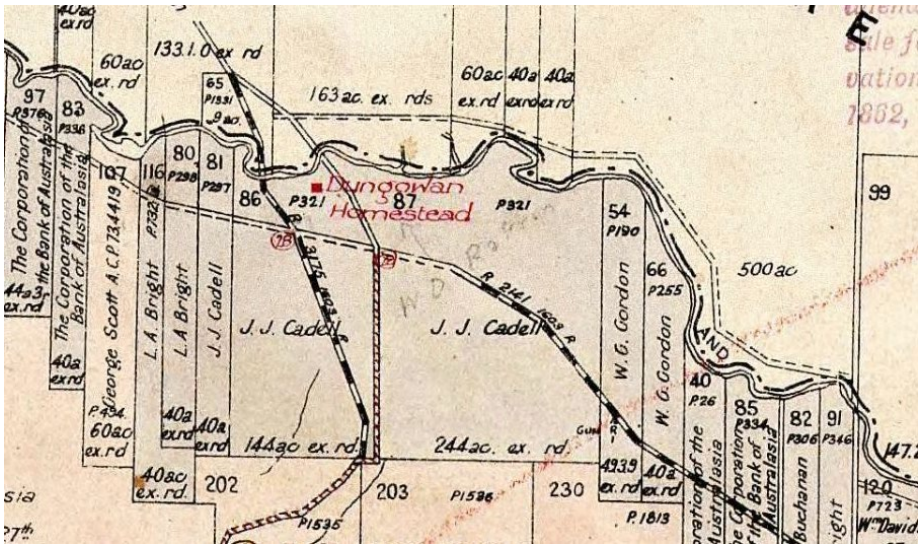
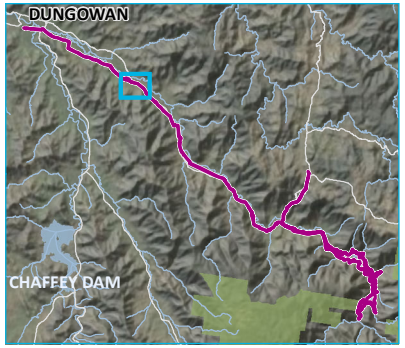



**Plate A.89 The location of Cadell's *Dungowan* homestead. Source: HLRV Parish of Wollomin 1917.**

The location of JJ Cadell's land after the run was subdivided is shown in Figure A.16.


KEY

- Project footprint
- J J Cadell's holding after subdivision for free selectors

Existing environment

- Major road
- Minor road
- Named watercourse
- Cadastral boundary

Dungowan Station (site ID: DH11) - HLRV Parish of Wollomin 1917

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure A.16

EMM
creating opportunities

Source: EMM (2022); WaterNSW (2021); Esri (2019); DFSI (2017); GA (2013); Parish of Woolomin map (1917)

0 100 200 m
GDA 1994 MGA Zone 56

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### A.10.3 Field survey

*Dungowan Station* was viewed from the public domain. However, the road-facing paddocks were inspected and photographed from the road. According to McClelland (1994) this is not the original headstation, but within the original Dungowan run. The home at this address was built in 1903 but is likely to be in an area that was an outstation of the original run. A chimney stack survives in the front paddock to the east of the main driveway.

**Plate A.90** **A brick chimney stack and fireplace on Dungowan Station.**

**Plate A.91** **Sheds on Dungowan Station; view north. The shed with the ogee roofline has timber slab walls.**

**Plate A.92 A shed clad in corrugated iron, Cadell's *Dungowan Station*. A chimney stack is visible behind the tree to the right.**

### A.10.4 Archaeological potential

The analysis of documents, field survey and spatial patterns of the past suggest that Cadell's *Dungowan Station* is an outstation of the earliest squatting run/pastoral lease, also called *Dungowan Station.* This property includes modern (or well-maintained) sheds, older sheds clad in corrugated iron, at least two chimney stacks indicating demolished dwellings and older non-native plantings. Corrugated iron cladding is often an indicator of dilapidated timber structures beneath, which may belong to a significantly earlier period.

The features mentioned in the paragraph above will not be affected by the project, but they are clear indicators of consistent use of the place and therefore, represent structures that are now demolished. Refer to Plate A.88 and Plate A.89 for evidence of earlier structures on plan.

Should buried evidence or ruins related to the outstation of *Dungowan Station* exist or survive, they would be relics, a prediction based on the age and nature of the potential archaeological resource. Similarly, should buried evidence or ruins related to the property as the headstation of *Dungowan Station* exist of survive, they would also be relics.

The potential for archaeological resources on Cadell's *Dungowan Station* is high; their status as relics is discussed in the assessment of significance in Section 8.

## A.11 Cultural landscape (DH18)

### i History

**Address:** Project area consisting of the proposed dam footprint and the pipeline alignment.

The history of the cultural landscape is the history of the region. It has been formed through natural and anthropogenic agents, which includes deliberate and ancillary activities. The landform in the area of the proposed dam and construction area is a small and close valley, incised by what is now a small creek, (Dungowan or Ogunbil Creek) and flanked by steep hills with shale outcropping. The eastern end of the project area is bookended by the current dam. To the west at approximately 20 km, the valley widens, and the hills recede to the north and south. This part of the project area has a higher frequency and size of flat agricultural land and has a wider rural aesthetic.

The cultural landscape of the project area is formed by steep hills in a small, closed valley, flattening out to a wider valley floor, farmlands, old and new buildings, native forest, and exotic plantings, at least one survey tree and smaller ancillary structures such as pens and stocks. A series of small former public school buildings are also in proximity to the project but are not within the impact zone.

A large part of the cultural landscape, in combination with the rural character of the study area, is the existence of Crown land travelling stock reserves and camps. Originally, land was gazetted to provide as continuous as possible, a corridor to move stock through, by stockmen on horseback; other areas were selected as camps to overnight, as water was readily available.

The study area contains six of stock reserves, with two inside the project area, in the location of the pipeline (Figure A.17). The stock reserve adjacent to the heritage item is 'Memorial' R1487 and is marked on the 1917 Parish of Yeerowin map as W&CR 1487 (Water and Camping Reserve 1487), notified in 1875.

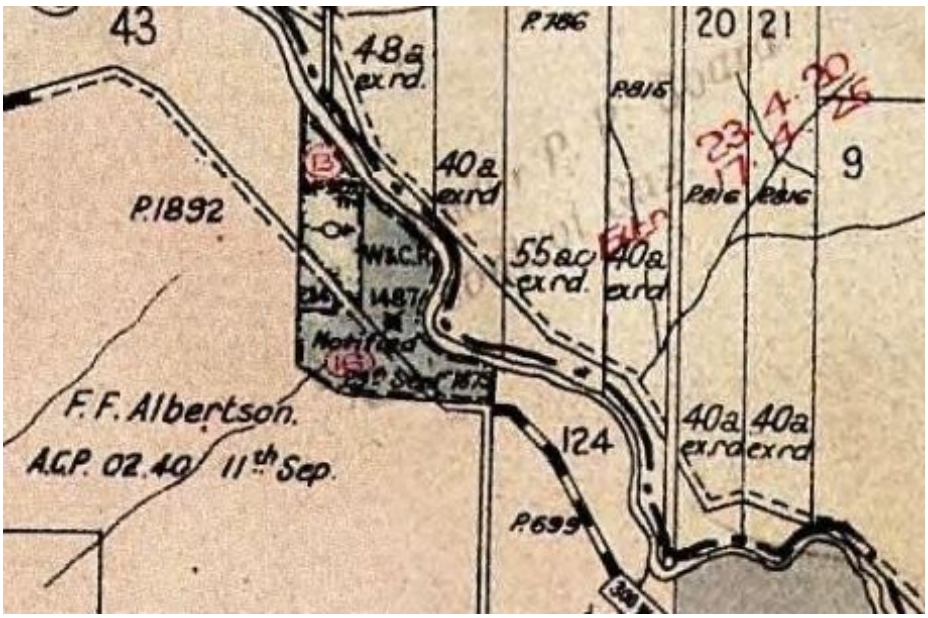
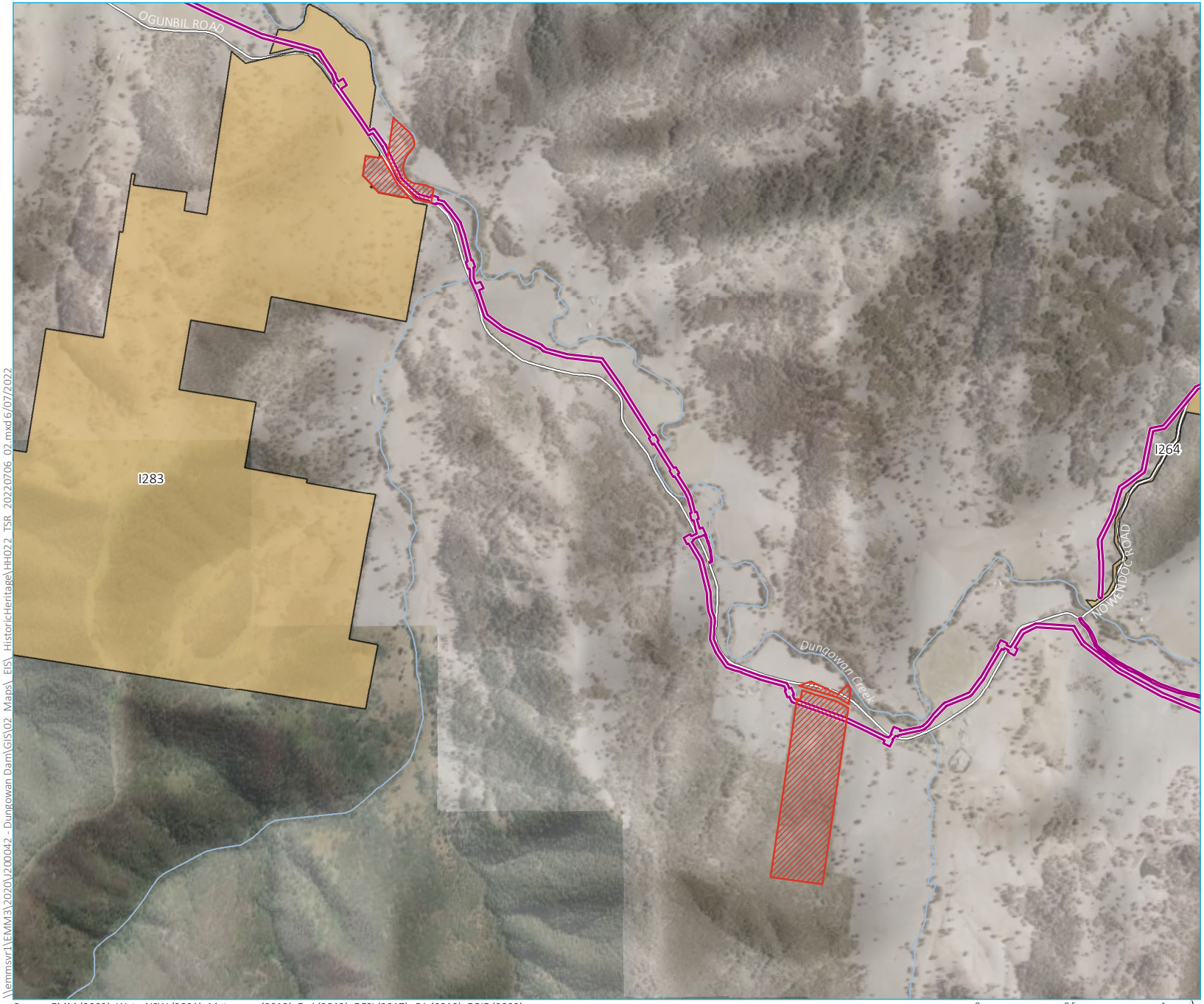
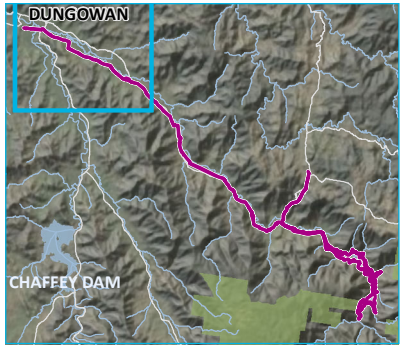



**Plate A.93 W&CR 1487 on the Parish of Woolomin 1917 map. Source: HLRV online.**

The second stock reserve shown in Figure A.17 is reserve R1002703 (circled in yellow) and is shown on the Parish of Royinn plan as R 1680 notified 31 January 1881.




KEY

- Project footprint
- Major road
- Minor road
- Named watercourse
- State forest
- Travelling stock reserve
- Register heritage item - I264 Port Stephens Cutting
- Register heritage item - I283 Ogunbil Shearing Shed and Silo

Source: EMM (2022); WaterNSW (2021); Metromap (2019); Esri (2019); DFSI (2017); GA (2013); DPIE (2020)

0 0.5 1 km

GDA 1994 MGA Zone 56

N

\\emmsvr1\EMM3\2020\200042 - Dungowan Dam\GIS\02 Maps\ EIS\ HistoricHeritage\HH022 TSR 20220706 02.mxd 6/07/2022

Travelling stock reserves within the project footprint

Dungowan Dam and pipeline project
Historical heritage assessment & SoHI
Figure A.17

EMM
creating opportunities

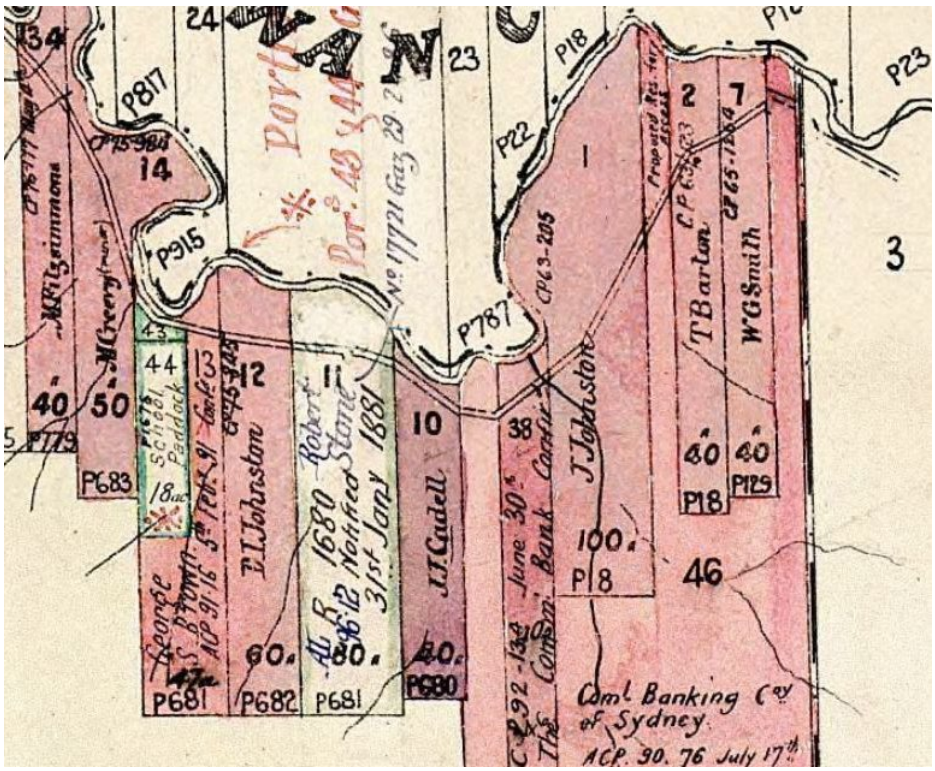



**Plate A.94 Parish of Royinn 1890; the reserve is the pale lot in the centre and is today R1002703.**

No further TSRs or TSCs occur historically on the south side of Dungowan Creek. On the north side of the creek in the Parish of Ogunbil, another reserve, R23758 in lots 42 and 25 (adjacent to each other) was notified in 1896; this reserve has not been converted to a current stock reserve and it outside the project area.

### ii Field survey

Field survey of the cultural landscape was conducted as part of the wider investigation, and inspection of the two stock reserves in the project area were not undertaken. One of those reserves, R1487 was a 'water and camping reserve' historically and is likely to have been used as such by stockmen and their beasts.

### iii Archaeological potential

The reserve (Memorial R1487) adjacent to the Ogunbil shearing shed and silo (I283) was, at one point in history, a water and camping reserve and may therefore hold evidence of stockmen's camps. Evidence may exist of individual fire pits with refuse deposited by the stockmen as they left on their journey. At another site historical stock camp on the Old Hume Highway near Tarcutta was uncovered during road work to reveal a series of fire pits with refuse that were filled over with soil (*pers. comm.* Pamela Kottaras). It was assumed that as a significant portion of the refuse consisted of tin cans and glass bottles, at the end of the overnight stay, the stockmen would but their rubbish in the pits and cover them over to put the fires out and to protect the next herd from sharp metal and broken glass (*pers. comm.* Pamela Kottaras),

The potential for evidence of stock camps to exist in the location of R1487 is high; the status of the archaeological resource as relics is discussed in the assessment of significance in Section 8.

### iv Additional sites

In addition to the sites and features discussed above the cultural landscape of the study area includes the of the study area includes the items described below; these have been added to inform modifications should they occur:

- DH10 Surveyor's Tree – approximately 575 m east of a modern survey mark PM54865 (Sixmaps). Parish of Callaghan 1899 map shows a number of survey trees that may still be in the project area but nothing in the immediate location of DH10.
- DH12 Brumby Holding Pen – this item is late twentieth century holding pen identified by Donny Fermor, who lived in the study area.
- DH13 Dorset Vale School – identified through documents but not inspected as it is not in the project area. The sign for the school is in the pipeline buffer but can be avoided by the works.
- DH14 Wooloban Public School (former) – identified through documents but not inspected as it is not in the project footprint.
- DH15 Casuarina Public School (former) – identified through documents but not inspected as it is not in the project footprint.
- DH16 Dungowan Upper School Union Church – identified through documents but not inspected as it is not in the project area.

# Annexure B

## Assessment of significance

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## B.1 Assessment of sites in the development footprint

The significance of the items identified during field survey and/or research is assessed in Table B.1. Sub-categories included in-text are part of the overall property but are differentiated to highlight their contribution to the landscape.

**Table B.1 Assessments of significance table**

| Criterion | Assessment | Significance |
|---|---|---|
| ***DH01 Dungowan Dam*** | | |
| a) Historical | The Dungowan Dam was constructed as part of a greater scheme initiated by Tamworth Council, after World War II, to facilitate and maintain water security for Tamworth's increasing population. The costing and feasibility studies involving government bodies and engineering firms, including the process of site selection, were conducted over more than a decade. Construction began in 1953 and was completed over a five-year period. The works not only involved the construction of the main dam structure but also the roadways and infrastructure required to operate and access the dam. Significant ancillary buildings related to the RAAF were constructed in 1953 to support the construction of the dam and included a barracks as well as residential and operational structures.<br>The scale of the project was substantial for the time and within the region requiring significant and ongoing human activity that also involved the local indigenous, Kamilaroi community. The dam became Tamworth's first major water storage facility. The Dam represents the continuation of activity within the region as it has been continually used for the same purpose the since its completion in 1958 (62 years). | Local historical |
| b) Associative | Does not fulfil this criterion. | N/A |
| c) Aesthetic | Dungowan Dam is one of the earliest engineering enterprises in the Dungowan Valley and the Tamworth Region. It has landmark qualities in an otherwise minimally modified landscape. | Local |
| d) Social | The dam has a unique connection with Tamworth. The dam project was directly initiated by the township's local government. Moreover, the works had historic and continued involvement of the local indigenous and non-indigenous community in the process of its construction, operation and maintenance. Ownership and management of the dam has remained with Tamworth City Council and the dam contributes to the townships water supply as well as to its irrigation for farming and pastoral industries. | Local |
| e) Research | The architectural vernacular of dam structures has changed over time through advances in technology and construction methods as well as changes in the requirements for water conservation. The original elements associated with the dam were constructed using techniques and materials endemic to the mid-twentieth century and similar to other dams across NSW. The extensive use of precast concrete formwork for the primary and secondary slipways and services towers is of note. The make of the dam may yield unique information about its composition, make and relative quality, particular to in terms of its geographic location and period of construction. The integration of the dam wall and ancillary structures and tunnels to form the main dam structure is also a point of interest in terms of research.<br>The dam site contains structures and spaces that are uniquely involved with the function of dams including several ancillary, operational buildings and extensive tunnel systems with integrated services. A study and documentation of these structures and spaces would yield information as to the specific functioning of the dam and the specific architectural and engineering solutions that may have only been applied. The landscape surrounding the dam was greatly modified at the time of its construction and continued alteration throughout its use. Further research would yield a broader understanding of the extent and type of secondary works required in the immediate context surrounding the dam and may also have the potential to shed light into the former natural landscape, prior to its construction. | Local |

## Table B.1 Assessments of significance table

| Criterion | Assessment | Significance |
|---|---|---|
| | In that sense the Dungowan Dam has the potential to yield archaeological and structural information as a mostly intact and still functioning example of a mid-twentieth century dam, specifically in terms of architectural design and engineering. | |
| f) Rarity | Does not fulfil this criterion. | N/A |
| g) Representativeness | Dungowan Dam is singular example of a dam structure and design as part of a collection of dams throughout NSW that were constructed from 1940-1960 and is also part of a wider number of dams constructed from the early to late twentieth century. The characteristics and attributes of the dam itself contribute to the process of water collection and control for the township of Tamworth which has been essential to the ongoing development of the local area and significant in its ongoing impacts to residential and farming activities. The dam itself is in a good condition and has maintained its function over more than half a century. Due to its historical and ongoing connection with the local community, it has been held in esteem as a major and important feature in terms of local infrastructure. | Local |
| ***DH02 Paradise*** | | |
| a) Historical | *Paradise* was built on the land that was taken up as *Dungowan Station*, initially a squatting run but later one of the major pastoral stations south of Tamworth established after the AAC legitimised settlement along the Peel River. The property was granted for selection in the early twentieth century and is associated with the late period of land alienation, subdivision, and selection which occurred in the eastern, southern and northern divisions of New South Wales after implementation of T*he Robertson Land Acts* of 1861 and the *1884 Crown Land Act*.<br>Paradise was one of a number of homesteads within the Swamp Oak area of the Dungowan Valley that contribute to the cultural landscape of small-scale family farms in the region which were established and worked over the later nineteenth and twentieth centuries. The residential group (DH02.1) has been demolished, as have the stockyard and ramp (DH02.3).<br>The local story of the grave of John Wilson (DH02.2) places the grave on *Paradise* making this oral history of interest. | Local contributory |
| b) Associative | Does not fulfil this criterion. | N/A |
| c) Aesthetic | Does not fulfil this criterion at this stage. | N/A |
| d) Social | While Paradise itself does not fulfil this criterion, the homestead forms part of a cultural landscape of small-scale historic farmsteads which contribute to the community identity in the Dungowan Valley. | Local contributory |
| e) Research | Paradise has the potential to yield archaeological information regarding twentieth century land selection and the lifeways of a families living in an isolated rural community. The homestead and associated buildings were demolished in the latter half of the twentieth century. Archaeological survey identified sub-surface structural remains and artefact deposits of high archaeological potential on the property, however, these remains do not meet the threshold to be considered relics.<br>Even so, archaeological research of Paradise has the potential to contribute new understandings to the processes of pastoral selection in New South Wales. Previous archaeological research has concentrated on homesteads and pastoral cultural landscapes in New South Wales established during the early and mid-nineteenth century, such as The Monaro (Hancock 1972). Spatial analyses of properties like Paradise and the landscape of small-scale family farms within the Dungowan Valley has the potential to contribute new information regarding settlement and land use patterns of twentieth century free selectors and how these modes of settlement differed and evolved land selection in the nineteenth century. | Local contributory |
| f) Rarity | Does not fulfil this criterion. | N/A |

## Table B.1 Assessments of significance table

| Criterion | Assessment | Significance |
|---|---|---|
| g) Representativeness | Paradise has the potential to demonstrate the characteristics of a twentieth century selector homestead within the pastoral cultural landscapes within the Dungowan Valley and New South Wales more broadly. | Local contributory |
| **DH02.2 John Wilson's skeleton and associated artefacts** | | |
| a) Historical | Assuming that the skeleton belonged to John Wilson, his presence at Dungowan may demonstrate a pattern of behaviour by the government and society towards a class of person who perhaps did not fit into a standard social unit but was an important contributor to the economy, nonetheless.<br>The disregard shown for the dead in this case is not in keeping with the Christian values that were embedded in colonial society of the nineteenth century. Despite having been attended to by the coroner, his body was left where it was found, and using the information currently available, he was covered over, rather than given a proper burial. However, the body was found about four weeks after death and was in an advanced state of decomposition, which may explain the coroner's actions.<br>The fact that the dead man was left where he was found, by an employee of the government, casts an interesting light on the social context of the day. Within the broader historical narrative of death and burial, the resting place of John Wilson provides a discordant note of interest.<br>There is no information to suggest the man was of recognised note when he died. Research potential, however, does exist, and if explored, may add to this criterion.<br>The artefacts found in association have historical significance in that they shed light on the clothing of one particular person.<br>This criterion will be better addressed after answers to the research questions are found | Local<br>Possibly State |
| b) Associative | Does not fulfil this criterion. | N/A |
| c) Aesthetic | Does not fulfil this criterion. | N/A |
| d) Social | The resting place of John Wilson was the subject of oral history, bordering on rumour, and demonstrates the long-standing connection local families have with the land and as the (inadvertent) keepers of its history and oral tradition. When the community is informed of the find, there may be a sense of loss arising from a sense of sympathy regarding the manner of death and the subsequent treatment of the skeleton by the government authorities, including the coroner. This sense of loss may be exacerbated if the skeleton is removed, and its final resting place is not revealed.<br>The skeleton, associated artefacts and resting place are significant at a local level. | Potentially local |
| e) Research | Virtually no confirmed documentary information has been found to provide a history about the individual in the *ad hoc* grave. The skeleton was found after verbal information was provided to EMM, by someone who was a child in the 1930s. The informant was told by his parents, who must have been told by someone else due to the timeframes), that a man named John Wilson had been found dead and was rolled into a grave. John Wilson's death was recorded in the coroner's ledger and on a death certificate. The discovery of a body in the vicinity was reported by one newspaper and his identify revealed by another. Evidence in this situation is circumstantial and has been accepted by the NSW Police.<br>John Wilson was described in one newspaper as having been 'lost in the bush several times'. This comment is intriguing because it describes an incompetent man, who nonetheless managed to live to 83 years of life before perishing in the bush. Who this man was, and what he was doing there, are questions that could be explored to better understand the individual and his lifestyle – was he an itinerant worker who travelled from job to job in the region? Was he indeed lost? Did he have a relationship with the Aboriginal people in the region?<br>A question that is being asked currently relates to the ancestry of the individual. While there is an oral history about a man called John Wilson buried in the area, | Local<br>Potentially State |

## Table B.1 Assessments of significance table

| Criterion | Assessment | Significance |
|---|---|---|
| | which is backed up by documentary evidence, the association of one with the other is not forensic and the question of possible Aboriginal ancestry was raised. A physical anthropologist has been engaged to try to identify ancestry *in situ,* and if that is not possible, laboratory analyses will be completed to locate the origins, age and sex of the skeleton.<br>When ancestry has been confirmed, the research potential of the skeleton can be expanded.<br>The skeleton is significant potentially at a State level.<br>The associated artefacts and resting place are of local significance. | |
| f) Rarity | The discovery of a skeleton outside a formal burial ground is a rare occurrence in heritage management, as is information about the manner of death and subsequent disposal of the body by government authorities.<br>The skeleton is significant at a local level. | Local |
| g) Representativeness | The placement of the body does not fulfil this criterion.<br>Scientific research may shed light on the individual's life, which may be extended to understanding who he was and how he lived. If it is John Wilson, understanding his life may be representative of other men like him. | N/A |
| ***DH03 Waterfall*** | | |
| a) Historical | *Waterfall* was built on the land that was taken up as *Dungowan Station*, initially a squatting run but later one of the major pastoral stations south of Tamworth established after the AAC legitimised settlement along the Peel River. The property was granted for selection at the turn of the nineteenth century and is associated with the late period of land alienation, subdivision, and selection which occurred in the eastern, southern and northern divisions of New South Wales after implementation of *The Robertson Land Acts* of 1861 and the *1884 Crown Land Act*. *Waterfall* was a farming homestead within the Swamp Oak area of the Dungowan Valley which contributes to the cultural landscape of small-scale family farms established and worked in the region over the later nineteenth and twentieth centuries. The property includes the residential and farm group (DH03.2), gate posts leading to a large paddock and mature trees (DH03.4), a timber-beam bridge (DH03.6), a stockyard and ramp (DH0.3.5), and a stone-lined road and retaining wall (DH03.2). | Local contributory |
| b) Associative | Does not fulfil this criterion. | N/A |
| c) Aesthetic | Does not fulfil this criterion at this stage. | N/A |
| d) Social | While Waterfall itself does not fulfil this criterion, the homestead forms part of a cultural landscape of small-scale historic farmsteads which contribute to the community identity in the Dungowan Valley. | Local contributory |
| e) Research | *Waterfall* has the potential to yield archaeological information regarding land selection and the lifeways of a families living in an isolated rural community from the turn of the nineteenth century to the turn of the twentieth century. The homestead and associated buildings were demolished in 2020. Archaeological survey identified sub-surface structural remains and artefact deposits of high archaeological potential on the property, however, these remains do not meet the threshold to be considered relics.<br>Even so, *Waterfall* has the potential to contribute new understandings to the processes of pastoral selection in the Tamworth region and New South Wales more broadly. Previous archaeological research has concentrated on homesteads and pastoral cultural landscapes in New South Wales established during the early and mid-nineteenth century, such as The Monaro (Hancock 1972). Spatial analyses of properties like Waterfall and the landscape of small-scale family farms within the Dungowan Valley has the potential to contribute new information regarding | Local contributory |

## Table B.1 Assessments of significance table

| Criterion | Assessment | Significance |
|---|---|---|
| | settlement and land use patterns of twentieth century free selectors and how these modes of settlement differed and evolved land selection in the nineteenth century. | |
| f) Rarity | Does not fulfil this criterion. | N/A |
| g) Representativeness | *Waterfall* has the potential to demonstrate the characteristics of a twentieth century selector homestead within the pastoral cultural landscapes within the Dungowan Valley and New South Wales more broadly. | Local contributory |
| **DH04 *Eagle Farm*** | | |
| a) Historical | *Eagle Farm* was built on land that was taken up as *Dungowan Station*, initially a squatting run but later one of the major pastoral stations established south of Tamworth after the AAC legitimised settlement along the Peel River. The property was granted for selection in the early twentieth century and is associated with the late period of land alienation, subdivision, and selection which occurred in the eastern, southern and northern divisions of New South Wales after implementation of *The Robertson Land Acts of 1861* and the *1884 Crown Land Act*. *Eagle Farm* was one of the homesteads within the Swamp Oak area of the Dungowan Valley which contribute to the cultural landscape of small-scale family farms established and worked in the region over the later nineteenth and twentieth centuries. | Local contributory |
| b) Associative | Does not fulfil this criterion. | N/A |
| c) Aesthetic | Does not fulfil this criterion at this stage. | N/A |
| d) Social | While *Eagle Farm* itself does not fulfil this criterion, the homestead forms part of a cultural landscape of small-scale historic farmsteads which contribute to the community identity in the Dungowan Valley. | Local contributory |
| e) Research | Eagle Farm has the potential to yield archaeological information regarding land selection and the lifeways of a families living in an isolated rural community through the twentieth century. The homestead and associated buildings were demolished in 2020. Archaeological survey identified sub-surface structural remains and artefact deposits of high archaeological potential on the property, however, these remains do not meet the threshold to be considered relics.<br>Even so, Eagle Farm has the potential to contribute new understandings to the processes of pastoral selection in the Tamworth region and New South Wales more broadly. Previous archaeological research has concentrated on homesteads and pastoral cultural landscapes in New South Wales established during the early and mid-nineteenth century, such as The Monaro (Hancock 1972). Spatial analyses of properties like Eagle Farm and the landscape of small-scale family farms within the Dungowan Valley has the potential to contribute new information regarding settlement and land use patterns of twentieth century free selectors and how these modes of settlement differed and evolved from land selection in the nineteenth century. | Local contributory |
| f) Rarity | Does not fulfil this criterion. | N/A |
| g) Representativeness | *Eagle Farm* has the potential to demonstrate the characteristics of a twentieth century selector homestead within the pastoral cultural landscapes within the Dungowan Valley and New South Wales more broadly. | Local contributory |

## Table B.1 Assessments of significance table

| Criterion | Assessment | Significance |
|---|---|---|
| **DH05 "Bee Boxes"** | | |
| a) Historical | "Bee Boxes" was built on land that was taken up as *Dungowan Station*, initially a squatting run but later one of the major pastoral stations south of Tamworth established after the AAC legitimised settlement along the Peel River. The property was granted for selection in the early twentieth century and is associated with the late period of land alienation, subdivision, and selection which occurred in the eastern, southern and northern divisions of New South Wales after implementation of The *Robertson Land Acts of 1861* and the *1884 Crown Land Act*. Bee Boxes was a homestead within the Swamp Oak area of the Dungowan Valley which contributes to the cultural landscape of small-scale family farms established and worked in the region over the later nineteenth and twentieth centuries. There is no evidence that the property supported a residence but got its name from the beehives that owner placed there. | Local contributing |
| b) Associative | Does not fulfil this criterion. | N/A |
| c) Aesthetic | Does not fulfil this criterion at this stage. | N/A |
| d) Social | While "Bee Boxes" itself does not fulfil this criterion, the homestead forms part of a cultural landscape of small-scale historic farmsteads which contribute to the community identity in the Dungowan Valley. | Local contributory |
| e) Research | "Bee Boxes" has the potential to yield archaeological information regarding land selection in the twentieth century. The standing buildings of Bee Box were demolished in 2020. Archaeological survey identified sub-surface remains of low to medium archaeological potential on the property, however, these remains do not meet the threshold to be considered relics.<br>Even so, "Bee Boxes" has the potential to contribute new understandings to the processes of pastoral selection in the Tamworth region and New South Wales more broadly. Previous archaeological research has concentrated on homesteads and pastoral cultural landscapes in New South Wales established during the early and mid-nineteenth century, such as The Monaro (Hancock 1972). Spatial analyses of Bee Box and the landscape of small-scale family farms within the Dungowan Valley has the potential to contribute new information regarding settlement and land use patterns of twentieth century free selectors and how these modes of settlement differed and evolved from land selection in the nineteenth century. | Local contributory |
| f) Rarity | Does not fulfil this criterion. | N/A |
| g) Representativeness | "Bee Boxes" has the potential to demonstrate the characteristics of a twentieth century selector homestead within the pastoral cultural landscapes within the Dungowan Valley and New South Wales more broadly. | Local contributory |
| **DH06 *Hillcrest*** | | |
| a) Historical | *Hillcrest* was built on land that was taken up as *Dungowan Station*, initially a squatting run but later one of the major pastoral stations south of Tamworth established after the AAC legitimised settlement along the Peel River. The property was first granted for settlement in 1936 and is associated with the late period of land alienation after implementation of The Robertson Land Acts of 1861 and the 1884 Crown Land Act. *Hillcrest* was one homestead in the cultural landscape of small-scale family farms within the Swamp Oak area of the Dungowan Valley that were established and worked over the later nineteenth and twentieth centuries. | Local contributing |
| b) Associative | Does not fulfil this criterion. | N/A |
| c) Aesthetic | Does not fulfil this criterion at this stage. | N/A |

## Table B.1 Assessments of significance table

| Criterion | Assessment | Significance |
|---|---|---|
| d) Social | While *Hillcrest* itself does not fulfil this criterion, the homestead forms part of a cultural landscape of small-scale historic farmsteads which contribute to the community identity in the Dungowan Valley. | Local contributory |
| e) Research | *Hillcrest* has the potential to yield archaeological information regarding land selection and the lifeways of a families living in an isolated rural community from the 1930s. The homestead and associated buildings were demolished but archaeological survey identified standing and sub-surface structural remains as well as artefact deposits of high archaeological potential on the property, however, these remains do not meet the threshold to be considered relics.<br>Even so, *Hillcrest* has the potential to contribute new understandings to the processes of pastoral selection in the Tamworth region and New South Wales more broadly. Previous archaeological research has concentrated on homesteads and pastoral cultural landscapes in New South Wales established during the early and mid-nineteenth century, such as The Monaro (Hancock 1972). Spatial analyses of Hillcrest and the landscape of small-scale family farms within the Dungowan Valley has the potential to contribute new information regarding settlement and land use patterns of twentieth century free selectors and how these modes of settlement differed and evolved from land selection in the nineteenth century. | Local contributory |
| f) Rarity | Does not fulfil this criterion. | N/A |
| g) Representativeness | *Hillcrest* has the potential to demonstrate the characteristics of a twentieth century selector homestead within the pastoral cultural landscapes within the Dungowan Valley and New South Wales more broadly. | Local contributory |
| **DH07 *Carinya* 578 Dungowan Road** | | |
| a) Historical | *Carinya* was built on land that was taken up as *Dungowan Station*, initially a squatting run but later one of the major pastoral stations south of Tamworth established after the AAC legitimised settlement along the Peel River.<br>The property was granted for selection at the turn of the nineteenth century and is associated with the late period of land alienation, subdivision, and selection which occurred in the eastern, southern and northern divisions of New South Wales after implementation of *The Robertson Land Acts* of 1861 and the *1884 Crown Land Act*. *Carinya* was a farming homestead within the Swamp Oak area of the Dungowan Valley which contributes to the cultural landscape of small-scale family farms established and worked in the region over the later nineteenth and twentieth centuries. The residential group has been demolished, but stockyards and shed remain on the property. | Local contributory |
| b) Associative | Does not fulfil this criterion. | N/A |
| c) Aesthetic | Does not fulfil this criterion at this stage. | N/A |
| d) Social | While Hillcrest itself does not fulfil this criterion, the homestead forms part of a cultural landscape of small-scale historic farmsteads which contribute to the community identity in the Dungowan Valley. | Local contributory |

## Table B.1 Assessments of significance table

| Criterion | Assessment | Significance |
|---|---|---|
| e) Research | *Carinya* has the potential to yield archaeological information regarding land selection and the lifeways of a families living in an isolated rural community from the last decades of the nineteenth century. The homestead and associated buildings were demolished. Archaeological survey identified structural remains and sub-surface deposits of high archaeological potential on the property, however, these remains do not meet the threshold to be considered relics.<br>Even so, archaeological research of *Paradise* has the potential to contribute new understandings to the processes of pastoral selection in New South Wales. Previous archaeological research has concentrated on homesteads and pastoral cultural landscapes in New South Wales established during the early and mid-nineteenth century, such as The Monaro (Hancock 1972). Spatial analyses of properties like *Carinya* and the landscape of small-scale family farms within the Dungowan Valley has the potential to contribute new information regarding settlement and land use patterns of twentieth century free selectors and how these modes of settlement differed and evolved land selection in the nineteenth century. | Local contributory |
| f) Rarity | Does not fulfil this criterion. | N/A |
| g) Representativeness | *Carinya* has the potential to demonstrate the characteristics of a twentieth century selector homestead within the pastoral cultural landscapes within the Dungowan Valley and New South Wales more broadly. | Local contributory |
| **DH08 Port Stephens Cutting** | | |
| a) Historical | This assessment builds on the information in the SHI.<br>The Port Stephens Line (now Nowendoc Road) was surveyed in 1832 to allow access from AAC lands in Port Stephens to its lands in the Peel Valley. Intended as a major route, the Port Stephens Cutting was replaced as the preferred route by another alignment that was surveyed by William Telfer in 1836 (possibly the Duri-Dungowan Road). This section of Nowendoc road is a remnant of the early alignment that represents the first attempt to move produce from the Tamworth region to the rest of the colony.<br>It is significant in the course of development of transport routes within the colony and access to the interior of New South Wales. | The SHI data states that the cutting has historical significance at a State level. A detailed assessment of the item would need to be completed to confirm. |
| b) Associative | The item was surveyed for the AAC and is therefore has important associations with a corporation that was instrumental in the economic growth of the colony. Further, the road was built by convicts (SHI File No NIA-008), who were the individuals that built a large proportion of the colony's infrastructure.<br>While collectives are not usually included in this criterion, it is important to acknowledge the achievements of the many indentured individuals that contributed to the development of NSW. | Local associative significance, and with detailed research, may be of State significance. |
| c) Aesthetic | The cutting, which the listing is named for, is what survives of this early alignment and has technological significance for its ability to demonstrate early road building techniques in precarious geophysical situations. The road, which was built by convict labour, has visible evidence of the building techniques that were employed early in the colonial period and by indentured labour. | State |
| d) Social | The Port Stephen's Cutting contributes to the sense of place of communities between Port Macquarie and the Peel Valley region. The section of the Nowendoc Road in the project area connects local farms to economic markets in Tamworth and to the east. | Local |

## Table B.1 Assessments of significance table

| Criterion | Assessment | Significance |
|---|---|---|
| e) Research | The Port Stephen's Cutting has the potential to yield archaeological traces relating to the road's construction. Sections of the cutting have been altered and repaired over time as the route continues to function as a road. Such works may have obscured traces of colonial construction in places. Colonial roads have featured in previous archaeological research and the Port Stephen's Cutting has the potential to contribute further understanding to construction techniques and social importance of roads in the expansion of New South Wales and within the Peel Valley. | Local |
| f) Rarity | The Port Stephen's Cutting is an uncommon example of a colonial road within the Peel River region. | Local |
| g) Representativeness | The Port Stephen's Cutting is an example of a colonial road constructed to facilitate and connect pastoral enterprises in New South Wales. | The cutting is of local significance and may reach the threshold of State with further research. |
| **DH09 Ogunbil brick shearing shed and silo on Ween Allyn** | | |
| a) Historical | The Ogunbil brick shearing shed and silo are on a property that was once a part of the historic *Dungowan Station* that was a squatting run acquired by Dr Isaac Haig. The listed buildings, however, are a part of a property that was owned by F F Albertson, grazier, who had the silo and the shearing shed built in 1919. When built, the silo was considered the "starting point of a new era of stock raising in the district". | Local historical |
| b) Associative | Does not fulfil this criterion. | N/A |
| c) Aesthetic | The Ogunbil brick shearing shed was originally intended as a hay shed but was converted to a wintering place for sheep.<br>The concrete block silo is of aesthetic value for its technological/architectural value. It is built of an unknown number of concrete blocks bonded by what appears to be cement mortar. The silo represents an early example of modern farming technology. The first concrete grain silo in NSW began operations in 1918 and the Ogunbil silo was understood to be a significant enterprise at the time of construction in 1919. | Local |
| d) Social | The Ogunbil brick shearing shed and silo site is an example of the built heritage of the cultural landscape of small-scale historic farmsteads which contribute to the community identity in the Dungowan Valley. | Local |
| e) Research | The Ogunbil brick shearing shed and silo site is built heritage site that has the potential to contribute to the understandings of rural outbuilding construction and evolution of building use in the twentieth century. The silo, in particular, has the potential to yield understandings of the engineering of early concrete silos and would be a valuable site in a comparative analysis of early twentieth century silos across NSW. | Local |
| f) Rarity | The Ogunbil brick shearing shed and silo are rare examples of early twentieth century farm buildings which clearly mark a change in farming technologies within the Dungowan Valley. | Local |
| g) Representativeness | The Ogunbil brick shearing shed and silo has the potential to demonstrate the characteristics of a twentieth century selector enterprise within the pastoral cultural landscapes within the Dungowan Valley. It also contains some unusual elements in the form of the concrete silo and the style of the shearing shed, which are not represented anywhere else in the local area. | Local |

## Table B.1 Assessments of significance table

| Criterion | Assessment | Significance |
|---|---|---|
| **DH10 Surveyor's tree** | | |
| a) Historical | The function of survey trees was important in the development of the colony as a way to mark new road alignments and the corner of properties. Surveyor's, or blaze trees, have a place in the historical development of the colony as benchmarks, permanent markers, and cemetery markers; the re-use of Aboriginal scar trees for government has also been recorded. The date of the survey tree in the project area has not been ascertained but may be associated with the road and is not necessarily old as these types of trees were still in use until the twentieth century. The remnant blaze appears to be a 'D' over part of an '8' and part of the '3'. | Local |
| b) Associative | Does not fulfil this criterion. | N/A |
| c) Aesthetic | Does not fulfil this criterion. | N/A |
| d) Social | Does not fulfil this criterion. | N/A |
| e) Research | Does not fulfil this criterion. | N/A |
| f) Rarity | Does not fulfil this criterion. | N/A |
| g) Representativeness | Does not fulfil this criterion. | N/A |
| **DH11 Cadell's *Dungowan Station*** | | |
| a) Historical | JJ Cadell's *Dungowan Station* was originally part of Dr Isaac Haig's *Dungowan* run, which he occupied in 1847. When Cadell purchased lots in 1865 of the original run and approximately seven miles (c 12 km), he named his land *Dungowan Station.*<br>The lots that Cadell acquired were at the appropriate distance to be a major outstation to the original headstation on the Peel River. If the current *Dungowan Station* is one of Haig's outstations, the property is potentially of *State* significance. | Potentially State |
| b) Associative | Cadell's *Dungowan Station* was acquired by Dr James John Cadell, a medical doctor from West Lothian, Scotland. He also owned a property at Raymond Terrace called *Cadell Cottage*, listed as an item of local heritage on the *Port Stephens Local Environmental Plan 2013.* Cadell was a respected doctor, pastoralist and member of the community. | Local |
| c) Aesthetic | Does not fulfil this criterion. | N/A |
| d) Social | *Dungowan Station* is a significant location in the cultural landscape of post-colonial rural farmsteads and contribute to the community identity in the Dungowan Valley. | N/A |
| e) Research | Cadell's *Dungowan Station* has the potential to yield archaeological information regarding land selection and the lifeways of a families living in an isolated rural community from the second half of the nineteenth century into the twentieth century. *Dungowan Station* was likely an outstation of the first *Dungowan Station* and may hold archaeological relics associated with earlier phases. At least two standing chimney stacks survive on the station as do slab sheds. Further research and field survey would be required to understand the significance of these items, but they are likely to be of significance.<br>Moreover, *Dungowan Station* has the potential to contribute new understandings to the processes of pastoral selection in New South Wales. Previous archaeological research has concentrated on homesteads and pastoral cultural landscapes in New South Wales established during the early and mid-nineteenth century, such as The Monaro (Hancock 1972). Spatial analyses within the Dungowan Valley has the potential to contribute new information regarding settlement and land use patterns of late- phase free selectors and how these modes of settlement differed and evolved land selection in the nineteenth century. | Potentially State |

## Table B.1 Assessments of significance table

| Criterion | Assessment | Significance |
|---|---|---|
| f) Rarity | Evidence of squatting runs and early pastoral stations are rare as, while it appears that places such as the New England Tablelands were taken up by squatters early in the colonial period, these properties were spread out and sparsely developed. Added to the relatively rare occurrence of these establishments, is development since then, with subdivision and the growth of towns often obliterating or obscuring evidence of the earliest days of the colonial expansion.<br>There is evidence to suggest the Cadell's *Dungowan Station* was a former outstation of Haig's property. Old slab sheds and ruins survive on the site and therefore may be related to the first *Dungowan Station.* Refer also to DH17. | Potentially State |
| g) Representativeness | *Dungowan Station* has the potential to demonstrate the characteristics of a nineteenth century selector homestead within the pastoral cultural landscapes within the Dungowan Valley and New South Wales more broadly. Evidence suggests that Cadell's *Dungowan Station* was an outstation of the early property and as such, it, and other similar places are part of the representative value, particularly as it is likely to be a surviving, working property related to the headstation. | Potentially State |
| **DH12 *Brumby holding pen*** | | |
| a) Historical | Does not fulfil this criterion. | N/A |
| b) Associative | Does not fulfil this criterion. | N/A |
| c) Aesthetic | Does not fulfil this criterion. | N/A |
| d) Social | Does not fulfil this criterion. | N/A |
| e) Research | Does not fulfil this criterion. | N/A |
| f) Rarity | Does not fulfil this criterion. | N/A |
| g) Representativeness | The brumby holding pen is representative of vernacular fenced structures in rural areas. It forms a part of the cultural landscape, but it is in a dilapidated state and a poor example of its type.<br>Does not fulfil this criterion. | N/A |
| **DH13/DH14/DH15/DH16 schools** | | |
| a) Historical | The development of schools in the local area is historically significant as a reflection of the needs of the region as families moved into the area. | Local |
| b) Associative | Does not fulfil this criterion. | N/A |
| c) Aesthetic | Does not fulfil this criterion. | N/A |
| d) Social | The schools play a role in the social fabric of the project area. | Local. |
| e) Research | Of documentary research value that could answer questions about government responses to the growth of families in the region. | Local |
| f) Rarity | The items do not fulfil this criterion. | N/A |
| g) Representativeness | The schools are representative of the growth of a community and the presence of children in that community. | Local contributory |

## Table B.1 Assessments of significance table

| Criterion | Assessment | Significance |
|---|---|---|
| **DH17 Haig's *Dungowan Station*** | | |
| a) Historical | The first *Dungowan Station* was established in 1847 by Dr Isaac Haig on the Peel River north of its confluence with Dungowan Creek. As a large pastoral run, *Dungowan Station* is one of a number of similar properties to open up inland NSW to farming and their important contribution to the successful colonial economy. It is also one of many similar enterprises that removed Aboriginal people from their land.<br>Any material evidence relating to Haig's *Dungowan Station* is potentially of State significance. | Potentially State |
| b) Associative | The first *Dungowan Station* was established by Dr Isaac Haig in 1847. It is likely that Haig started the process of building the holding and having outstations and shepherd's hut built. Haig was a surgeon, trained in Scotland and a magistrate in Scone. He is said to have established a hospital in Tamworth and was certainly one of the surgeons there, employed by the AAC. | Local |
| c) Aesthetic | Does not fulfil this criterion. | N/A |
| d) Social | While location of Haig's Dungowan head station is unknown, yet the cultural landscape of the Dungowan Creek Valley is inextricably linked to Haig's Dungowan. Properties and town centres are located in the vicinity of Haig's outstations as such the first *Dungowan Station* contributes to the community identity in the Dungowan Valley. | Local |
| e) Research | The first *Dungowan Station* has the potential to yield archaeological information regarding land selection and the lifeways in the Peel River Valley in the mid nineteenth century. The original home station no longer survives and archaeological evidence relating to the station has not been observed to date. Even so, it is possible relics relating to the first station are present throughout the Dungowan Creek Valley.<br>Moreover, the first *Dungowan Station* has the potential to contribute new understandings to the changing processes of pastoral selection in New South Wales. Spatial analyses of homesteads within the Dungowan Valley may be referenced within the footprint of the original station and this may contribute new information regarding the evolution of land selection in the nineteenth century. | Potentially State |
| f) Rarity | Although squatting runs were relatively 'common' in the early colonial period, the total number of the successful runs, overall, is historically low. Factor into this equation, changes in the landscape, urban growth, dilapidation and technological improvements, and surviving evidence of this important phase in the state's development becomes rarer. Confirmation of elements in built, archaeological or landscape (such as plantings and modified landforms) form would be highly significant. Refer also to DH11. | Potentially State |
| g) Representativeness | Haig's *Dungowan Station* has the potential to demonstrate the characteristics of the first phase of European settlement within the pastoral cultural landscapes of the Peel River region. | Potentially State |
| **DH18 Cultural landscape** | | |
| a) Historical | The project area is a palimpsest of the Aboriginal and colonial use of the landscape created by life on the creek edges, cultivation and building, deliberate and incidental landform modification. It is historically significant for its role in the pastoral support of the region in the early days of colonial excision from traditional Aboriginal uses, and later as an area where smaller farms supported family units. | Local |
| b) Associative | The cultural landscape in and around the project area is a result of the activities of Aboriginal people before and after the land was occupied by the British, as well as the squatters, pastoralists and farmers that followed. The current Dungowan Dam also influenced the hydrology of the valley. The item does not fulfil this criterion | N/A |

## Table B.1 Assessments of significance table

| Criterion | Assessment | Significance |
|---|---|---|
| c) Aesthetic | The project area is within an aesthetically significant cultural landscape. The landscape represents a palimpsest of a pre- and post-colonial deliberate and incidental land modification along Dungowan Creek.<br>The landscape of the proposed dam area dips into a valley flanked by steep hills on either side, giving it a secluded ambience, enhanced by the micro-environment created by the surrounding landforms. It comprises archaeological sites dating to the early nineteenth century and has the potential for relics relating to Haig's *Dungowan Station* and later evidence of the activities of drovers on their travels with stock. Non-native trees such as apple (*Mallus sp*) and other fruit and ornamental trees exist in the project area and are evidence of changes made to a relatively undeveloped place. Fence lines, early tracks such as the stone-lined road (DH03.2) on *Paradise* (DH03) and the manipulation of the creek add to the now subtle but legible signs of human activity in this location.<br>Further to the north-west, where the land plateaus, the landscape retains a strong rural aesthetic - also comprising archaeological sites, potential relics, built heritage, at least one surveyor's tree.<br>The landscape in the area of the proposed dam and pipeline retains visual and material references to its development after white people arrived in the region. | Local |
| d) Social | The cultural landscape of the Dungowan Creek Valley Is esteemed by the Aboriginal and European communities of the region. The landscape contains places significant to Aboriginal groups. Moreover, the history if European selection and farming in the area is represented in the rural character of much of the landscape. | Local |
| e) Research | The cultural landscape of the project area has the potential to contribute substantial archaeological understandings regarding the history and creation of landscapes within the Peel River region. Pastoral cultural landscapes have been subjects of archaeological inquiry in small numbers and the relatively early dates of squatters' occupation of the land is a rare phenomenon in the Australian historical and material record.<br>Later government formalisation of the landscape as stock routes and camps is likely to have left material evidence of the travelling life of the stockmen (or drovers). The potential for spatial analysis and material analysis of stock camps, ethnicity and lifestyle makes the investigation of this type of site of local significance at least.<br>Spatial analyses of the Dungowan Valley may further contribute to understandings of the ways both Aboriginal and white settlers placed themselves within the landscape and the effects of the microclimate of the Valley landscape on land use patterns. | Local |
| f) Rarity | The cultural landscape of the project area is an uncommon palimpsest of the Aboriginal and colonial landscape use enhanced by the micro-environment created by the surrounding Dungowan Valley. | Local |
| g) Representativeness | The cultural landscape of the Dungowan Valley and the uplands to the west (the lands in the project area) is representative of early rural landscapes in the colony and later in the state of NSW. This landscape has its counterparts across the state and in the Tamworth regions. It has the ability to demonstrate the slow development of the land when uses do not significantly change.<br>In addition, this landscape is representative of most rural and urban landscapes in NSW in that they obscured the physical manifestations of Aboriginal life in this area. That evidence survives in the layers that form this landscape include material objects and intangible values to the local Aboriginal people in the region. | Local |

# Annexure C

## Grave investigation report

EMM
creating opportunities

18th March 2022

**Report on in-situ examination of skeletal remains at Dungowan**
**Site visited 18th February 2022**

My name is Sarah Croker, and I am a specialist in the identification of human bone and distinguishing human from non-human bone. I have been examining bone and teaching musculoskeletal anatomy at The University of Sydney for over 15 years.

I attended the Dungowan site on 18th February 2022 to examine the skeletal remains that had been exposed by an excavator and determine any information possible from them, without conducting any further excavation.

The skeletal remains I observed on the surface (once the protective covering laid down after the initial exposure was removed) were a group of bone fragments within an area approximately 50 cm x 65 cm. There were approximately six pieces of long bone, the longest being approximately 18 cm; several large squarish or round fragments; and many more small fragments. The many small fragments were too indistinct to be examined on this visit; focus was on the larger, more identifiable fragments.

These larger fragments were all clearly human. They were a rich brown colour on the outside; some had been previously broken, showing stained fracture surfaces, and some had been more recently broken, determined by the lighter cream colour of their end surfaces. The burial having been uncovered by a machine excavator, these fresh breaks were likely to have been caused by the machine. This is likely given the size of the large fragments and that the long bones, made of dense bone, were broken through. The surface of the bones was in reasonable condition overall, though some edges were eroded. The bones themselves felt quite light in weight for their robust size.

Most of the identifiable bone fragments came from the hip bones and femora (thighs). There was one piece of bone from the humerus (arm) and one fragment of mandible. There was no anatomical relationship observable in these fragments from different parts of the body, though several pieces of the hips and femora could be fitted together. There was no evidence of duplicated bones, therefore no evidence of more than one body.

Below is a more thorough list of the bones that were able to be identified from this relatively brief observation (sketched in Figure 1):
Hip – both hip sockets, left side of pubic symphysis (where hip bones meet in midline)
Femora (thighs) – both heads, right upper portion, fragments of shafts
Tibiae (shins) – shaft fragments
Patella (knee cap) – right side
Talus (ankle bone) – right side
Humerus (upper arm) – lower third of shaft on left side
Radius (forearm) – shaft fragment
Vertebrae – several fragments
Mandible (lower jaw) – fragment from right side, around angle

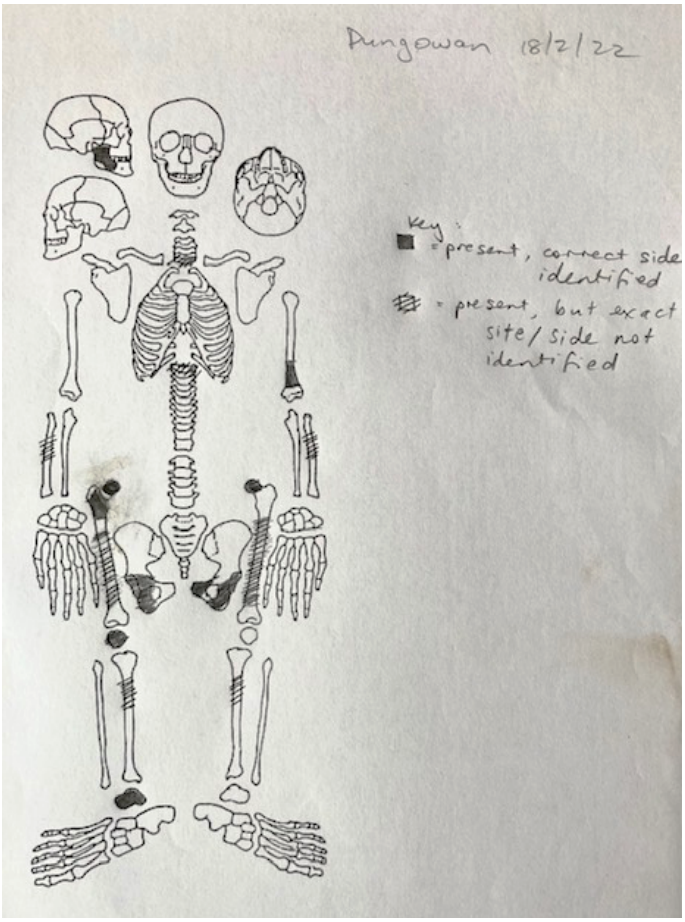

Figure 1: Bone fragments (shaded) observed as present.

The biological indicators that may be estimated from these fragments are as follows:

Sex

Although there were several fragments of the hip bones, which is the most useful bone for estimating the sex from the skeleton, unfortunately the key areas were missing. The acetabulum (hip joint socket) was quite large, which is consistent with male skeletons due to their generally larger body size. The hip bone fragments and lower limb fragments were all quite robust, with noticeably marked muscle attachment sites. Such robusticity and muscle markings tend to be found in male skeletons, as males tend to be more robust with a larger muscle mass. This can be dependent on individual variation and lifestyle, so is not a definitive feature.

Age

The left pubic symphysis (bone that meets opposite hip bone in midline) was found, which can be used to indicate age group. Using the Suchey-Brooks method, the pubic symphysis was thought to be Phase 5 or 6 – post-mortem erosion of the edges of the face made it difficult to determine which phase. Taking these phases together, the method gives a range of 27-86 years. This is a broad range, but does represent the upper two ranges of this method, indicating at least that this does not appear to be a young skeleton.

Furthermore, there was significant osteophytic lipping (rough edges to joints) found. Both femoral heads and their corresponding hip joint sockets showed this – the femoral heads in particular to quite a severe degree. This type of lipping is an indicator of osteoarthritic change, which comes about due to joint overuse or advanced age. Several fragments of vertebrae showed similar changes on their joint surfaces – even areas of polished bone, which indicates changes so severe that the joint cartilage has worn away, leaving the bones of the joint surfaces to rub on each other. Again, this is an indicator of joint overuse or advanced age.

Because these age indicators from the joints can be due to activity, it is difficult to estimate a precise age. It seems likely though that this was an older adult in the 50+ years age range.

Finally, the mandible fragment showed that the teeth, at least in the back portion of the lower jaw, had been lost quite some time before death. The sockets for the tooth roots had been completely filled with bone, and the shape of the body of the mandible had changed, reducing in height. This is typical of the shape changes that come about following a complete loss of teeth. While teeth can be lost due to several causes, including socioeconomic, the loss of all molar teeth in one quarter of the mouth would typically indicate an older individual.

## Ancestry

The ancestry of skeletal remains can be very difficult to determine, especially without any bones from the skull. Although part of the mandible was found, there were no teeth (useful in distinguishing between Aboriginal and Caucasian skulls). Sometimes the proportion of the long bones of the limbs can be used as an indication of ancestry, but with incomplete fragments of long bones as in this case this is not possible.

## Summary

The skeletal remains observed on the surface at Dungowan indicated the remains of one adult human, more likely an older male, who may have led an active lifestyle. There were no clear indicators of the ancestry of the remains from this observation.

## Future direction

While limited, the extent of information that could be determined from these relatively few bone fragments shows that the remains are in good enough condition that there is the potential to learn more. As some damage may have been caused by an excavation machine, it is likely that careful excavation would reveal more intact parts of the skeleton that could provide more clues to identity. In particular, more parts of the hip bones, intact long bones of the limbs, and parts of the skull would be very useful to learn more about the biological profile of this person (though it is believed that many of the delicate bones will be fragmented even before excavation). Due to the lack of anatomical relationship of the fragments visible so far, a hand excavation in several directions around the currently exposed bones would be recommended to reveal more about the position of the remaining bones.

If you have any further questions, please email me at sarah.croker@sydney.edu.au or on 02 9351 6702.

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