Department of Planning, Industry and Environment

Moree Special Activation Precinct

Environmental Package

8 February 2021

Heritage Report

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Document control record

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Document control						
Report title	Heritage Report					
Document code	Not applicable		**Project number**		509754	
File path	Https://aurecongroup.sharepoint.com/sites/509754/7 Deliver Service/703 Draft Structure Plan/C.3.2B Heritage Report/Final/20210208 - Moree SAP - C.3.2B Heritage Report - Final.docx					
Client	Department of Planning, Industry and Environment					
Client contact	Evelyn Ivinson		**Client reference**		C.3.2B	
Rev	**Date**	**Revision details/status**	**Author**	**Reviewer**	**Verifier** (if required)	**Approver**
0	2020-12-15	Draft	C Jones/ E McGirr	M Barber/H Nolan		H Eske
1	2021-02-08	Final	C Jones/ E McGirr	M Barber/H Nolan		H Eske
Current revision	**1**					

Approval			
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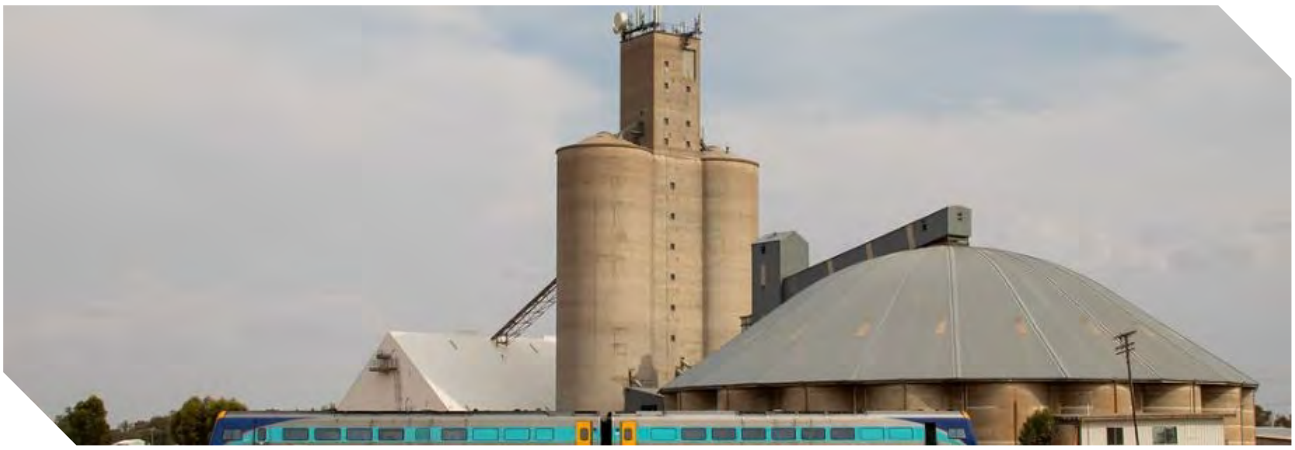

Acknowledgment to Country

Aurecon and NGH acknowledge the Gamilaroi (Gomeroi) people as the Traditional Custodians of the Moree Plains region, and as First Peoples of Australia. We acknowledge the living connection to Country held by the Gamilaroi people, embodied in the land, ecosystems, skies and water of Moree. We pay our respects to Gamilaroi Elders past, present and future, and to the community members and knowledge holders who have contributed to the Moree Special Activation Precinct Master Plan (and to this report).

Aurecon and NGH value this knowledge and cultural advice in guiding design, planning and environmental investigations.

Executive summary

Aurecon Australasia Pty Ltd in partnership with NGH Pty Ltd has been engaged by the New South Wales (NSW) Department of Planning, Industry and Environment to prepare a Heritage Report to inform the Moree Special Activation Precinct Master Plan. This report examines Aboriginal and non-Aboriginal cultural heritage items and areas of significance within the context of the Moree Special Activation Precinct. An assessment of the risk on any potential impacts on areas of significance has been undertaken as well as the identification of potential mitigation measures to inform the draft Structure Plan.

The investigation area encompasses an area of approximately 5,800 hectares that extends south of the Moree township and the Gwydir Highway, spanning both sides of the Newell Highway and the proposed Inland Rail corridor. It includes Moree Regional Airport, a number of creek tributaries and extends south to an existing solar farm at its southern-most boundary.

Aboriginal heritage

The Aboriginal heritage assessment component of this report has been prepared by NGH. The report provides the results of the desktop assessment and field survey as well as an assessment of the Aboriginal cultural values associated with the investigation area. Consultation with Aboriginal stakeholders was undertaken in accordance with the consultation steps outlined in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents*. These outcomes and feedback are also summarised throughout the report.

There are currently 10 registered Aboriginal cultural heritage sites within the Moree SAP investigation area including artefacts, scarred trees and a stone quarry. There are also several other culturally significant sites in close proximity to the Special Activation Precinct that represent important contextual information relating to Aboriginal history and occupation with the Moree region.

The Aboriginal heritage field survey recorded 165 stone artefacts from 13 artefact scatters and 15 isolated artefacts. A large site was confirmed near the 'Billabong' in the southern portion of the SAP investigation area. Other artefacts identified were mainly concentrated in association with Halls Creek with only a few outlying isolated finds identified away from the creek lines. In addition to the sites recorded during the survey, several examples of native bush tucker were identified by the Aboriginal representatives.

Future development within the Special Activation Precinct aims to largely avoid all known heritage items. However, it is noted that there are 12 sites that may be impacted by future development. The draft Structure Plan provides the opportunity to ensure the location of infrastructure and future development within the precincts avoids these areas through careful consideration in the concept and detailed design phases.

Non-Aboriginal heritage

The non-Aboriginal heritage assessment component of this report has been prepared by Aurecon. Significant non-Aboriginal heritage items and places are located outside the Special Activation Precinct within the Moree township. Items within the investigation area that hold some historic importance include the Inland Rail railway line (known historically as the Mugindi main line), the old Inverell railway line, the Travelling Stock Reserve and the grain silos. All of these areas are to be protected within the draft Structure Plan. As such, these elements will continue their important historic function of supporting the region's industry and agriculture, and sustaining Moree as a transport and freight hub.

The draft Structure Plan incorporates a number of initiatives that will contribute to the protection and promotion of Moree's rich history and heritage without resulting in adverse impacts to significant items and/or places. The rehabilitation and activation of places such as Halls Creek and the Travelling Stock Reserve will add to the region's cultural and heritage offering. It is expected that these items and places will remain compatible with surrounding development and will be actively managed and maintained in perpetuity.

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Abbreviations

Abbreviation	Definition
ACHAR	Aboriginal Cultural Heritage Assessment
AHC	Australian Heritage Council
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
AIA	Australian Institute of Architects
AP SEPP	*State Environmental Planning Policy (Activation Precincts) 2020* (NSW)
CHL	Commonwealth Heritage List
CMP	Conservation Management Plan
DAWE	Commonwealth Department of Agriculture, Water and the Environment
DECCW	Department of Environment, Climate Change and Water
DPI	Department of Primary Industries
DPIE	NSW Department of Planning Industry and Environment
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
EP&A Reg	*Environmental Planning and Assessment Regulation 2000* (NSW)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
EPI	Environmental Planning Instrument
HCA	Heritage Conservation Area
Heritage Act	*Heritage Act 1977* (NSW)
HIS	Heritage Impact Statement
ICOMOS	International Council of Monuments and Sites
LALC	Local Aboriginal Land Council
LEP	Local environmental plans
LGA	Local Government Area
LLS Act	*Local Land Services Act 2013* (NSW)
NHL	National Heritage List
NPW Act	*National Parks and Wildlife Act* 1974 NSW
NSW	New South Wales
OEH	Office of Environment and Heritage
RAP	Registered Aboriginal Party
RGDC	Regional Growth NSW Development Corporation
S.170 Register	A State Agency Section 170 Heritage and Conservation Register
SAP	Special Activation Precinct
SEPP	*State Environmental Planning Policy (Activation Precincts) 2020* (NSW)
SHI	State Heritage Inventory
SHR	State Heritage Register
SoS	Statement of Significance
TSR	Travelling stock reserve
WHL	World Heritage List

Glossary

Key definitions for this report have been drawn from the Australia International Council on Monuments and Sites (ICOMOS) Charter for Places of Cultural Significance 2013 (the Burra Charter) and from the Heritage Council of NSW and Government Architect publication *Design Guide for Heritage* (2019).

Term	**Definition**
Adaptation	Defined in the Burra Charter as changing a heritage place to facilitate compatible new uses. This could involve alterations and additions to suit an existing use or meet current expectations of comfort and function, or the upgrading of a building or site to respond to new needs and procedures associated with an existing function.
Adaptive re-use	Projects that give new life to a heritage place through sympathetic alterations and additions that enable the site to accommodate compatible new uses and functions, while maintaining the heritage significance, and communicating this to a new generation of users.
Built environment	The constructed environment understood as distinct from the natural environment. It includes all aspects of our surroundings made by people. The built environment includes cities and towns, neighbourhoods, parks, roads, buildings and even utilities like water and electricity
Burra Charter	The Australia International Council on Monuments and Sites (ICOMOS) Charter for Places of Cultural Significance 2013 (commonly referred to as the Burra Charter).
Character	The combination of the particular attributes, characteristics, and qualities of a place.
Conservation	Defined in the Burra Charter as “All the processes of looking after a place so as to retain its cultural significance”. This includes preservation, protection, maintenance, restoration, reconstruction, and adaptation.
Cultural significance	Defined by the Burra Charter as the aesthetic, historic, scientific, social, or spiritual value of a place for past, present, or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places, and related objects. See also Heritage significance.
Cultural Plantings	Gardens and plantings of cultural or historical significance including historic trees planted as avenues, border plantings or boundary markers. Cultural plantings can define the original character of grounds and gardens, including on pastoral properties and farmland.
Fabric	The physical material of a place including elements, fixtures, contents, and objects. It includes building interiors, exteriors, subsurface remains, and excavated or moveable material.
Heritage conservation area (HCA) or heritage precinct	An area that has historic significance and (usually) also a distinctive character of heritage significance, which it is desirable to conserve. A heritage conservation area is more than a collection of individual heritage items – it is an area in which historical origins and relationships between the various elements create a sense of place that is worth keeping. Heritage conservation areas are listed on local environmental plans, while heritage areas of State significance are listed as heritage precincts on the NSW State Heritage Register. While the majority of properties will be contributory items, the area may also contain individually listed heritage items.
Heritage item	A place, building, structure, work, archaeological site or relic, garden or landscape, movable object, Aboriginal place, or other place of heritage significance. Heritage items are listed on a statutory instrument such as the State Heritage Register or in a local environmental plan.
Heritage significance	This term is used in NSW to encompass the seven criteria used by State and local government to describe the heritage value of a place. It is used interchangeably with the Burra Charter term “cultural significance”.
Interpretation	The ways of presenting the cultural significance of a place to the users and the community. The need to interpret heritage significance may drive the design of new elements and the layout or planning of the place.
Place	The Burra Charter defines place as a geographically defined area, which may include elements, objects, spaces, and views, and may have tangible and intangible dimensions: “Place has a broad scope and includes natural and cultural features. Place can be large or small: for example, a memorial, a tree, an individual building or group of buildings, the location of an historical event, an urban area or town, a cultural landscape, a garden, an industrial plant, a shipwreck, a site with in situ remains, a stone arrangement, a road or travel route, a community meeting place, a site with spiritual or religious connections.”

Term	**Definition**
Restoration	Defined in the Burra Charter as returning a place as near as possible to a known earlier state by the introduction of new or old (reclaimed) fabric. Reconstruction is not considered “new work” under the Burra Charter. Reconstruction is based on evidence, not conjecture.
Setting	The area around a heritage place, which contributes to its heritage significance and may include views to and from the heritage item. The listing boundary or curtilage of a heritage place does not always include the whole of its setting (refer Article 8 of the Burra Charter).

1 Introduction

1.1 Background

The New South Wales (NSW) Government has identified dedicated areas throughout regional NSW to bring together planning and investment to stimulate economic growth across a range of industries such as freight and logistics, advanced manufacturing, renewable energy, agribusiness and tourism. These dedicated areas are recognised as Special Activation Precincts (SAPs).

The NSW Government announced the investigation of a SAP at Moree on 3 December 2019. The purpose of the SAP is to investigate opportunities to unlock the economic potential of the region by leveraging Moree's location in the middle of one of the most productive agricultural regions in Australia, its proximity to the Inland Rail, and its strategic connections to inter- and intra-state, national and global markets. The SAP will guide development to support and enable future business growth and diversification in Moree.

1.2 SAP investigation area

Moree is located on the lands of the Gamilaroi (also known as Kamilaroi) people, the second largest Aboriginal nation on the eastern coast of Australia. The descendants of the Gamilaroi Nation continue to live on their land in Moree, with 21.6 percent of the Moree Plains local government area (LGA) population identifying as Aboriginal and/or Torres Strait Islander.

The natural assets of Moree and its surrounds make it one of the most productive agricultural regions in Australia. Natural benefits brought by fertile soils, a temperate climate, and location above significant artesian basin water have long enabled the success of large-scale broadacre cropping and pastoral production in the region. The region relies on a reliable water supply of both artesian and surface water to support community and agribusiness. Fertile plains are drained by the Namoi and Gwydir Rivers and their tributaries, including the Mehi and Peel Rivers.

The Moree SAP investigation area encompasses an area of approximately 5,800 hectares (ha) and lies just south of the Moree township and Gwydir Highway. The SAP investigation area spans both sides of the Newell Highway and the Inland Rail corridor (Narrabri to North Star section). There are a number of creek tributaries which traverse the investigation area. The primary waterway is Halls Creek, which crosses the SAP investigation area midway in an east-west direction, south of the Moree Regional Airport.

The Moree SAP investigation area and key features are shown on Figure 1-1.

1.3 Development of the draft Structure Plan

Future development within the Moree SAP will require careful consideration ensuring the right balance can be achieved between community need, environmental values, cultural heritage, economic development and technical considerations. Aurecon was commissioned by NSW Department of Planning, Industry and Environment (DPIE) to prepare a suite of environmental technical studies to inform the development of the draft Structure Plan, including:

- Biodiversity
- Bush fire
- Aboriginal and non-Aboriginal cultural heritage
- Soils, geology and contamination
- Hydrogeology
- Air, odour and noise

These environmental technical studies ensured a comprehensive appreciation of environmental constraints and opportunities within and surrounding the SAP investigation area.

These technical studies were used to inform and navigate discussions during the Enquiry by Design (EbD) workshop. The EbD workshop facilitated discussions around the opportunities and constraints within the proposed Moree SAP investigation area with particular reference to:

- identifying suitable intermodal locations and flagging the long-term rail line relocation within the broader transport network
- identifying suitable locations within the SAP for particular industries
- how to achieve suitable energy generation
- requirements for road networks and crossings
- measures to protect biodiversity and heritage outcomes
- certainty regarding available water to meet first movers
- measures to create early employment opportunities and priorities to create jobs for local people by enabling staged land use outcomes that take advantage of existing infrastructure.

In consideration of the proposed development initiatives, environmental technical assessment identified values and in collaboration with community input of opportunities and constraints, the draft Structure Plan was developed.

1.4 Draft Structure Plan

The draft Structure Plan for the Moree SAP is shown on Figure 1-2. The proposed SAP boundary for the draft Structure Plan has been developed through an enquiry by design process identifying the possible location of certain types of industries within precincts.

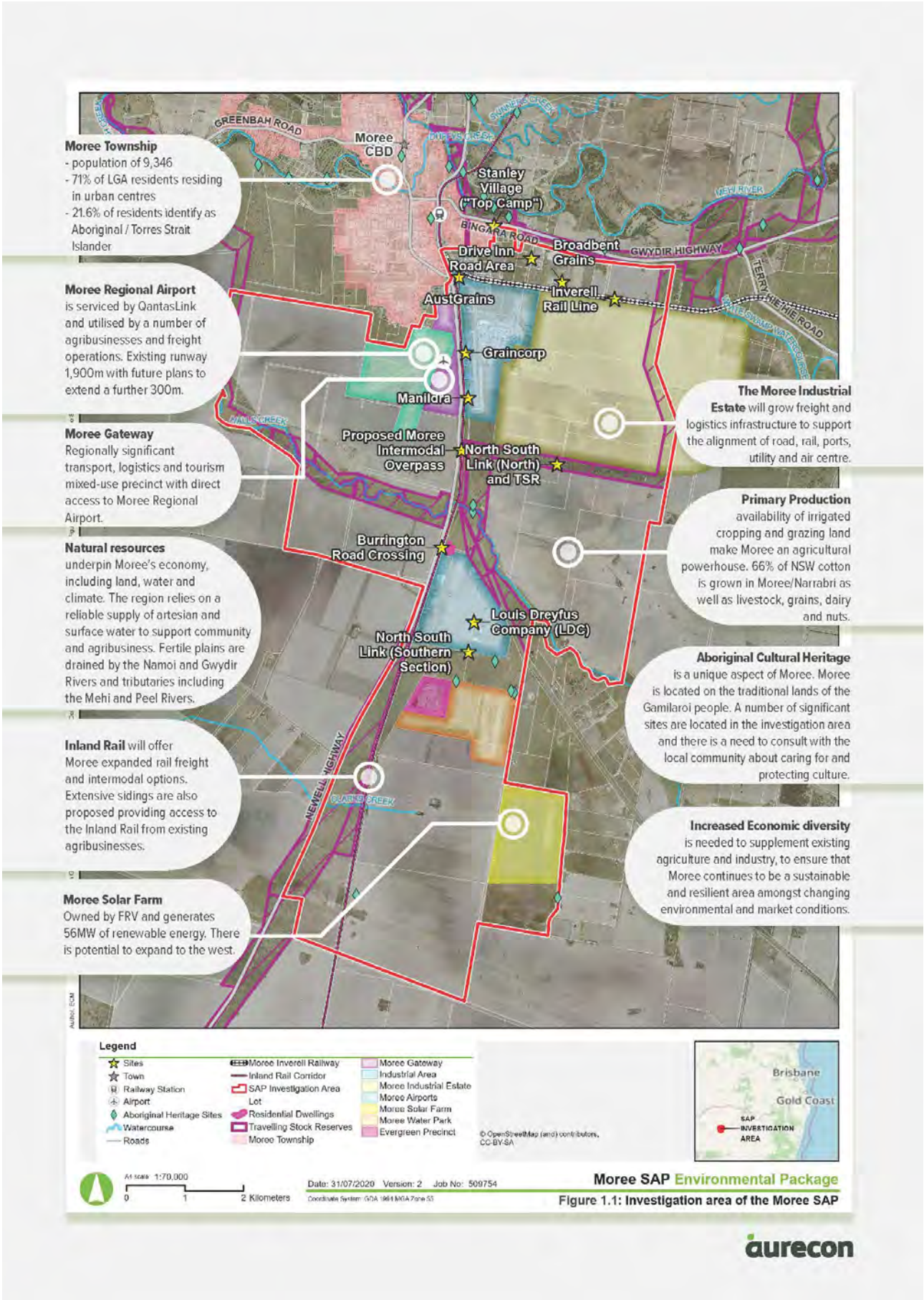
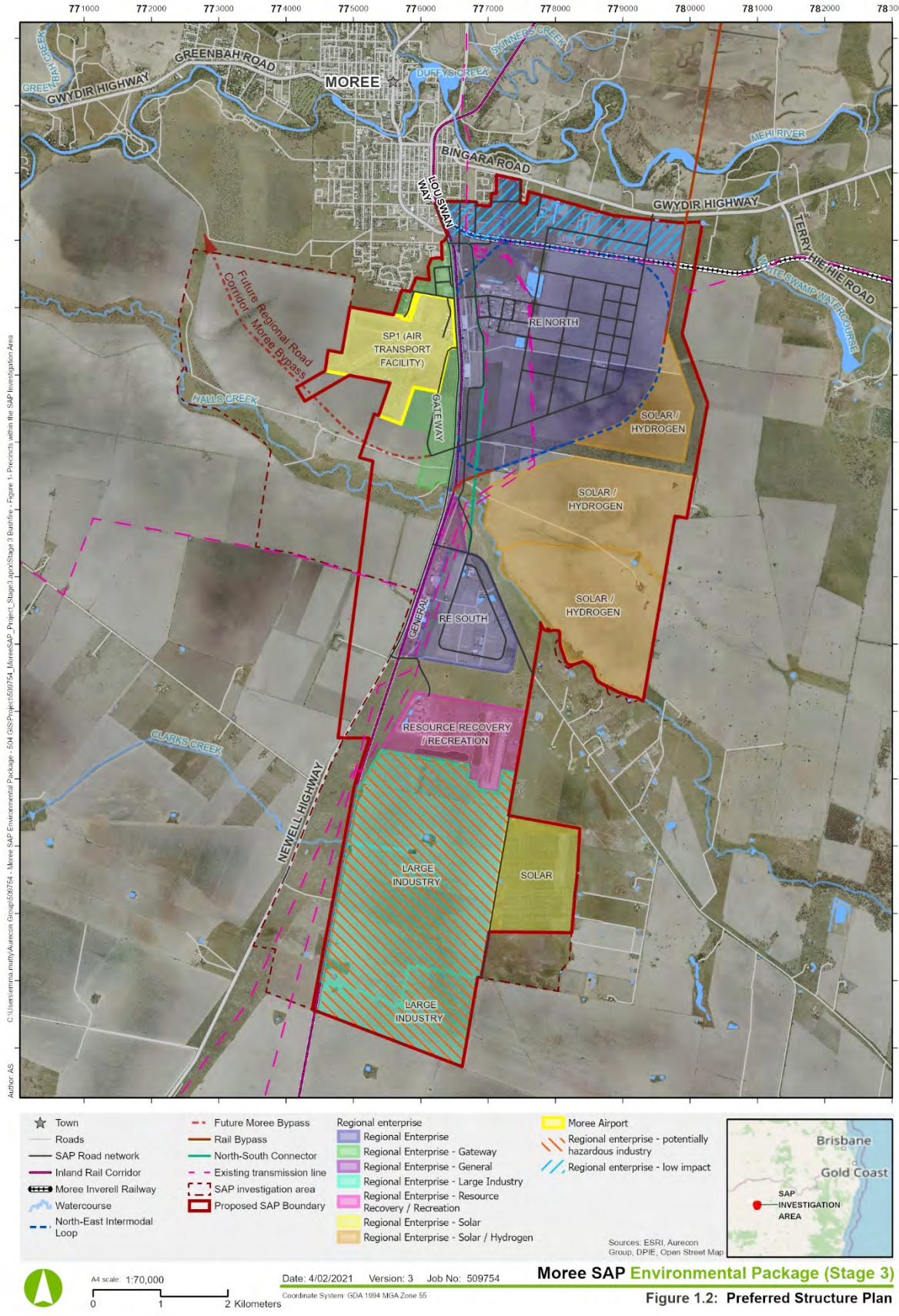


Figure 1.1: Investigation area of the Moree SAP


MOREE
GREENBAH ROAD
GWYDIR HIGHWAY
DUFFYS CREEK
SKINNERS CREEK
MEHI RIVER
BINGARA ROAD
LOUSWAN WAY
GWYDIR HIGHWAY
TERRY HIE HIE ROAD
KITE SWAMP WATERCOURSE
Future Regional Road Corridor - Moree Bypass
SP1 (AIR TRANSPORT FACILITY)
RE NORTH
GATEWAY
SOLAR / HYDROGEN
SOLAR / HYDROGEN
SOLAR / HYDROGEN
RE SOUTH
GENERAL
RESOURCE RECOVERY / RECREATION
LARGE INDUSTRY
SOLAR
LARGE INDUSTRY
HALLS CREEK
CLARKS CREEK
NEWELL HIGHWAY
Town
Roads
SAP Road network
Inland Rail Corridor
Moree Inverell Railway
Watercourse
North-East Intermodal Loop
Future Moree Bypass
Rail Bypass
North-South Connector
Existing transmission line
SAP investigation area
Proposed SAP Boundary
Regional enterprise
Regional Enterprise
Regional Enterprise - Gateway
Regional Enterprise - General
Regional Enterprise - Large Industry
Regional Enterprise - Resource Recovery / Recreation
Regional Enterprise - Solar
Regional Enterprise - Solar / Hydrogen
Moree Airport
Regional enterprise - potentially hazardous industry
Regional enterprise - low impact
Brisbane
Gold Coast
SAP INVESTIGATION AREA
Sources: ESRI, Aurecon Group, DPIE, Open Street Map
A4 scale: 1:70,000
0 1 2 Kilometers
Date: 4/02/2021 Version: 3 Job No: 509754
Coordinate System: GDA 1994 MGA Zone 55
Moree SAP Environmental Package (Stage 3)
Figure 1.2: Preferred Structure Plan

1.5 Purpose of this report

The draft Structure Plan has been used to inform an assessment of the potential impacts of the Moree SAP on Aboriginal and non-Aboriginal heritage values. This report provides the Aboriginal and non-Aboriginal cultural heritage assessment prepared for the Moree SAP Master Plan.

The Aboriginal Cultural Heritage Assessment (ACHA) component of this report details the results of the assessment, and has been prepared in consideration of the following:

- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*
- *Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales*
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRP).
- Clause 60 of the *National Parks and Wildlife Regulation 2009*, using the consultation process outlined in the ACHCRP

The ACHA included Aboriginal community consultation and feedback in relation to Aboriginal heritage sites and values for the local community.

The purpose of this report is to provide the results of the desktop and field survey and an assessment of the Aboriginal and non-Aboriginal cultural values associated with the SAP investigation area. The report outlines how the EbD process considered potential impacts to heritage values to inform the draft Structure Plan and identifies recommendations for the mitigation of these impacts and management of sites going forward.

2 Overview of regulatory framework and relevant guidelines

In NSW, heritage is managed via a tripartite system of legislation at national, State and local government levels. At a national level, the *Environmental Protection and Biodiversity Act* 1999 (EPBC Act) is the national Act protecting the natural and cultural environment. At NSW State-level, cultural heritage is principally protected under three acts:

- *Heritage Act 1977* (NSW) (Heritage Act)
- *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act)
- *National Parks and Wildlife Act 1974* (NSW) (NPW Act)

The following section outlines the relevant heritage laws and statutes which guide heritage protection and approvals for the Moree SAP.

2.1 Commonwealth

2.1.1 Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act is the Australian Government's central piece of environmental legislation. It includes a legal framework to protect and manage National, Commonwealth and World Heritage listed places. The EBPC Act includes 'national heritage' as a Matter of National Environmental Significance (MNES) and protects listed places to the fullest extent under the Constitution. It also establishes the National Heritage List (NHL) and the Commonwealth Heritage List (CHL). A description of each of the heritage lists and the protection afforded to listed places is provided in the following sections.

2.1.2 Commonwealth Heritage List

The CHL is established under the EPBC Act. The CHL is a list of properties owned by the Commonwealth that have been assessed as having significant heritage value. Any proposed actions on CHL places must be assessed for their impact on the heritage values of the place in accordance with *Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies (Significant Impact Guidelines 1.2)*. The guidelines require the proponent to undertake a self-assessment process to decide whether or not the action is likely to have a significant impact on the environment, including the heritage value of places. If an action is likely to have a significant impact, an EPBC Act referral must be prepared and submitted to the Minister for Environment for approval.

There are no items listed on the CHL within the proposed SAP boundary, nor are there any areas of Commonwealth land. Further, the preferred Structure Plan will not impact on any Commonwealth Heritage places or identified heritage values. As such, the preferred Structure Plan would not trigger a referral under the EPBC Act for impacts to Commonwealth heritage.

2.1.3 National Heritage List

The NHL is a list of places with outstanding heritage value to Australia, including places overseas. Any proposed actions on NHL places must be assessed for their impact on the heritage values of the place in accordance with *Matters of National Environmental Significance (Significant Impact Guidelines 1.1*). The guidelines require a proponent to undertake a self-assessment process to decide whether or not the action is likely to have a significant impact on a MNES, including the national heritage value of places. If an action is likely to have a significant impact an EPBC Act referral must be prepared and submitted to the Minister for Environment for approval.

There are no items listed on the NHL within the proposed SAP boundary. The Moree Baths National Heritage Place is located 600 m north and are therefore physically and visually separated from the development precincts. As such, the preferred Structure Plan is unlikely to require a referral under the EPBC Act due to significant impacts to a national heritage place. The national significance of the Moree Baths should continue to be safeguarded, protected and promoted during the detailed planning and delivery of the SAP.

2.2 State legislation

In NSW, items and places of non-Aboriginal heritage significance and archaeological remains (referred to as 'objects' or 'relics') are afforded statutory protection under the Heritage Act at State-level and the EP&A Act at local level. Statutory registers established under these two pieces of legislation provide legal protection for listed heritage items.

2.2.1 NSW Heritage Act 1977

The Heritage Act provides protection for items of 'environmental heritage' in NSW. 'Environmental heritage' includes places, buildings, works, relics, movable objects or precincts considered significant based on historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic values. Items considered to be significant to the state are listed on the NSW State Heritage Register (SHR). The SHR comprises a list of heritage items of State heritage significance, including places, buildings, works, relics, moveable objects, and precincts. State government agency Heritage and Conservation Registers are established under Section 170 of the Heritage Act.

Historical archaeological remains are afforded automatic statutory protection by the 'relics' provision of the Heritage Act, which protects objects or material evidence that relates to the settlement of the area of NSW and is assessed to be of State of local heritage significance. In accordance with Section 146 of the Heritage Act, the Heritage Council of NSW must be notified if a relic, under the definition of the Act is uncovered during any works. The NSW Heritage Office (now Heritage NSW) provides criteria for assessing heritage significance (see Section 2.5.2).

There are no places or archaeological areas listed on the SHR within the proposed SAP boundary. It is unlikely that any additional heritage approvals under the Heritage Act will be required for the development occurring as part of the preferred Structure Plan. Further, there are no items or places listed on any State Agency S170 Heritage and Conservation Register within the proposed SAP boundary.

2.2.2 Environmental Planning and Assessment Act 1979

The EP&A Act and the EP&A Regulation are the primary pieces of legislation regulating land use planning and development assessment in NSW. This legislation is supported by a range of environmental planning instruments (EPIs) including State Environmental Planning Policies (SEPPs) and Local Environmental Plans (LEPs).

2.2.3 Moree Local Environmental Plan 2011

The preferred Structure Plan is located in the LGA of Moree Plains. In NSW, development within LGAs is regulated by LEPs which set out planning provisions for the locality including controls such as land zoning and permissible uses, building height, floor space ratio and other planning and environmental controls.

The current LEP for Moree Plains LGA is the Moree LEP 2011. The aim of the Moree LEP 2011 is to guide planning decisions for the LGA through zoning and development controls, which provide a framework for the way land can be used. Schedule 5 of the Moree LEP 2011 lists items of environmental heritage within the LGA, including locally significant archaeological sites, buildings and a conservation area (Moree Central Business District (CBD)).

There are no local heritage items listed on the Moree LEP 2011 within the proposed SAP boundary.

2.3 National Parks and Wildlife Act 1974

The NPW Act promotes both the conservation of nature in NSW and the conservation of objects, places and features of cultural value within the landscape.

Aboriginal heritage is primarily protected under the NPW Act, as subsequently amended in 2019 with the introduction of the National Parks and Wildlife Regulation 2019.

Part 6 of the NPW Act concerns Aboriginal objects and places and various sections describe the offences, defences and requirements to harm an Aboriginal object or place. The main offences under section 86 of the NPW Act are:

- A person must not harm or desecrate an object that the person knows is an Aboriginal object
- A person must not harm an Aboriginal object
- For the purposes of this section, "circumstances of aggravation" are:
  - That the offence was committed in the course of carrying out a commercial activity, or
  - That the offence was the second or subsequent occasion on which the offender was convicted of an offence under this section.
- A person must not harm or desecrate an Aboriginal place.

Under section 87 of the NPW Act, there are specified defences to prosecution including authorisation through an Aboriginal Heritage Impact Permit (AHIP) or through exercising due diligence or compliance through the regulation. Section 89A of the NPW Act also requires that a person who is aware of an Aboriginal object, must notify the Director-General in a prescribed manner. In effect this section requires the completion of site cards for all sites located during heritage surveys. Section 90 of the NPW Act deals with the issuing of an AHIP, including that the permit may be subject to certain conditions.

2.4 Non-statutory lists and registers

Several other government, industry and community organisations are also engaged in identifying, assessing and managing environmental heritage. Some of these organisations also have lists of heritage items.

Organisations such as the NSW National Trust and the Australian Institute of Architects maintain registers of sites and places that hold cultural significance or value. These lists do not come with statutory protection but can act to alert the community and decision makers to their potential cultural heritage values.

There are no items listed on non-statutory registers located within the proposed SAP boundary. Further, no items of potential heritage significance were identified during preliminary investigations and subsequent reports.

2.5 Other policies and guidelines

2.5.1 The Burra Charter

The Australia ICOMOS Charter for Places of Cultural Significance (The Burra Charter) 2013 is a set of principles first issued by Australia ICOMOS in the historic South Australian mining town of Burra in 1976. Since this time the Burra Charter has been refined and updated and has become a nationally accepted standard and internationally recognised guidebook for heritage conservation practice. The Burra Charter defines the basic principles and procedures to be followed in the conservation of heritage places as well as providing a range of definitions that guide our common understanding of cultural significance.

According to the Burra Charter:

> *Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.*

The Burra Charter underpins heritage management in NSW and Australia. The policies and guidelines of the Heritage Council of NSW are consistent with and guided by the Burra Charter.

The Burra Charter principles and the Burra Charter process will underpin decisions and policies relating to culture heritage protection and conservation within the preferred Structure Plan. The Burra Charter process is to first investigate and understand significance, develop policy to conserve cultural significance and manage the item in accordance with the conservation policies.

2.5.2 NSW Heritage Manual

The Heritage Council of NSW has published numerous policy documents to support the interpretation and application of heritage legislation and the Burra Charter. The NSW Heritage Manual (1996) publications provide the framework for assessing heritage in NSW and making sound decisions relating to conservation and management. The Heritage Manual includes:

- NSW Heritage Office, *Assessing Heritage Significance,* 2001
- Heritage Branch, Department of Planning*, Assessing Significance for Historical Archaeological Sites and 'Relics'*, 2009
- Heritage Council of NSW, *Statements of Heritage Impact*, 2002
- Heritage Council of NSW, *State Agency Heritage Asset Management Guidelines*, 2005
- NSW Heritage Office, *Minimum Standards of Maintenance and Repair*, 1999
- NSW Heritage Office, *Eight Suggestions On How Local Councils May Promote Heritage Conservation,* 2001

Heritage significance should be assessed in accordance with the NSW Heritage Office Criteria, outlined in *Assessing Heritage Significance* (2001) (Table 2-1). Impacts should be assessed in accordance with the *Statements of Heritage Impact Guidelines*. Other Heritage Council of NSW publications and guidelines within the NSW Heritage Manual should also be considered where relevant and useful.

Table 2-1 NSW Heritage Assessment Criteria

Criteria	Description
A – Historical significance	An item is important in the course or pattern of the local area or states cultural or natural history.
B – Associative significance	An item has strong or special associations with the life or works of a person, or group of persons, of importance in the local area's or State's cultural or natural history.
C – Aesthetic significance	An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in the local area or state.
D – Social significance	An item has strong or special association with a particular community or cultural group in the local area or state for social, cultural or spiritual reasons.
E – Research potential	An item has potential to yield information that will contribute to an understanding of the local area's or State's cultural or natural history.
F – Rarity	An item possesses uncommon, rare or endangered aspects of the local area's or State's cultural or natural history.
G - Representativeness	An item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places of cultural or natural environments (or the cultural or natural history of the local area or state).

2.5.3 NSW Government Architect *Design Guide for Heritage* 2019

Developed collaboratively between the Heritage Council of NSW and the NSW Government Architect (GA), the *Design Guide for Heritage* is a resource to help guide good design for heritage places. The document draws on earlier publications developed by the Australian Institute of Architects (AIA) NSW Chapter and Heritage Council of NSW. The guidelines are complimented by a set of case studies and best practice examples, which show how principles of good design have been applied across a wide range of heritage contexts, scales and building types to meet a variety of briefs and requirements.

2.5.4 *Design in Context* (Heritage Office & AIA, 2005)

Design in Context was written by the NSW Heritage Office and the AIA NSW Chapter. The guidelines were published in 2005 and remain a valuable contribution to the study and promotion of quality infill development in the historic environment. The guidelines provide information on the legislative context for infill development and outline six key criteria that are used to assess development applications affecting a heritage item or within a conservation area. They are intended to be applied when assessing new development that is:

- In heritage conservation areas or precincts
- Within the curtilage of an identified heritage item
- Affecting an identified heritage item.

The guidelines stipulate that to achieve a successful new development in a heritage context the development must be appropriate under the six design criteria of *character, scale, form, siting, materials and colour; and detailing*.

Both the GA Design Guide for Heritage and the Design in Context guidelines specifically apply to development occurring with a heritage conservation area or to development that directly interfaces with an identified item, such as adaptive reuse of a historic building. Despite the Structure Plan involving neither of these scenarios, these two documents provide general design guidance for encouraging thoughtful and high-quality design that responds to its surroundings.

3 Aboriginal heritage consultation process

The consultation with Aboriginal stakeholders was undertaken in accordance with clause 60 of the National Parks and Wildlife Regulation 2019 following the consultation steps outlined in the ACHCRP guide. The guide outlines a four-stage process of consultation as follows:

- Stage 1 – Notification of project proposal and registration of interest
- Stage 2 – Presentation of information about the proposed project
- Stage 3 – Gathering information about the cultural significance
- Stage 4 – Review of the draft cultural heritage assessment report

The full list of consultation steps, including those groups and individuals that were contacted and a consultation log, has been kept on file and will be submitted to Heritage NSW with completion of the full ACHA assessment. A summary of actions carried out in following these stages is provided in the following sections.

3.1 Stage 1 notification of project proposal and registration of interest

Letters outlining the Moree SAP and the need to undertake an Aboriginal heritage survey were sent to the Moree Local Aboriginal Land Council (LALC), and various statutory authorities including Heritage NSW, as identified under the ACHCRP. An advertisement was placed in the local newspaper, the *Moree Champion* on 28 July 2020 seeking registrations of interest from Aboriginal people and organisations. In each instance, the closing date for submission was 14 days from receipt of the letter. A total of 33 groups were identified by North West Local Land Services, National Native Tribunal and Heritage NSW in correspondence that may have an interest in the project. Each of these 33 groups was contacted to notify them about the Moree SAP and invite them to register.

Of the 33 groups contacted, seven groups responded to register their interest. The groups who registered interest are listed below:

- Moree LALC
- Polly/Maria Cutmore
- Terry Hie Hie Committee
- Terry Hie Hie Aboriginal Co-op
- Gomeroi Native Title Applicant
- AT Gamilaroi Cultural Consultancy
- Natasha Rodgers

3.2 Stage 2 presentation of information about the proposed project

On 4 September 2020, an assessment methodology document for the Aboriginal heritage survey and possible subsurface testing was sent to the registered party for review and comment. This document provided details of the background to the Moree SAP, a summary of previous archaeological surveys and the proposed Aboriginal heritage assessment methodology. The document invited comments regarding the proposed methodology and sought any information regarding known Aboriginal cultural significance values associated with the SAP investigation area and/or any Aboriginal objects contained therein.

A minimum of 28 days was allowed for a response to the document.

3.3 Stage 3 gathering information about the cultural significance

The assessment methodology included a written request to provide any information that may be relevant to the cultural heritage assessment of the SAP investigation area. It was noted that sensitive information would be treated as confidential. All groups advised they were satisfied with the methodology and one response regarding particular cultural information was received.

Polly Cutmore advised that the heritage report should include information regarding the Great Artesian Basin, Mehi and Gwydir Rivers and Middle Camps.

At this stage, the fieldwork was organised, and the following five groups/registrants were asked to participate in the fieldwork:

- Moree LALC
- Polly/Maria Cutmore
- Gomeroi Native Title Applicant
- AT Gamilaroi Cultural Consultancy
- Natasha Rodgers

The Aboriginal heritage field survey was carried out from 12 October 2020 to 16 October 2020.

3.4 Stage 4 review of the draft Aboriginal cultural heritage survey report

The results of the Aboriginal heritage field survey were summarised in a separate Aboriginal Cultural Heritage Survey Report (refer Appendix A). This report was forwarded to the registered parties on 23 November 2020 inviting comment on the results, the significance assessment and the recommendations.

A minimum of 28 days was allowed for responses to the document. No comments were received apart from the support for the report from one of the RAPs.

It is also proposed to supply this report to the Registered Aboriginal Parties (RAPs) for further consultation and comment on the draft Structure Plan if there are any cultural heritage matters to be considered.

4 Heritage baseline analysis

Moree is located on the lands of the Gamilaroi Aboriginal people, the second largest Aboriginal nation on the eastern coast of Australia, whose philosophy is to co-exist and maintain a balance with nature. The rich Aboriginal cultural heritage of Moree means that it is crucial to understand the sensitive local context and to strategically plan for future development that appreciates the heritage values of the SAP investigation area.

Moree has a fascinating and diverse history, evidenced in the national, State and locally listed heritage items found within the township and across the Moree Plains LGA. This section outlines the baseline cultural heritage values of the SAP investigation area that have been investigated and explored in detail.

4.1 Aboriginal heritage baseline analysis

The information reviewed in this baseline analysis relates to the SAP investigation area as a whole to contextualise the environment and heritage of the investigation area.

4.1.1 Desktop assessment

Review of landscape context

The purpose of carrying out an assessment of background information is to analyse available information in order to understand the context of an investigation area. In accordance with the *Guide to investigating, assessing, and reporting on Aboriginal cultural heritage in NSW* (OEH 2011:5), developing an adequate understanding of a cultural landscape requires information including:

- The physical setting or landscape
- History of peoples living on that land
- Material evidence of Aboriginal land use.

The environmental context or physical setting of the SAP investigation area is relevant as the character of a place influences how it was utilised by past Aboriginal people. In some cases, such interaction or attributed significance continues into the present day. Descriptions are provided in the following sections of the environment as it would likely have been prior to colonisation, and its current condition.

Geology and topography

The landscape context assessment is based on a number of classifications that have been made at national and regional levels for Australia. The national interim biogeographic regionalisation for Australia (IBRA) system identifies the SAP investigation area as located within the Brigalow Belt South region (DE&E 2016). The dominant IBRA subregion of the investigation area is the Northern Outwash subregion.

The bioregion comprises land within both northern NSW and southern Queensland (QLD). The belt is characterised by horizontally bedded Jurassic and Triassic quartz sandstone and shale with limited areas of conglomerate or basalts. In particular, the Northern Outwash subregion comprises:

- Tertiary and Quaternary alluvial fans and stream terraces
- Sloping plains with alluvial fans that are coarser and steeper than the Gwydir Fans downstream
- Red loams and heavy brown clays.

Contrarily, medium to heavy clay textured dark grey to black soils forming the 'Black Plains' are more specific to the Moree area (OEH 2020). The cracking clays associated with this area also hinder identification of undisturbed archaeological material owing to artefact movement through the seasonally expanding and contracting soils with artefacts falling through the cracks during dry periods and being translocated along the cracks during flooding periods (Ozark 2004).

The Moree Geological Map (1:250,000 1968/55-8) indicates the geology underlying most of the SAP investigation area to be Quaternary including:

- Qrs: Riverine plain deposits of black and red clayey silt, sand, and coarse gravel.

Water supply is often suggested as being the most significant factor influencing peoples' prior land-use strategies. The SAP investigation area encompasses both Clarks Creek and Halls Creek (ephemeral creeks) and the Mehi River is located less than 500 m north of the SAP investigation area.

The SAP investigation area predominantly encompasses the Gwydir Alluvial Plains with a very small section in the northeast corner attributed to the Gwydir Channels and Floodplains (Figure 4-1). The Mitchell Landscape descriptions are provided in Table 4-1.

Table 4-1 Mitchell landscape descriptions

Mitchell landscape	Description
Gwydir Alluvial Plains	'Holocene fluvial sediments of back plain and channelised back plain facies on the Gwydir River fan, relief 2 to 5 m. Grey and brown silty clay deposited from suspended sediments in floodwater, often with gilgai. Elevated margins with red-brown texture-contrast soils.' (DECC 2002)
Gwydir Channels and Floodplains	'Holocene fluvial sediments of the channel and meander plain facies of the Gwydir River alluvial fan and distributary stream system, relief in the channels 5 to 10 m. Streamflow is nearly permanent. Sinuous channels entrenched in the meander plain with a silt and clay suspended load and some fine sand bed load. Banks and plains with brown to grey silt and cracking grey or brown clay minor areas of red-brown texture-contrast soils on low levees. The Gwydir raft is major coarse woody debris dam choking the main channel and diverting the flow.' (DECC 2002)

Source: DECC (2002)

Hydrology

There are several first and second order streams and creeks transecting the SAP investigation area including Halls Creek and Clarks Creek. These extend from the Mehi River and Gwydir River tributaries which comprise part of the upper Darling River system moving water from the eastern highlands and northern tablelands of NSW (Balme 1985 as cited in Ozark 2004). Halls Creek and Clarks Creek would have provided semi-permanent water sources facilitating Aboriginal resource procurement of freshwater and other subsistence requirements. Evidence of stream channel migration and numerous paleochannels about the Northern Outwash subregion indicate permanent water sources within the area have shifted since the Pleistocene (Heritage Concepts 2009). As such, the associated fluvial sediments and alluvial fans and floodplains are often superimposed with Aboriginal archaeological material.

Climate

The Moree area is characterised by warm to hot summers, with an average rainfall of 585 millimetres (mm), predominantly occurring in summer. The average summer temperature is 33 degrees Celsius (°C) and winter temperatures average 17-19°C (Bureau of Meteorology 2020).

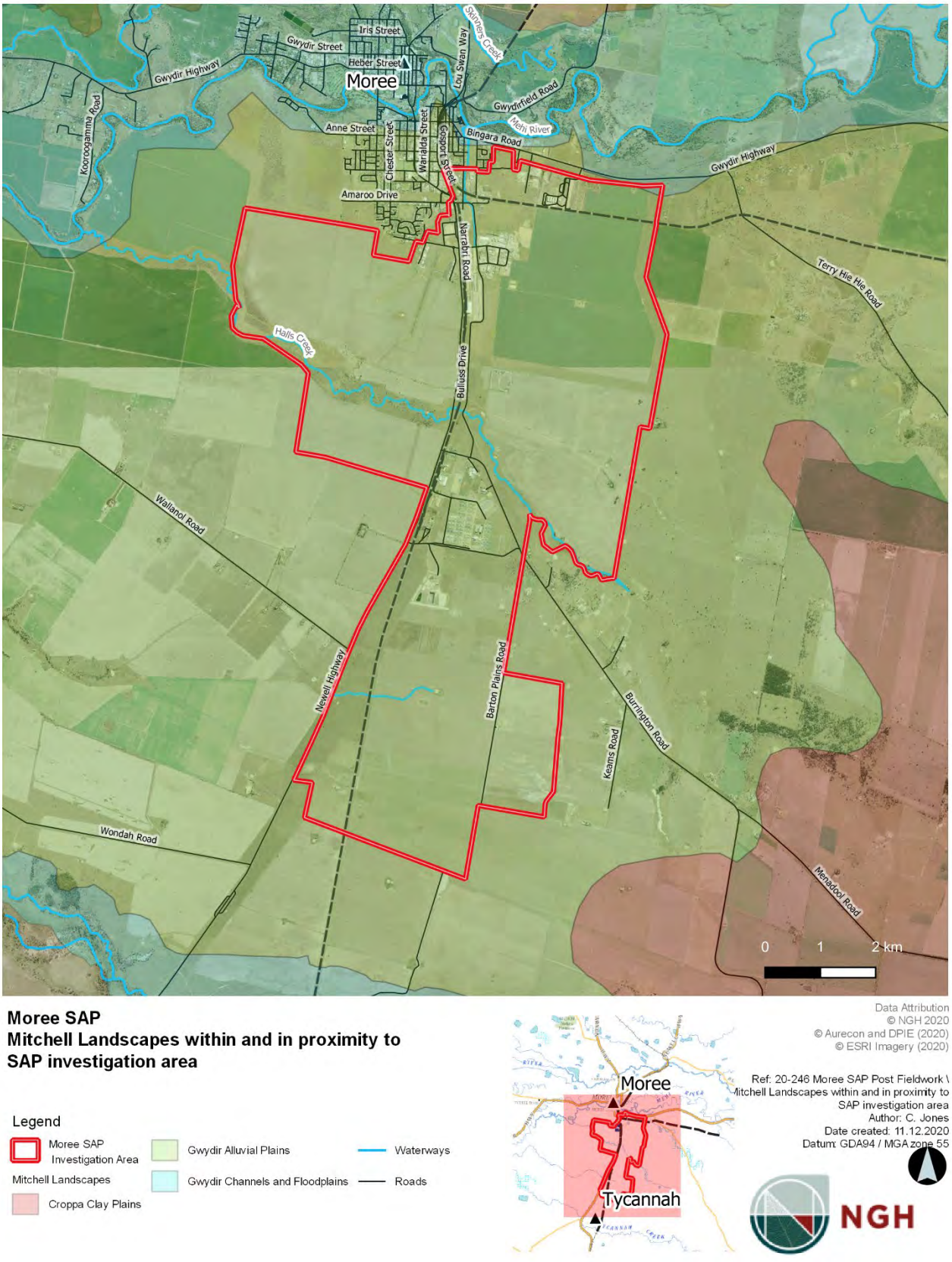


Figure 4-1 **Mitchell landscapes within and in proximity to SAP investigation area**

Flora and fauna

The Northern Outwash subregion is characterised by a variety of vegetation including:

- Poplar box with white cypress pine, wilga and budda on red soils, belah and brigalow on brown clays.

Plant subsistence resources of the area included seeds, berries, honey, nuts and more specifically plants such as *Capparis lasiantha* (a native orange or pomegranate), *Senegalia senegal* (Acacia gum), *Owenia acidula* (Emu apple/Sour plum) and *Dioscorea* (Yams) (Ozark 2004). However, owing to the high level of European farming and clearing within the area, many of these plants are no longer present within the SAP investigation area (S. Glauert, personal communication, 30 July 2020). Faunal subsistence resources were seasonally determined with a focus of resource extraction along the riparian rivers in the summer months and into the plains for more terrestrial species during the winter months. Fauna resources included: kangaroos, lizards, snakes, possums, wallabies, bandicoots, emu, plain turkeys, fish (cod, perch and catfish), turtles, mussels and yabbies (Ozark 2004). Edible insects such as lerps (*Glycaspis brimblecombei*) were also collected by Aboriginal people for subsistence. The lerps would be squeezed into a ball and then eaten (Murawin 2020).

Additionally, *Acacia pendula* (Myall) is noted to have been used for the manufacture of weapons and artefacts and *Xanthorrhoea* (Grass tree gum) used to fix axe heads (Murawin 2020). *Eucalyptus camaldulensis* (River red gum) provided a source of food through the use of the blossoms and nectar and the kino which drips from the trunk was used to apply to cuts and abrasions (Murawin 2020).

Ethnographic context

Language groups

Cultural areas are difficult to define and ‘must encompass an area in which the inhabitants have cultural ties, that is, closely related ways of life as reflected in shared meanings, social practices and interactions’ (Egloff et al. 2005:8). Depending on the culture-defining criteria chosen (in other words which cultural traits and the temporal context (historical or contemporary) the definition of the spatial boundary may vary. In Australia, Aboriginal ‘marriage networks, ceremonial interaction and language have been central to the constitution of regional cultural groupings” with the distribution of language speakers being the main determinate of groupings larger than a foraging band (Egloff et al 2005:8 & 16).

Historic information about the presence and lifestyle of Aboriginal people is important for identifying and mapping any potentially important places, landscapes and features which may be within the investigation area. Such information may be retrieved from relevant archival, historical and ethnohistoric sources, as well as existing heritage registers including the Australian Heritage Information Management System (AHIMS) database, NSW State Heritage Register and the Australian Heritage Database (refer to Section 4.2 for register searches). It must be noted that many local histories and ethnographic accounts provide biased information which must be read critically. There are few European accounts of the early contact era in Moree. Balme (1985) attributes this lack of accounts to the displacement of the Aboriginal people through European settlement of the area. Thomas Mitchell’s journals of 1832 indicate encounters with the Kamilaroi people along the Gwydir River (Mitchell 1832 as cited in Curby 2005).

Heritage Concepts Pty Ltd (2009) compares the boundaries of language groups in and surrounding Moree as proposed by Matthews (1896 as cited in Heritage Concepts Pty Ltd 2009), Howitt (1904 as cited in Heritage Concepts Pty Ltd 2009) and Tindale (1974 as cited in Heritage Concepts Pty Ltd 2009) (refer Figure 4-2). Howitt (1904 as cited in Heritage Concepts Pty Ltd 2009) indicates that the boundaries of the Kamilaroi language group (now known as the Gamilaraay language) extend from Murrurundi Manilla up to Barraba and Bingera, down the Gwydir and Barwon to Walgett encompassing Binna Burra, Moree, west of Mount Kaputar and northeast of Burren Junction. This extensive area was repudiated by Tindale (1974 as cited in Heritage Concepts Pty Ltd 2009) with an argument that the Boggabilla area, the southwestern extent of Howitt's proposed boundary, was well within the Bigambul territory. Conversely, O'Rourke (1997 as cited in Heritage Concepts Pty Ltd 2009) and Matthews (1896 as cited in Heritage Concepts Pty Ltd 2009) indicate Talwood and St George in QLD comprised the northern extent, Bundarra and Warialda to the east and Walgett and Coonabarabran in the west comprised the Kamilaroi language group area. However, each of these accounts agrees that the Aboriginal people that live within the Moree Plains area at the time of European contact were likely part of the Kamilaroi language group.

Toolkits of the Kamilaroi people are indicated to have included hafted stone axes, spears and spear throwers, fish traps, nets for catching fish and birds, throwing sticks, bark containers, wooden clubs for fighting and kangaroo skin cloaks (Balme 1986 in Murawin 2020). Historical accounts indicate the occupation shelters were semi-circular or circular with conical roofs located close to tree trunks for support, covered with bark sheets, reeds grass and boughs (Mitchell 1839:77 in Murawin 2020). Alternatively, the Top Camp plaque suggests Aboriginal families and their descendants erected dwellings from flattened kerosene containers during the post-contact period.

Known Heritage Sites

Information from previous archaeological studies, as well as records held by heritage registers including AHIMS, the State Heritage Register and the Australian Heritage Database, can provide a context and baseline for our understanding of what is and what may be present within the SAP investigation area (OEH 2011:6). A summary of the results of the register searches undertaken, and summaries of relevant archaeological reports, have been provided in this section.

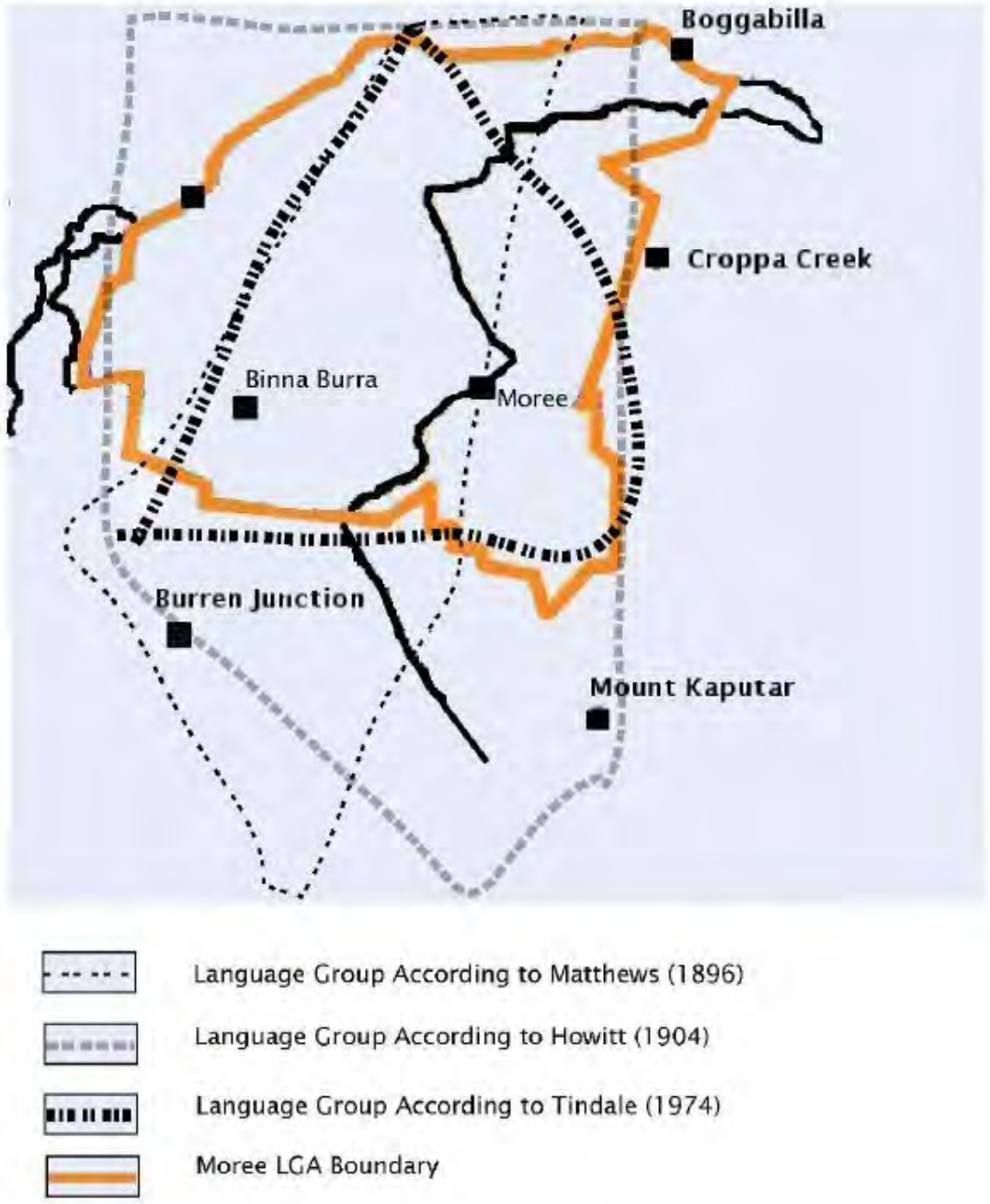


Figure 4-2 **Distribution of Gamilaraay language groups within the Moree Plains LGA (derived from Matthews 1896; Howitt 1904 and Tindale 1974 as cited in Heritage Concepts 2009:32)**

Aboriginal heritage information management systems

As part of the background analysis to investigate the presence and extent of any Aboriginal sites within or adjacent to the Moree SAP as well the significance of known Aboriginal cultural heritage, an extensive search was undertaken of the AHIMS database.

The AHIMS is maintained by Heritage NSW and provides a database of previously recorded Aboriginal heritage sites. A search provides basic information about any sites previously identified within a search area. However, a search of the AHIMS database is not conclusive evidence of the presence or absence of Aboriginal heritage sites, as it requires that an area has been inspected previously and details of any sites located have been provided to Heritage NSW to add to the register. As a starting point, the search will indicate whether any sites are known within or adjacent to the investigation area.

A search of the AHIMS database was conducted on 1 July 2020, resulting in the identification of 72 registered sites within the broader region (refer Table 4-2). There are 15 registered sites within and surrounding (1 kilometre (km)) of the SAP investigation area, 10 of which are within the SAP investigation area itself (refer Table 4-3). The details for the sites are included in Section 4.3.1 and locations shown in Figure 4-3.

Table 4-2 Aboriginal heritage management systems registered sites

Site type	Number
Modified Tree (Carved or Scarred)	50
Artefact (Isolated or Scatter)	15
Burial	2
Stone Quarry	1
Ceremonial Ring	1
Habitation Structure	1
Artefact/Potential Archaeological Deposit (PAD)	1
PAD	1
TOTAL	**72**

Source: Aboriginal heritage management systems search (2020)

Table 4-3 Aboriginal heritage management systems registered sites within the special activation investigation area

Number	Aboriginal heritage management systems identification number	Site name	Site type
1	10-3-0073	Halls Creek IF-1	Artefact
2	10-3-0036	HC-IF-1	Isolated Find
3	10-6-0040	HC-OS1	Stone Quarry
4	10-6-0039	WMF-ST1	Modified Tree (Carved or Scarred)
5	10-6-0041	MR-ST1-A	Modified Tree (Carved or scarred)
6	10-6-0045	Moree Evergreen Precinct Scarred Tree 1	Modified Tree (Carved or scarred)
7	10-6-0047	Moree Evergreen Precinct Scarred Tree 3	Modified Tree (Carved or scarred)
8	10-6-0046	Moree Evergreen Precinct Scarred Tree 2	Modified Tree (Carved or scarred)
9	10-6-0044	BP Solar Open Site 1 with PAD	Artefact
10	10-6-0043	BP Solar Scarred Tree 2	Modified Tree (Carved or scarred)

Source: Aboriginal heritage management systems search (2020)

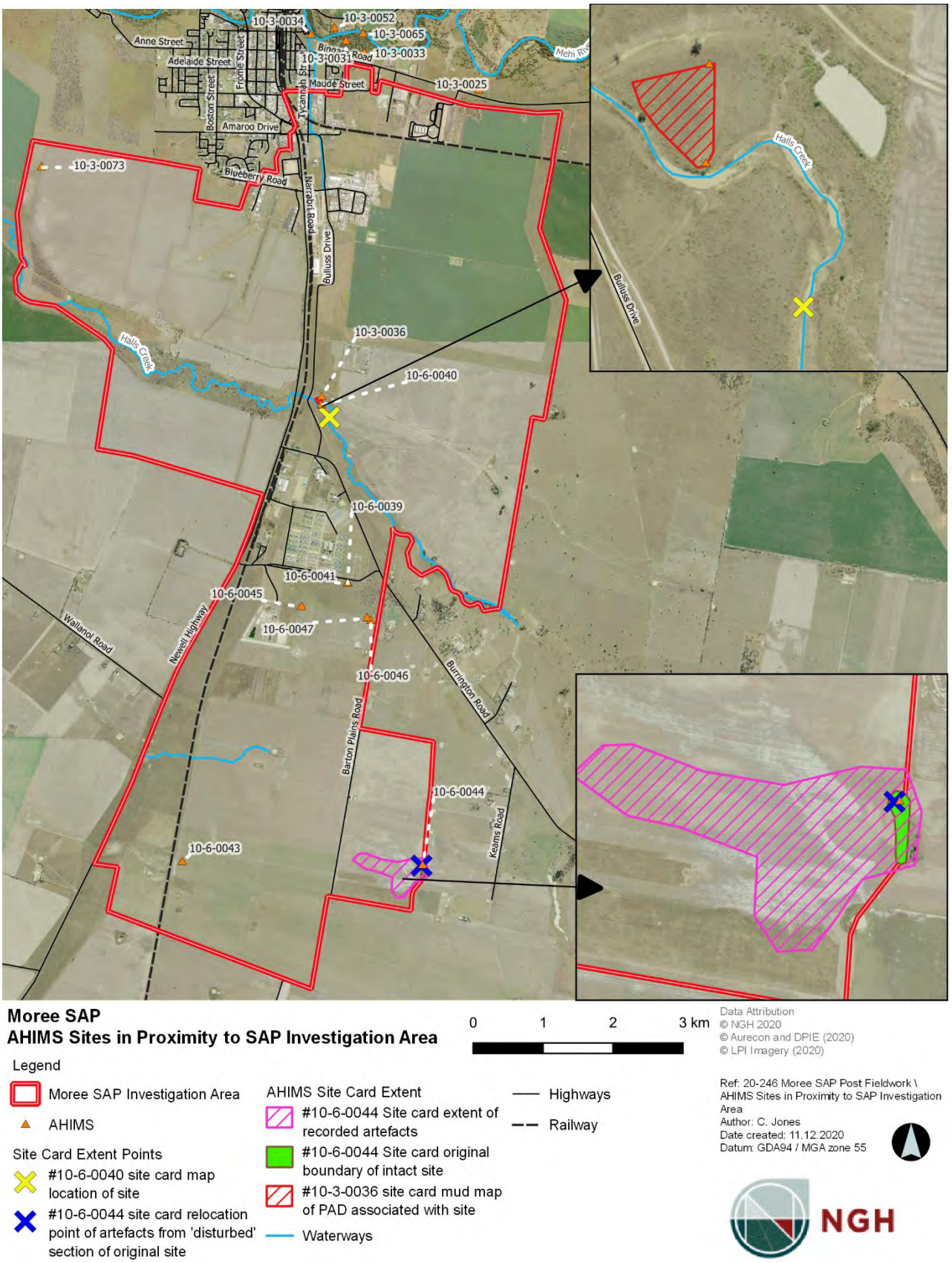


Figure 4-3 **AHIMS sites within and in proximity to SAP investigation area**

The sites identified were largely found due to development proposal assessments. The baseline analysis concluded that there were likely to be many unrecorded sites present within the SAP investigation area, and field survey was required to identify their location.

Other Aboriginal culturally significant sites within Moree

Three culturally significant sites in proximity to (but not within) the Moree SAP investigation area have also been identified. These include:

- The Moree Spa Baths (listed on the Australian Heritage Database ID#16831)
- The Steel Bridge Aboriginal Fringe Campsite (Reserve No. 11248, referenced in Kelton 1999)
- The Top Camp (Reserve No.10959, referenced in Kelton 1999, AHIMS #10-3-0031) (refer Figure 4-5).

The Moree Spa Baths are located at the intersection of Anne and Gosport Street and recorded on the Register of National Estate and National Heritage Register (now known as the Moree Artesian Aquatic Centre). The baths are an example of segregation where Aboriginal people were not allowed to use the swimming pool. They are noted for their significance with regard to the 1965 Freedom Ride where Dr Charles Nelson Perrurle Perkins AO rose to national prominence as a leading Indigenous-rights activist initially through the Freedom Rides and the events at Moree Baths (DAWE 2020).

The Steel Bridge Camp (Reserve No. 11248) is located 1.2 km north of the SAP investigation area and along the eastern and western banks of the Mehi River. The Top Camp (also known as Stanley Village) is located on the southern banks of the Mehi River between the Gwydir Highway and the river (150 m north of the SAP investigation area).

More specifically the location of Top Camp is described on the plaque shown in Figure 4-4 which states:

> *1922-1967*
>
> *"Top Camp"*
>
> *This plaque is dedicated to the Kamilaroi People and their Descendants. Between this point and the Mehi River lies the area where the first families came from Terry Hie Hie Reserve to settle in the early 1920s. One of the main reasons for the move from Terry Hie Hie was to escape from the Aboriginal Protection Boar's severe policy regarding the removal of Aboriginal and half-caste children from their families. "We shall not forget their sacrifice". Mr Rupert "Bob Smith the oldest remaining resident from the "Top camp" dedicate these monuments to all those Aboriginal families and their descendants who erected dwelling from flattened kerosene containers and occupied them for over a period of 45 years. This plaque also recognises the era of Reconciliation 24th August 1997*

It should be noted that part of the original Aboriginal community still lives here today (L. Munro (Senior), personal communication with E. McGirr, 23 July 2020). Top Camp was named as such to differentiate the locale from the 'Middle Camp' on the opposite side of town adjacent to the Mehi River and 'Bottom Camp' further downstream. 'Bottom Camp' was expanded by the Welfare Board into a station known as Mehi Crescent Reserve or Mehi Mission in 1953 (Heritage Concepts 2009; L. Munro (Senior), personal communication with E. McGirr, 23 July 2020). Following the establishment of the Aboriginal Protection Board in 1883, Aboriginal reserves were consequently developed and by 1909 the *Aborigines Protection Act 1909* was passed. The Act meant that Aboriginal people could be forcibly removed from the reserves and subsequently led to the establishment of fringe campsites where those who were outcast could live. The Steel Bridge Camp and Top Camp constitute two fringe camps associated with Terry Hie Hie which was the reserve located south-east of Moree. Kelton (1999) first assessed the significance of the Steel Bridge Aboriginal Campsite and determined the site to be of moderate to high cultural significance and high social significance to the Moree LALC.

Figure 4-4 Top Camp memorial plaque (left) and view of Top Camp "Stanley Village" location (right)

Source: Murawin (2020)

The Terry Hie Hie Reserve, as well as the Gamilaroi Nature Reserve, is situated over 6 km to the southeast of the Moree SAP investigation area. While outside the immediate vicinity of the SAP investigation area, both reserved provide key cultural and historical context the Aboriginal archaeological sites within the SAP investigation area. The reserve comprises a Corroboree Ground and Grinding Grooves and was used as a key gathering and ceremonial site for the Kamilaroi people. The Terry Hie Hie Reserve was used by Aboriginal people to camp as the influx of European farmers to the area in the 1830s displaced much of the local Aboriginal community from the central Moree area. The primary campground within the reserve was established in 1895 with a school and resident manager in place by 1911 (Murawin 2020).

The Gamilaroi Nature Reserve is spiritually and culturally significant to the local Aboriginal people of Moree. The reserve is home to the Great Ancestral Bora of Biamme which constitutes a prominent Bora Ground to the Kamilaroi people (NPWS 2004). The reserve also comprises a variety of threatened fauna and flora and numerous archaeological and cultural sites. These sites include over 240 axe-grinding grooves, several carved and scarred trees, a bora and two Aboriginal cemeteries. The Gamilaroi Nature reserve is still utilised by descendants of the Kamilaroi people today for education, culture, and recreation (Murawin 2020).

While these additional culturally significant sites are outside the SAP investigation area and therefore outside the scope of this assessment, they demonstrate clearly continual occupation of the area by Aboriginal people and demonstrate the cultural significance of the Moree area to the local Aboriginal community.

Frontier conflict

The period of rapid settlement for pastoralism from the late 1830s was characterised by ongoing conflict between Aboriginal and non-Aboriginal people, resulting in the deaths of hundreds of Aboriginal people, both directly (where Aboriginal people were murdered) and indirectly (through the spread of disease and the removal of access to resources). This in turn, resulted in massive impacts on all aspects of Aboriginal life, the implications of which continue to the present day.

The influx of European settlers caused the displacement of many local Aboriginal people of the broader Gwydir and Macintyre Valleys. Conflict ensued as competition for food and water resources resulted in the prohibition of areas to Aboriginal people. This in turn resulted in poaching of sheep and cattle, and subsequent retribution from settlers and retaliation by the Aboriginal groups in response to this (Heritage Concepts 2008, Ozark 2018). There are no recorded massacre sites within, or adjacent to the Moree SAP investigation area included on the Colonial Massacres Map compiled by the Centre For 21st Century Humanities at the University of Newcastle. There are two massacre sites listed on the *Moree Plains Local Environmental Plan 2011*, east of Biniguy at Slaughterhouse Creek (Biniguy massacre) and at Waterloo Creek both of which are outside the SAP investigation area. Some details are provided below.

In the early 1830s, conflict between the Aboriginal people and European settlers was escalating and was reported to the Crown Land Commissioner, Alexander Paterson, by 1837. Upon further enquiry, Paterson reported claims of crimes committed by the local Aboriginal people of the area, such as the murder of two white men on Bowmans run and two at Cobb's station. In response, the acting Governor of NSW,

Lieutenant-Colonel Kenneth Snodgrass ordered the dispatch of a Mounted Police party to the area. The Mounted Police party was led by Commander Major James Nunn. As Nunn's expedition travelled north, they encountered a large Aboriginal camp along the extremity of Waterloo Creek. This encounter resulted in an attack on the Aboriginal group by the police party. This is supposed to have been instigated in response to the killing of Cobb's shepherds, but alternative accounts indicate that it may have been an act of aggressive oppression (Connor 2002 as cited in in Heritage Concepts 2009, Elder 2003 as cited in Ozark 2018). Accounts indicate up to 300 individuals were killed. The site of the Waterloo Creek massacre is currently nominated for State Heritage Listing and its recorded location along Millie Road at Jews Lagoon, Bellata.

Within the Moree Plains LGA, two other massacre sites are documented, including Slaughterhouse Creek (also known as the Biniguy massacre) and the Ardgowan Plains massacre. Several accounts variously describe the Slaughterhouse Creek/Biniguy Massacre. One account indicates the Aboriginal people were captured in a cattle pen and then slaughtered and another indicated they were rounded up on the creek, shot and then dragged to the nearby hut. This attack was reported as a reprisal for the discovery of a dismembered body of a young European boy found on the Terry Hie Hie station, yet no such death was ever recorded. When a horse was speared a few days later, stockman blamed the Aboriginal people and began to ambush camps and resource sites to attack and kill the local groups.

The Ardgowan Plains massacre is reported to have been uncovered by Edward Mayne (Commissioner of Crown Lands) and included the murder of nine Aboriginal people on Robert Crawford's station on the Ardgowan Plains. The murder suspect was Charles Eyles (Crawford's Superintendent) who fled following the hanging of Myall Creek murderers (Heritage Concepts 2009). Conflict continued for many years following and as warfare between the groups decreased dispossession occurred through other means.

Aboriginal reserves were developed following the establishment of the Aboriginal Protection Board in 1883. The establishment of such reserves are associated with the dissolution and dispossession of religion, ceremonies, language and culture of the local Aboriginal groups through forcible banning of speaking native languages and disbandment of families. By 1909, the Aboriginal Protection Act was passed, and this meant Aboriginal people could be forcibly removed from reserves resulting in the establishment of fringe camps where those who were outcast could live (Department of Agriculture, Water and Environment 2020). Two fringe camps were located to the north of the Moree SAP investigation area, known as Steel Bridge Camp and Top Camp.

Additional Heritage Register Searches

Australian heritage database

A search of Moree on the Australian Heritage Database identified 12 items. Of these, 11 are listed on the Register of the National Estate (RNE) which is a non-statutory archive which was removed from the EPBC Act in 2012. The remaining item includes the Moree Baths and Swimming Pool, Anne St, Moree, NSW, Australia which is on the National Heritage List. However, this is located on Anne Street which is 700 m north of the SAP investigation area. The three RNE items located within proximity of the SAP investigation area are detailed in Table 4-4.

Table 4-4 Australian heritage database items

Heritage item name	Item identification	Location in relation to the SAP investigation area
Indigenous Place, Wearmatong via Moree, NSW, Australia	16087	Assumed to represent the Wearmatong Carved Tree located along Watercourse Road (33 km northwest of Moree). Outside of SAP investigation area.
Moree Baths and Swimming Pool, Anne St, Moree, NSW, Australia	106098	Non-specific in listing but is outside the SAP investigation area.
Moree Spa Baths, Gosport St, Moree, NSW, Australia	16831	Non-specific in listing but is outside the SAP investigation area.

Source: Australian Heritage Database (2020)

Throughout the first half of the 20th Century, the Moree Aboriginal community were affected by racial discrimination enshrined in the local council by-laws. Segregation was apparent in the physical and geographic separation between Aboriginal camps and the white areas of the township. Aboriginal people were excluded from the public baths and from civic buildings such as the Memorial Hall.

In February 1965, the Freedom Ride bus set off from the University of Sydney with 35 students led by Arrente man and Aboriginal activist Charles Perkins (National Heritage Database, 2013). The group had formed the Student Action for Aborigines (SAFA) inspired by the civil rights movement gaining momentum concurrently in the United States of America. In Moree where a race ban was officially in place, the trip gained a national profile in the media and raised the profile of Charles Perkins as an iconic leader for the Indigenous community. Whilst the group were in Moree they also visited the camps located on the outskirts of town to interview residents and observe the living conditions of the Aboriginal community.

> *The events at the Moree Swimming Baths in February 1965 constitute a defining moment in the history of race relations in Australia. The activities of the Student Action for Aborigines group at Moree drew the attention of the public to the informal and institutional racial segregation practised at that time in outback towns in New South Wales. The events at Moree also highlighted the failures at both state and federal levels; while both spoke rhetoric of inclusion into the wider Australian society, Aboriginal people in country towns were still being excluded from sharing basic facilities. The publicity that the events at the Moree baths attracted contributed to shaping a climate of opinion resulting in a resounding Yes vote in the 1967 referendum, leading to a change in the Australian Constitution to allow the Commonwealth to make laws specifically for Aboriginal people. The constitutional amendment provided the legal basis for subsequent Commonwealth involvement in Aboriginal and Torres Strait Islander affairs and also led to increased recognition of the importance of Indigenous rights in Australia. (*National Heritage Database Citation, 2013)

The importance of Moree Baths and Swimming Pool Complex in the nation's history of systemic racism and Indigenous rights was recognised via its inclusion on the National Heritage list in September 2013. The Baths are located 600 m north outside the SAP investigation area. The purpose of accessing the Register of the National Estate (RNE) is to recover information relating to possible heritage values within or near the SAP investigation area. Where an RNE item is located within or near the SAP investigation area, it is usually identified on other statutory lists such as State or local registers, and as such, relevant protections would apply.

State heritage inventory

The State Heritage Inventory includes a database of heritage items in NSW which include:

- Declared Aboriginal places
- Items listed on the state heritage register
- Listed Interim heritage orders
- Items on state agency heritage registers, and,
- Items listed of local heritage significance on a local council's local environmental plan.

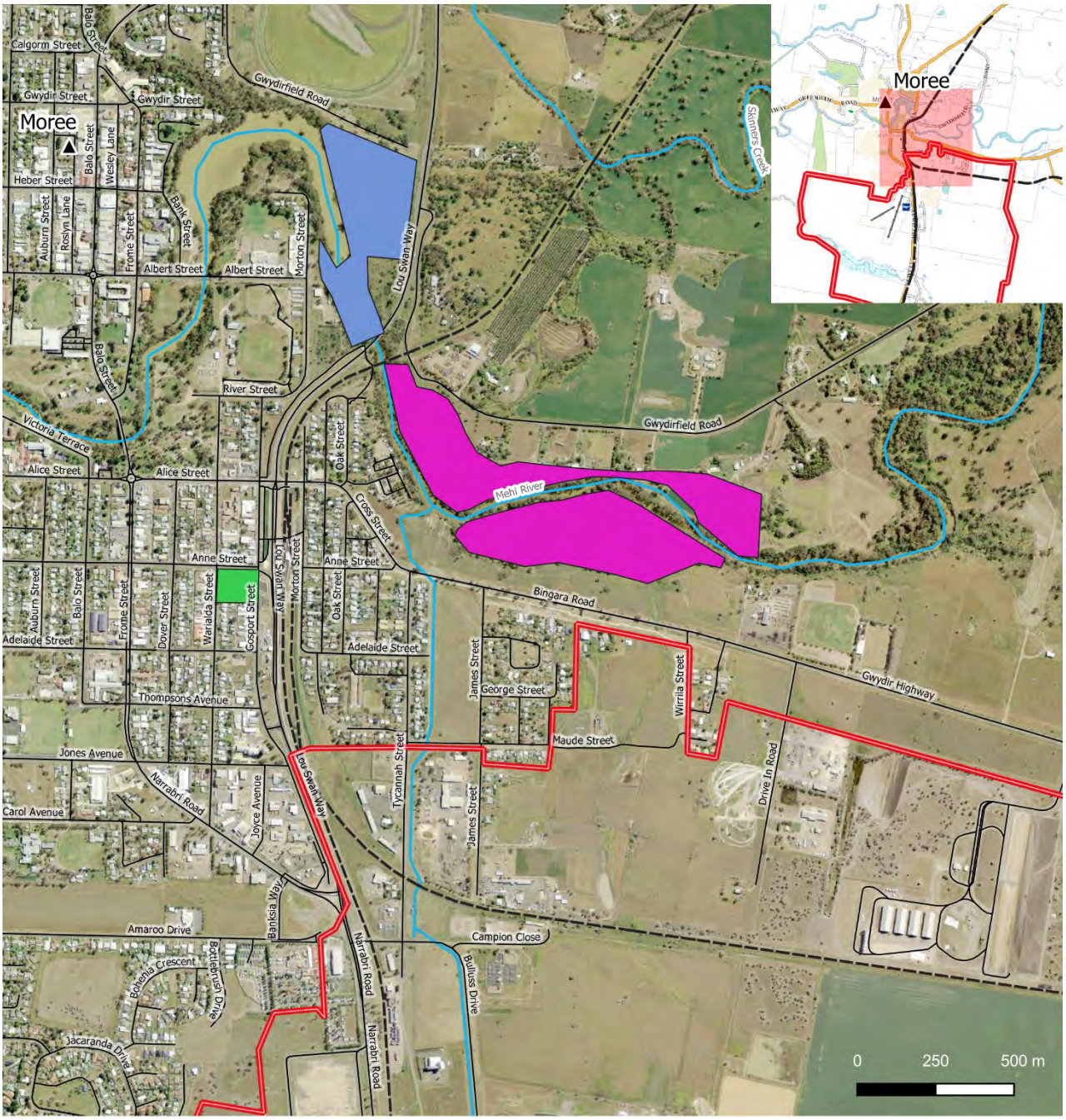
A search of the State Heritage Register and Aboriginal Places using the map feature was undertaken. One State heritage listed place within proximity to the SAP investigation area. This was Alloway (15 Gwydir Street Moree (ID#00394). However, this item is located more than 2 km north of the SAP investigation area.

Additionally, one registered Aboriginal place was also identified within Moree but outside the SAP investigation area. This included the Terry Hie Hie Corroboree Ground and Grinding Grooves which form part of the Terry Hie Hie Reserve (mentioned in Section 4.2.2) and are situated over 6 km to the southeast of the Moree SAP investigation area. While outside the immediate vicinity of the SAP investigation area, this site provides key cultural and historical context to the Aboriginal archaeological sites within the SAP investigation area,

Under the NPW Act, an Aboriginal Place may be declared over any area of land in NSW if the Minister declares that area is of special significance to Aboriginal culture. This declaration provides legal mechanisms

to safeguard declared Aboriginal Places from harm or desecration unless the appropriate permit has been issued. The declaration of an Aboriginal Place does not change the status of or affect ownership rights; but a person must not modify, harm or desecrate a declared Aboriginal Place without an Aboriginal Heritage Impact Permit issued under the NPW Act.

There are no Aboriginal heritage related sites identified on the Moree Plains LEP 2011 or Section 170 State Agency Register.



Moree SAP
Other Culturally Significant Sites Within Proximity
SAP Investigation Area

Legend

- Moree SAP Investigation Area
- Other Culturally Significant Sites
- Steel Bridge Camp
- Top Camp
- Moree Spa Baths
- Waterways
- Roads

Data Attribution
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© ESRI Imagery (2020)

Ref: 20-246 Moree SAP Post Fieldwork \
Other Culturally Significant Sites Within
Proximity SAP Investigation Area
Author: C. Jones
Date created: 10.12.2020
Datum: GDA94 / MGA zone 55

NGH

Figure 4-5 **Other culturally significant sites within proximity to the SAP investigation area**

Archaeological context and models

Several previous archaeological assessments and cultural heritage studies have been undertaken within the Moree SAP investigation area as well as the broader Moree area. An overview of the relevant studies undertaken in the area is provided below.

Previous archaeological studies within the special activation precinct investigation area

Kelton (1999) undertook an archaeological assessment of the proposed State Highway 17, Newell Highway Moree Eastern 'Outer' Bypass, Moree. During the course of the survey three previously unrecorded sites were identified. These included an open campsite, a scarred tree and an isolated artefact. The open campsite (AHIMS #10-3-0035) was located along a floodplain terrace along the bank of Skinners Creek. While the site extent was estimated to cover approximately 1.2 ha, artefact density was low with less than 1 artefact per square metre evident. Disturbance associated with the railway construction and crop cultivation of the paddock rendered the context of the landform of AHIMS #10-3-0035 disturbed (Table 4-5). Ploughing activity within the area also exposed several locales of scattered clay nodules. The sample recorded of the campsite artefactual material was predominantly comprised of cores and flakes of mudstone material with lesser numbers of chert, sandstone and fine-grained volcanic.

The scarred tree (AHIMS #10-6-0041, Table 4-5) was situated along an alluvial terrace and consisted of a dead river *Eucalyptus camaldulensis* (River red gum) with a single amorphous shaped scar. Modification of the tree was unable to be determined to be consistent with Aboriginal scarring owing to the extensive regrowth of the scar, however, it was also indicated that the irregularity of the scar may reflect bark removal by Aboriginal or European people.

The isolated artefact (AHIMS #10-3-0036, Table 4-5) was identified along the flat of nearby Halls Creek in the woodland floodplain. The artefact consisted of a single unmodified cream chert flake. Despite the lack of cultural material evident, the area surrounding the isolated find was considered to have elevated archaeological potential as a Potential Archaeological Deposit (PAD). No further investigation of this PAD is noted in the report, only recommendations to avoid sensitive landforms with the use of buffer zones during construction. It should be noted that the only reference to the PAD associated with this site on the site card is the drawing referenced in the site card for AHIMS #10-3-0036 indicating the area south of the site and east of Halls Creek.

All three of the previously unidentified sites were located on the river floodplain, more than 500 m from the river. This supports that while the archaeological potential is generally predicted to decrease with distance from the water, landform potential and woodland distribution support transient movement across the landscape and thus cultural material and modification is more widely distributed. In addition to these previously unidentified sites, three previously recorded scarred trees (#10-3-0023, #10-3-0024 and #10-3-0025, Table 4-5) and the Top Camp fringe campsite were also identified within the bypass assessment area during the desktop phase of the assessment. Sites #10-3-0023 and #10-3-0024 could not be relocated during the survey, however, #10-3-0025 was identified and consisted of a live *Eucalyptus populnea* (Brimble box) tree with two oval-shaped scars. The Top Camp Site was previously recorded by Kelton (1999) and was concentrated along the alluvial terrace below the highway level. The site comprises no visible site fabric, but its location was confirmed through recounts by local Aboriginal community members (Grose and Dennison 1999 as cited in Kelton 1999).

Ozark (2010) conducted an Aboriginal Heritage Assessment for the then proposed solar station in Moree. During the course of the field inspection, three heritage sites were recorded: one potential European scarred tree (BP-ST1 {Ozark 2010 site name}); one Aboriginal scarred tree (BP-ST2, AHIMS #10-6-0043) and one PAD (BPS-OS1 with PAD, AHIMS #10-0044, Table 4-5). BP-ST1 consisted of a modified scarred *Eucalyptus populnea* (Brimble box) tree. At the time of inspection, the ovoid scar was interpreted as a possible boundary marker or bullroarer scar. However, following the review of the survey land division plan of the area, it was noted by Ozark that a *Eucalyptus populnea* (Brimble box) tree was in the same location of a European survey marking in the 20th century and therefore the Aboriginal cultural manufacture of the scar was dismissed.

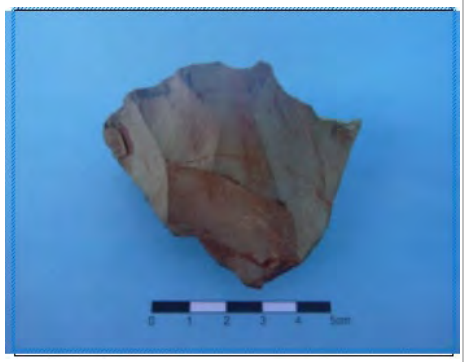
AHIMS #10-6-0043 is a culturally modified *Corymbia tessellaris* (Carbeen) tree located in a cultivated paddock and comprises an irregular partially intact scar. AHIMS #10-0044 was located along an extinct ephemeral billabong and comprised a variety of cores, core fragments, a grinding stone, scraper, pounder and flakes. The raw material composition of these artefacts included quartzite, silcrete, quartz, mudstone, agate, chert and possible petrified wood. The PAD aspect of the site was attributed to the comparison of heavy soil disturbance through ploughing throughout part of the site with likely intact deposits associated with the preserved remnant shore landform in the other section of the site. The assessment recommended adjustment of the alignment of the proposed works to avoid BPS-ST1, and collection of AHIMS #10-6-0043 given that the proposed works cannot avoid it, provided this was agreeable to the local Aboriginal community. The PAD was recommended to either be fenced off and avoided or to conserve the intact landform and works surrounding the site be modified and that signage to recognise the site should be installed. No further reporting was available to determine if this measure was adhered to. However, during the Aboriginal heritage field survey undertaken for the SAP it was determined that this area was indeed avoided by the Moree Solar Farm and no further disturbance to the area was observed.

Ozark (2012) conducted an Aboriginal Heritage Assessment of the proposed water storage ponds at Evergreen Precinct. Three Aboriginal heritage sites were identified during the field inspection component of this assessment (all located within the middle section of the Moree SAP area). These included three scarred trees (MEP-ST1 (AHIMS #10-6-0045), MEP-ST2 (AHIMS #10-6-0046), and MEP-ST3 (AHIMS #10-6-0047, Table 4-5). AHIMS #10-6-0045 consisted of a scarred *Eucalyptus populnea* (Brimble box) tree demonstrating a single coolaman scar situated on a level plain within a livestock grazing paddock. AHIMS #10-6-0046 was also a *Eucalyptus populnea* (Brimble box) scarred tree with an irregular scar with evident steel axe marks in the scar heartwood. AHIMS #10-6-0047 was another scarred tree located on a plain in the grazing paddock with another irregular scar. All three sites were located outside the proposed impact footprint for the Moree Evergreen Project so the only recommendations pertaining to these sites for the proposed works was to ensure a suitable buffer was established around each site during the works to ensure their protection.

Ozark (2013) undertook an Aboriginal Heritage Impact Assessment for the proposed Moree Solar Farm modification. The modification was to assess a new 66 kV electrical transmission line connected to the solar farm. During the course of the assessment, no new Aboriginal archaeological sites were identified. However, four Aboriginal artefacts were identified within the study area and were concluded to be an extension of the previously recorded AHIMS site #10-6-0040 (refer Table 4-5). These artefacts were associated with the dry creek bed of Halls Creek and comprised four silcrete flakes and one quartzite flaked piece. Recommendations pertaining to the works advised avoidance of the site and mitigation measure during construction to be included in an Aboriginal Cultural Heritage Management Plan for the site. Additionally, protective buffered fencing was advised during construction to clearly demarcate and protect the site extent.

Ozark (2019) conducted an Aboriginal Due Diligence Archaeological Assessment for the proposed East-West Bypass, realignment of the Gwydir Highway and upgrade of part of the North-South Link Road east of Newell Highway. The Due Diligence Assessment determined that AHIMS sites and landscape features with elevated archaeological potential were present with the assessment area and that harm to these sites could not be avoided by the proposed works. As such, a visual inspection of the assessment area was undertaken alongside a representative of the Gomeroi Peoples. Halls Creek IF-1 (#10-3-0073, isolated find, Table 4-5) was identified during this inspection along the access track to the area. The isolated find comprised a single multidirectional silcrete core fragment with seven flake scars. Additionally, the two previously registered scarred tree sites (#10-3-0062 and #10-3-0063) were located also during the inspection. Realignment options to facilitate avoidance of Halls Creek IF-1 (#10-3-0073) was recommended and if avoidance could not be achieved further investigation accompanying an AHIP application was advised. The assessment determined that if the realignment option follows the Mehi River Alternative Alignment, the proposed works would not impact either of the two AHIMS sites (#10-3-0062 and #10-3-0063), though #10-3-0062 is close to the edge of the realignment boundary and appropriate buffer zone during construction works would be required to ensure its protection. It is noted that the two AHIMS sites (#10-3-0062 and #10-3-0063) are located outside the SAP investigation area to the far north-east.

Table 4-5 Aboriginal heritage management systems registered sites within the special investigation precinct area

Identification	Site name	Site type	Comments	Images	
10-3-0073	Halls Creek IF-1	Artefact	Consists of a single multidirectional silcrete core located along an eroded dirt track within an agricultural cropping paddock. The maximum dimension of the core is 58 mm and seven flake scars were identified on the core.	 **Multidirectional silcrete core**	 **View north of site location, an artefact at pink marker**
10-3-0036	HC-IF-1	Isolated Find	Comprises a single chert proximal flake situated within a travelling stock reserve (TSR) along a floodplain/creek bank landform. Recommendations at the time of the recording were to avoid the site. It should be noted that the site plan mud map included as part of the site card illustrates an area directly south of the site and east of Halls Creek to have "possibly more deposits -black soil' which the Kelton (1999) report also refer to as a PAD.	 **Cream chert flake**	 **View of the site location, an artefact at blackboard area**

Identification	Site name	Site type	Comments	Images	
10-6-0040	HC-OS1	Stone Quarry (incorrectly labelled, site type is artefact scatter)	Consists of an open campsite including five stone artefacts covering an area of approximately 16 by 10 m. It should be noted that this is officially recorded as a stone quarry site, however, the descriptions only refer to the open campsite artefactual material recorded. The material composition was characterised by grey mudstone and silcrete material. The site was heavily disturbed owing to stock damage and located along the northwest bank of Halls Creek. No management recommendations were included on the site card. It should be noted that the site card actually places the location of #10-6-0040 on the opposite side of Halls Creek.	 **Artefacts recorded at #10-6-0040**	 **View of the site location, an artefact at flag area**
10-6-0039	WMF-ST1	Modified Tree (Carved or Scarred)	Scarred *Eucalyptus populnea* (Bimble box) tree located along the TSR on a vegetated flat plain environment. The tree is alive, and the elongated canoe-shaped scar is in fair condition. Recommendations were to the fence of the site to ensure no inadvertent impacts occurred during development. No management recommendations were included on the site card.	 **View north of #10-6-0039**	 **Context of #10-6-0039**

Identification	Site name	Site type	Comments	Images	
10-6-0041	MR-ST1-A	Modified Tree (Carved or scarred)	Scarred *Eucalyptus microtheca* (Coolibah) located within the rifle range along the sloping bank of the Mehi River. The tree alive, and the two elongated scars are present on the trunk of the tree. No management recommendations were included on the site card. Scar #1 is orientated north and is consistent with Aboriginal scarring morphology. Conversely, Scar #2 is orientated south and is determined to only be a possible Aboriginal scarred tree owing to the inconsistency of scar morphology and evidence of axe marks that may or may not be modern. No management recommendations were included on the site card.	 **Aboriginal Scar #1 of AHIMS #10-6-0041**	 **Possible Aboriginal Scar #2t of #10-6-0041**
10-6-0045	Moree Evergreen Precinct Scarred Tree 1	Modified Tree (Carved or scarred)	Scarred *Eucalyptus populnea* (Bimble box) tree located adjacent to the Moree Waste Management Facility and the TSR, along the pastoral grazing plain. The tree is alive, and the north orientated elliptical coolamon scar is in fair condition. No management recommendations were included on the site card.	 **Scar of #10-6-0045**	

Identification	Site name	Site type	Comments	Images
10-6-0047	Moree Evergreen Precinct Scarred Tree 3	Modified Tree (Carved or scarred)	Scarred *Eucalyptus populnea* (Bimble box) tree located adjacent to the Moree Waste Management Facility and the TSR, along the pastoral grazing plain. The tree is alive, and the east orientated irregular scar is in moderate condition. No management recommendations were included on the site card.	 **Scar #1 of AHIMS #10-6-0047**
10-6-0046	Moree Evergreen Precinct Scarred Tree 2	Modified Tree (Carved or scarred)	Scarred *Eucalyptus populnea* (Bimble box) tree located adjacent to the Moree Waste Management Facility and the TSR, along the pastoral grazing plain. The tree is alive, and the east orientated irregular scar is in moderate condition. No management recommendations were included on the site card. Steel axe marks were identified within the heartwood of the scar.	 **Scar #1 of #10-6-0046**

Identification	Site name	Site type	Comments	Images	
10-6-0044	BP Solar Open Site 1 with PAD	Artefact	Consists of east-west orientated artefact scatter and PAD situated around the perimeter of an extinct ephemeral billabong associated with Halls Creek, along pastoral grazing plain. The site is described as heavily disturbed owing to ploughing activity. The surface scatter material comprised an area of 1,000 m by 300 m with an average of two artefacts per square metre. Artefact types including cores, core fragments, flakes, grinding stones, a pounder and a possible scraper and one piece of possibly knapped glass were also recorded at the site. The material composition of the scatter is characterised by silcrete, quartzite, chalcedony, mudstones, quartz, chert, agate and possibly petrified wood & glass. Recommendation for site management included two options: to fence the whole site to avoid any potential impact or to conserve the intact landform. The site card also notes that the site includes a scarred tree with a northeast orientated scar with no species or scar shape specified (this is a reference to #10-6-0043, see below). The site card includes an Aboriginal Site Impact Recording Form indicating that the site is partially destroyed with impacts to the site authorised by consent/approval under Parts4/5. Impacts associated were the collection of 12 artefacts from within the disturbed area north and north-west of the site (refer Figure 4-3) and relocation of these artefacts to near the billabong tree (refer Figure 4-3). This relocation was undertaken under the terms of the Aboriginal Heritage Plan (12/11/2014) within section 14 of the Moree Solar Farm Construction Environmental Management Plan.	 **Photograph 314 Example of artefacts identified at #10-6-0044**	 **Relocation point of #10-6-0044**

Identification	Site name	Site type	Comments	Images	
10-6-0043	BP Solar Scarred Tree 2	Modified Tree (Carved or scarred)	Scarred *Corymbia tessellaris* (Carbeen) tree located within a cultivated pastoral/grazing paddock in a plain. The tree is alive, and the northeast orientated irregular scar is in poor condition. The upper quarter of the scar appears intact whilst the lower three-quarters are damaged. The site card preliminary management recommendation was removal. This tree is presumed to be contemporaneous with the occupation phase of AHIMS #10-6-0044	 **Close up of scar on #10-6-0043**	 **Context of AHIMS #10-6-0043**

Previous studies within the broader Moree area

Heritage Concepts Pty Ltd (2009) undertook an Aboriginal Heritage Study as part of the review of the Moree Plain Shire Council LEP 1995. This assessment was primarily a desktop assessment reviewing the current heritage listings and context of the Moree area. General findings of the assessment determined that at the time of the study modified trees comprised the majority of site types within the region (64%), followed by artefacts (scatters, open campsites and isolated finds) at 23%, ceremonial sites (5%), burials (4%), grinding grooves (1%), conflict sites (0.8%), art sites (0.8%), PADs (0.5%, midden (0.3%) water holes (0.3% and earthen mounds (0.3%). Recommendations included that the council adopt a tiered system of Aboriginal consultation, site identification in terms of significance on the LEP and implementation of archaeological assessment standards as guiding principles for Aboriginal cultural heritage within the Moree Plains LGA.

Balme (1985) conducted an archaeological study of the Moree Plains LGA. This assessment included mapping of the known (prior to 1984) sites within the shire including grinding groves (n=1), rock engravings (n=2), contact sites (n=3), burials (n=6), open campsites (n=6). Bora/ceremonial grounds (n=11), carved trees (n=13) and scarred trees (n=18). To facilitate a better understanding of the factors that may influence site distribution her assessment included a survey of all major landforms within the LGA. Through this, Balme (1985) recorded many more scarred trees and open campsites mainly in association with local water sources with those that were not being situated on elevated landforms. Balme (1985) also indicated identification of further campsites was likely attributed to erosion association with cultivation and development of the area (as cited in Ozark 2010).

As part of the proposed Moree Bypass assessment, Ozark (2004) undertook subsurface testing of the Mehi River (#10-3-0032) and Skinners Creek PADs (#10-3-0040 and #10-3-0041). The excavation program comprised three 4 x 2 m test pits along one transect extending north from the Mehi River and four 1 x 1 m pits excavated along Skinners Creek. The upper alluvial terrace of the Mehi Riverbank and elevated alluvial land associated with Skinners Creek constituted landforms of elevated archaeological potential within the SAP investigation area. No archaeological material was recovered from the Mehi River PAD (#10-3-0032) and the area was determined to be heavily disturbed. It was also noted that no evidence of occupation associated with the Steel Bridge Aboriginal Fringe Camp was identified at the Mehi River PAD location. Despite this lack of archaeological material, the historical Aboriginal significance of this locale still constitutes the locale as an Aboriginal site. Only one artefact was recovered during the excavation of one of the pits along Skinners Creek. Additionally, a second artefact was also recorded on the surface of the Skinners Creek PAD area. These artefacts included a chalcedony broken flake and silcrete flake. Both artefacts recovered from the Skinners Creek PAD area were assessed as not in situ and likely translocated to the area through alluvial processes. Despite only two definite artefacts being identified during the test excavation process, several other lithic fragments and variety of silcrete, quartz, silicified tuff, jasper, quartzite and basalt materials were recovered across most of the excavation pits, indicating that a variety of stone material for artefact manufacture was available within the area. The findings from the Ozark (2004) assessment lend support to Benton's (2004) theory that owing to the anthropomorphic and geomorphological processes associated with the heavily disturbed alluvial landform archaeological material was unlikely to be identified. Additionally, the inclusion of European glass at a depth of 50-80 mm indicated the landform may represent a modern floodplain and therefore further accounts for lack of archaeological material.

Ozark (2018) undertook an Aboriginal archaeological survey assessment for the three sections of the Newell Highway between Moree and Boggabilla. The survey was conducted alongside representatives from the Gomeroi People Native Title Claim Group, the Narrabri LALC and the Moree LALC. During the course of the survey two scarred trees were recorded (BR-HW17-ST1, #10-3-0071 and BR-HW17-ST2, #10-3-0072). AHIMS #10-3-0071 comprised a culturally modified tree situated along an alluvial plain with a curved preform scar interpreted to reflect shield manufacture. A second scar was also identified on the *Eucalyptus populnea* (Brimble box) tree and suggested to reflect a carved panel obscured by regrowth. AHIMS #10-3-0072 was also located along an alluvial plain but along the bank of a minor watercourse. This culturally scarred tree comprised a single bark slab removal scar on a *Eucalyptus populnea* (Brimble box) species. The proposed alignment was recommended to be adjusted to avoid AHIMS #10-3-0071 and it was advised that AHIMS #10-3-0072 be demarcated by high visibility fencing during construction to ensure its protection during construction works.

Aboriginal site location model

While there are only a few smaller archaeological assessments which have previously been undertaken within the SAP investigation area itself, a predictive model of cultural heritage sensitivity throughout the area can be proposed. This model and associated sensitivity mapping is based on previous cultural heritage assessment findings, evident historical disturbances of the area and understanding of environmental landforms which constitute elevated archaeological potential. These predictions are included below.

Based on the results of these previous archaeological investigations in the local area, it is possible to provide the following model of site location in relation to the proposed Moree SAP investigation area.

Scarred Trees – these require the presence of mature trees and are likely to be found in flat level open areas in the landscape or in association with watercourses. Much of the SAP investigation area has been cleared for use as agricultural land, however, there are some wooded areas still extant. If old-growth and mature trees exist in the area, there is moderate potential for scarred trees to occur in the SAP investigation area.

Isolated Artefacts – are present across most of the landscape. As Aboriginal people traversed the entire landscape for thousands of years, such finds can occur anywhere and indicate the presence of isolated activity, dropped or discarded artefacts from hunting or gathering expeditions or the ephemeral presence of short-term camps. Discarded single artefacts are most likely to be present in the vicinity of creeks.

Stone resources – are areas where people used natural stone outcrops as source material for flaking. This requires geologically suitable material outcropping so as to be accessible. There is one previously recorded stone quarry within the SAP investigation area, but this is likely to be wrongly identified and therefore there is low to moderate potential for this site type to occur only if suitable outcrops are present.

Stone artefact scatters – representing campsites, these sites can occur across the landscape, usually in association with some form of resource or landscape unit. Creek lines and small water-holding bodies can also be a focus of Aboriginal occupation. Boundaries between changes in vegetation can also be a focus for occupation. Within the SAP investigation area, the presence of lower-order streams, relatively flat landforms, historical disturbances and agricultural cropping render the potential for any larger scatters to occur unlikely in disturbed contexts. However, smaller scatters may occur in association with known waterways, such as Halls Creek and Clarks Creek, within the area.

Comment on existing information

It is likely that proximity to water sources and raw materials was a key factor in the location of Aboriginal sites. It is also reasonable to expect that Aboriginal people ventured away from these resources to utilise the broader landscape, but the current archaeological record of that activity is limited. Therefore, those areas within 200 m of a waterway are likely to constitute areas of elevated archaeological potential. However, previous studies also indicate that while archaeological material may be more prevalent within 200 m of these waterways, sites may be present more than 500 m from the river, particularly in areas where alluvial landform potential and woodland distribution supports transient movement across the landscape. Conversely, several locales within the SAP investigation area have been developed and demonstrate obvious historical disturbances of the land and therefore demonstrate the lower potential for archaeological material to still exist.

For those areas where disturbance or elevated potential remains unclear potential for archaeological material would be moderate. Despite the intensive cropping and agricultural use of most of the area findings from the Ozark (2004) and Benton (2004) indicate that owing to the anthropomorphic and geomorphological processes associated with the heavily disturbed alluvial landform of the area that archaeological material will unlikely be identified. Inclusion of European materials at a depth of 50-80 mm also indicates a modern floodplain landform and suggests that any Aboriginal archaeological material may be superimposed by flood soils. However, this hypothesis from these studies pertain to areas north of the Mehi River and have not been tested for application to the south and therefore archaeological potential still needs to be considered for the remaining areas within the SAP investigation area.

Previous studies and environmental background for the area indicate that cultural material is likely to occur within the SAP investigation area. Without field inspection of the area, the presence of such material cannot be definitively determined. However, to facilitate targeted inspection of the area and inform a survey strategy which comprehensively covers the area while addressing varying archaeological sensitivities across the site this assessment of background Aboriginal cultural heritage constraints preliminary sensitivity identified high sensitivity areas: within 200 m of waterways or 50 m of registered AHIMS sites; low sensitivity areas: with obvious historical disturbances (buildings/dams, runways); and moderate sensitivity areas: all remaining areas. These sensitivity ratings were then used to inform areas intended for survey for the cultural heritage field inspection.

4.1.2 Archaeological field investigations

This section details the archaeological field investigations that were undertaken for the SAP investigation area to ground truth the desktop assessment and provide a more in depth understanding of the Aboriginal cultural heritage values.

Survey strategy

A survey strategy was developed that sought to sample the SAP investigation area for archaeological potential while taking into consideration the varying archaeological sensitivity across the area. It is noted that there were areas identified that were unable to be surveyed due to access limitations such as landowner permission, cropping and/or harvesting. The survey, therefore, was amended to concentrate on areas that were publicly accessible which entailed a survey of mainly TSRs and the Moree LALC block (refer Figure 4-6). These areas offered some variety of landscapes but were restrictive in that some areas of proposed SAP scenarios were not able to be surveyed and therefore some extrapolation will be necessary in relation to field results.

The survey conducted for the purposes of this assessment was undertaken on the 12th to the 16th of October 2020. The survey team comprised two qualified NGH archaeologists, with a rotation of five representatives from the registered Aboriginal party groups including one representative from the Gomeroi Native Title Applicant Group, one representative from the Moree LALC, one representative from AT Gamilaroi, one representative on behalf of Polly Cutmore as well as Natasha Rodgers.

The survey methodology was designed to cover terrain by pedestrian transects. The survey team were able to spread out in parallel transects with spacing variable between 10 and 30 m apart, depending on the level of visibility and vegetation restrictions. The team were able to walk in parallel lines, allowing for maximum survey coverage and maximum opportunity to identify any heritage objects. Each of the survey participants would line up and walk parallel to one another. At the end of each transect, the team would reposition along a new transect line at the same spacing and walk back on the same compass bearing. Any mature trees within the proposal area were also inspected for any evidence of Aboriginal scarring (c.f. Long 2005). Notes were made about visibility, photos were taken, and any possible Aboriginal objects or features identified were inspected, assessed, and recorded if deemed to be possibly Aboriginal in origin.

Survey coverage

Survey coverage is an important element to assist in determining the effectiveness of survey in the discovery of Aboriginal sites and stone artefacts in particular. Table 4-6 provides a breakdown of the effective coverage for the survey during the current field investigation. Many of the TSRs subject to the survey were heavily vegetated by introduced Mimosa bush (*Vachellia farnesiana*) and general grass cover which restricted visibility. However, some sandy soil landscapes offered reduced vegetation and better ground visibility exposure episodically along Halls Creek and the southern Crown Land lot and therefore were more comprehensively examined to facilitate better characterisation of the archaeological context of the area. Visibility was restricted to vehicle and stock tracks, bare or eroded ground.

As there are no clear topographic features within the SAP, the survey area was divided into areas within 200 m of a water source and those further away from a water source. The water sources included both Halls Creek and the depression in the southern part of the SAP.

Areas of visibility were limited to disturbed exposures and patches of bare ground. On average visibility within the areas surveyed was low and was generally less than 5%. Visibility within exposures ranged from 90% to 15%.

Table 4-6 shows the calculations of effective survey coverage for the survey and Table 4-7 show examples of the transects landforms and visibility for the survey area.

Over the course of the field survey, approximately 41 km of transects were walked by each team member. Allowing for an effective view width of 5 m for each survey member this equates to a total surface area examined of approximately 103 ha from the 472 ha within the survey units identified. However, allowing for the visibility restrictions, the effective survey coverage overall is reduced to 10.35 ha, or 2.6% of the areas within 200 m of water sources and 4.5% of areas more than 200 m of water. The 103 ha of survey is 1.8% of the entire SAP investigation area and the effective coverage is approximately 0.18 % of the SAP area.

Overall, the survey coverage achieved is small but was sufficient to be able to characterise and test the site location model within the SAP.

Table 4-6 Transect information

Survey area	Exposure type	Survey unit Area ha	Surveyed area length x width (m)	Survey Area (square metres (m^2))	Visibility	Effective coverage area x visibility (m^2)	Proposal Area effectively surveyed (ha)	Proposal Area effectively surveyed (%)	Survey Archaeological result
Within 200 m of water	Disturbed exposures, tracks, patches of bare ground.	228	23,400 x 25	585,000	10% Average	58,500	5.85	2.6%	157 artefacts, 6 trees
More than 200 m from water	Disturbed exposures, tracks, patches of bare ground.	244	18,000 x 25	450,000	10%	45,000	4.5	1.8%	8 artefacts, 3 trees

Table 4-7 Visibility and characteristic soils of surveyed areas

	
Low visibility owing to dense scrub	Increased visibility along disturbed road corridor transecting the TSR.
	
70% visibility along sandy soil exposures.	90% visibility along the dried creek beds change to cracking clay soil deposits.
	
Creekbank and bed.	The transitional area between sandy soils and cracking clays.

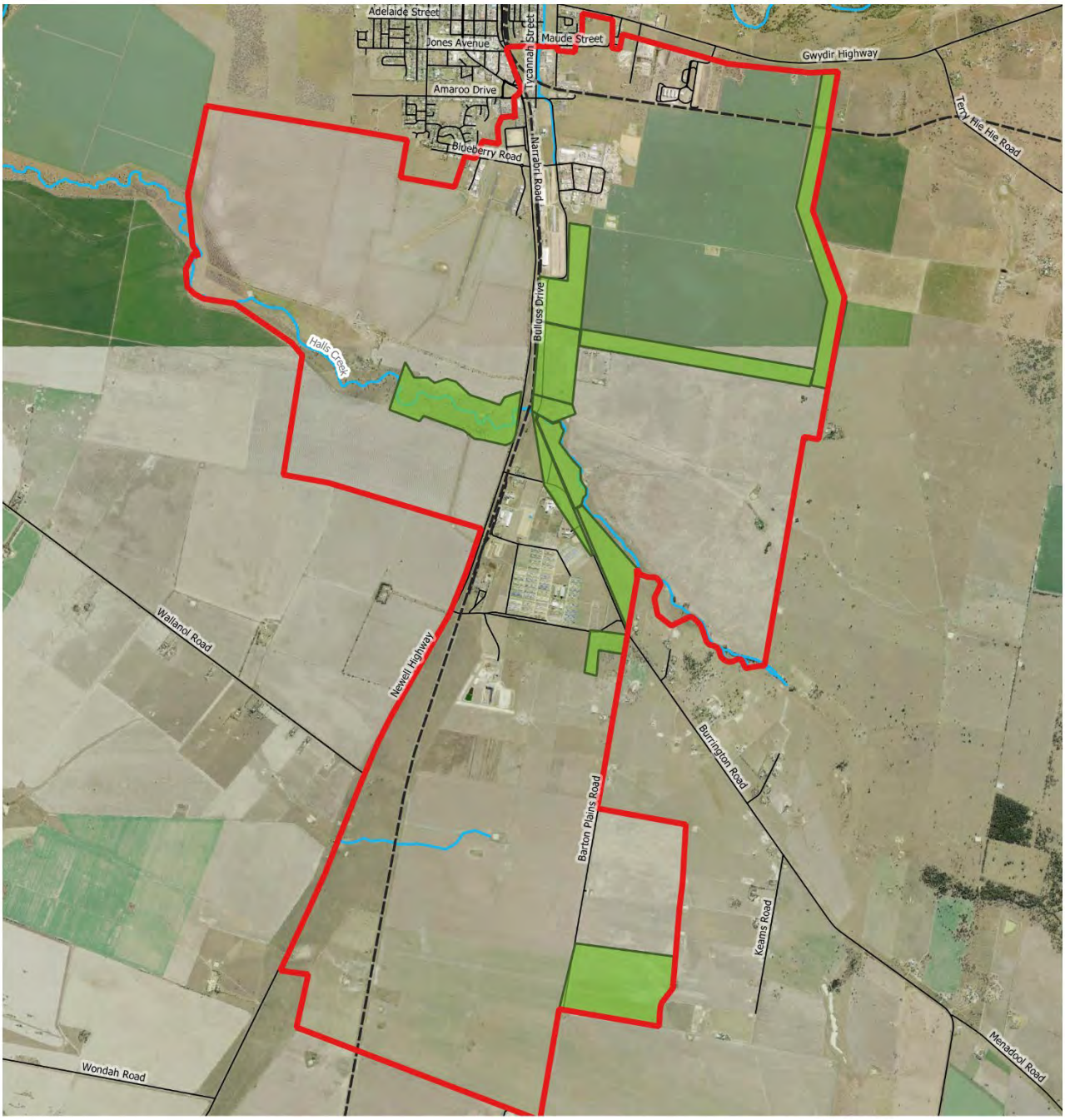


Figure 4-6 **Cultural heritage surveyed areas within SAP investigation area**

Survey results

During the course of the survey 165 stone artefacts were recorded from 13 artefact scatters (AS), 15 isolated artefacts (IF) and 12 possible scarred trees (Likely Scarred Tree (LST) and Possible Scarred Tree (PST) were identified (refer Figure 4-7). The details for each of these sites are included below.

Isolated finds

Moree SAP IF01 AHIMS #10-3-0074

This site consisted of an isolated grey volcanic flake located south of Gwydir Highway and towards the northern end of the TSR, approximately 400 m south of watercourse extending from the Mehi River. Partial cortex was observed on the dorsal side of the flake indicating a secondary phase in the reduction process. The flake was situated on a black soil floodplain within a predominantly cleared open woodland TSR mainly vegetated by introduced Mimosa bush. The area has been subject to disturbance with a vehicle track. Visibility was 90% along the track itself and reduced to 60% along the shoulder of the track.

Ventral side of grey volcanic flake, Moree SAP IF01.

Facing north, context of Moree SAP IF01.

Moree SAP IF02 AHIMS #10-6-0076

This site consisted of an isolated white/grey quartzite flake located east of Bulluss Drive towards the middle of LALC land, 1,544 m north of Halls Creek. Partial cortex was observed on the dorsal side of the flake indicating a secondary phase in the reduction process. The flake was situated on a grey clay deposit with approximately 40% visibility within a predominantly cleared open woodland mainly vegetated by introduced Mimosa bush.

White/grey quartzite flake, Moree SAP IF02.

Context of Moree SAP IF02 view east.

Context of Moree SAP IF02 view south.

Moree SAP IF03 AHIMS # 10-6-0075

This site consisted of an isolated yellow silcrete core located west of Burrington Road and towards the northeast corner of the Crown land lot, approximately 880 m southwest of Halls Creek. The core included five flake scars with evidence of two-step terminations. The flake was situated on a sandy flat deposit within a predominantly cleared open woodland TSR mainly vegetated by introduced Mimosa bush with approximately 40%.

Facing east, context of Moree SAP IF03.

Facing south, context of Moree SAP IF03.

Moree SAP IF04 AHIMS#10-6-0085

This site consisted of an isolated pink quartzite flake located east of Burrington Drive towards the northeast of the Crown land lot, 890 m southwest of Halls Creek. No cortex was observed on the flake indicating a tertiary phase in the reduction process. The flake was situated on a grey clay deposit with approximately 60% visibility within a predominantly cleared open woodland.

Context of Moree SAP IF04.

Context of Moree SAP IF04.

Moree SAP IF05 AHIMS #10-6-0074

This site consisted of an isolated broken silcrete flake located east of Bulluss Drive towards the southern end of the TSR. No cortex was observed on the flake indicating a tertiary phase in the reduction process. The flake was situated on a yellow sandy flats deposit exposure with approximately 30% visibility within a predominantly cleared open woodland.

View south, context of Moree SAP IF05.

View south-east, context of Moree SAP IF05.

Moree SAP IF06 AHIMS # 10-6-0095

This site consisted of an isolated light grey broken chert flake located east of Bulluss Drive within the TSR, 270 m north of Halls Creek. Partial cortex was observed on the flake indicating a secondary phase in the reduction process. The flake was situated on a small mound of dirt composed of a silty clay deposit exposure with approximately 75% visibility within a predominantly cleared open woodland.

View south, context of Moree SAP IF06.

View south-east, context of Moree SAP IF06.

Moree SAP IF07 AHIMS #10-6-0094

This site consisted of an isolated grey broken flake located east of Bulluss Drive within the TSR, 82 m north of Halls Creek, west of the dam. The material composition of the flake could not be definitively determined but appears to be fine-grained with large quartz inclusions. The flake was situated on slightly elevated ground on a grey clayey silt deposit with approximately 20% visibility within a predominantly cleared open woodland mainly vegetated by the introduced Mimosa bush.

View north, context of Moree SAP IF07.

View south, context of Moree SAP IF07.

Moree SAP IF08 AHIMS #10-6-0093

This site consisted of an isolated grey broken silcrete flake located east of Bulluss Drive within the TSR, 212 m north of Halls Creek. No cortex was observed on the flake indicating a tertiary phase in the reduction process. The flake was situated on a sandy flat deposit with approximately 50% visibility within a predominantly cleared open woodland mainly vegetated by the introduced Mimosa bush.

View south, context of Moree SAP IF08.

View south-east, context of Moree SAP IF08.

Moree SAP IF09 AHIMS #10-6-0083

This site consisted of an isolated tan quartzite broken flake located west of Newell Highway within the TSR, 132 m northwest of Halls Creek. Partial cortex was observed on the flake indicating a secondary phase in the reduction process. The flake was situated on a slightly elevated sand deposit with approximately 90% visibility along the track and 20% off the track with a high potential for further surface artefacts to be present.

View northeast, context of Moree SAP IF09.

View south towards the creek, context of Moree SAP IF09.

Moree SAP IF10 AHIMS #10-6-0092

This site consisted of an isolated volcanic grey core/scraper located west of Newell Highway within the TSR, 70 m northwest of Halls Creek, along the north bank of Halls Creek. The artefact consisted of a split pebble with one platform and six negative scars with multiple-step terminations and approximately 80% pebble cortex. The flake was situated on a slightly elevated sand deposit with approximately 90% visibility along the track and 20% off the track with a high potential for further surface artefacts to be identified.

Close up, Moree SAP IF10.

Close up, Moree SAP IF10.

View east, context of Moree SAP IF10.

View south, context of Moree SAP IF10.

Moree SAP IF11 AHIMS #10-6-0091

This site consisted of an isolated white quartz flake located east of Burrington Road, 180 m west of Halls Creek.

Artefact scatters

Updated AHIMS #10-6-0044

This site has been extended to include most of the paddock and now also 75 artefacts located east of Barton Plains Road within the Billabong/depression area. These consist of chert, volcanic, quartzite, chalcedony and silcrete materials across several clusters. Flakes were of the secondary and tertiary phase of reduction and visibility varied between 40%-70% depending on the soil deposit present.

Silcrete core/scraper, AHIMS 10-6-0044.

Context of AHIMS 10-6-0044 showing excavated dam within a larger depression.

Context of AHIMS 10-6-0044.

Updated AHIMS #10-6-0040

This site also includes a grey/brown chert broken flake located east of Bulluss Drive within the TSR, 10 m north of Halls Creek. This site likely forms part of AHIMS 10-6-0040 which is an open campsite. No cortex was observed on the flake indicating a tertiary phase in the reduction process. The flake was situated on a grey-brown silty clay deposit along the northeast bank of Halls Creek with approximately 70% visibility within a predominantly cleared open woodland.

View south, context of AHIMS 10-6-0040

View south-east, context of AHIMS 10-6-0040.

Moree SAP AS01 AHIMS #10-6-0090

This site consisted of small artefact scatter comprising five artefacts located along the south-west bank of Halls Creek, approximately 30 m south of the creek line itself. The site was located along a grey sandy clay creek flat with approximately 10% visibility with a high potential for other surface artefacts and low to moderate potential for subsurface deposits. The material composition of the artefact scatter was characterised by silcrete and quartzite materials with one inclusion of sandstone material. Flakes were the most common artefact type (n=4), followed by a proximal flake (n=1) and a grindstone fragment. Most complete flakes were all identified as products of the tertiary stage of reduction with one or two anomalous artefacts exhibiting characteristics of secondary reduction phase, with partial cortex visible on the dorsal surface. The artefacts were located on a yellow-brown sandy loam rise exposure between the wheat paddock and creek line with approximately 70% visibility with decreasing visibility and increased clay content with proximity to the creek. The area has been subject to some erosional processes close to the creek. There is a high potential for further surface artefacts to be present within the area.

Quartzite flake, part Moree SAP AS01.

Sandstone grindstone fragment, part Moree SAP AS01.

View south, context of Moree SAP AS01.

View east, context of Moree SAP AS01.

Moree SAP AS02 AHIMS #10-6-0089

This site consisted of small artefact scatter comprising two artefacts located along the south-east bank of Halls Creek, approximately 30 m south of the creek line itself. The material composition of the artefact scatter included volcanic and quartzite materials. Artefact types included a flake and a split flake. The flakes were all identified as products of secondary reduction phase, with partial cortex visible on the dorsal surface. The site was located on the grey cracking clay along the edge of the creek bank with approximately 25% visibility amongst the Mimosa bush vegetation with a high potential for other surface artefacts.

View east, context of Moree SAP AS02.

Moree SAP AS03 AHIMS #10-6-0088

This site consisted of large artefact scatter comprising 34 artefacts located west of Newell Highway, straddling both the north and south bank of Halls Creek. The material composition of the artefact scatter included chert, silcrete, sandstone, quartzite, chalcedony, volcanic and quartz material. Artefact types included flakes (n=11), cores (n=8), distal fragments (n=2), a proximal fragment (n=1), a retouched flake (n=1), broken flakes (n=2), a retouched flake (n=2), split flakes (n=2), flaked pieces (n=2), a grindstone (n=1) and a manuport (n=1). The flakes were all identified as products of secondary or tertiary reduction phase. The site was located along a transition from the grey silty clay deposit to the yellow silty sand exposure with approximately 50% visibility.

 Facing south, context of Moree SAP AS03	 Facing west, context of Moree SAP AS03.
 View east, context of Moree SAP AS03.	 View north, context of Moree SAP AS03.

Moree SAP AS04 AHIMS #10-6-0084

This site consisted of small artefact scatter comprising three artefacts located west of Bullus Drive, 260 m west of Halls Creek. The material composition of the artefact scatter included volcanic, silcrete and chert. Artefact types included flakes (n=3). The flakes were all identified as products of the secondary reduction phase. The site was located along a yellow silty sand exposure with approximately 70% visibility.

Moree SAP AS05 AHIMS #10-6-0086

This site consisted of small artefact scatter comprising eight artefacts located east of Bulluss Drive, 100 m west of Halls Creek. The material composition of the artefact scatter included chert, silcrete, fine-grained siliceous and volcanic materials. Artefact types included flaked pieces (n=2), flakes (n=4), a core (n=1) and a retouched flake (n=1). The site was located along a yellow silty sand exposure with approximately 70% visibility.

View north-west, context of Moree SAP AS05.

View north, context of Moree SAP AS05.

Moree SAP AS06 AHIMS #10-6-0087

This site consisted of small artefact scatter comprising two artefacts located east of Bulluss Drive, 100 m west of Halls Creek. The material composition of the artefact scatter included volcanic, silcrete and fine-grained siliceous materials. Both artefacts were flakes. The flakes were all identified as products of secondary and tertiary reduction phase. The site was located along a grey sandy clay creek flat with 10% visibility and a high potential for other surface artefacts to be present and low to moderate potential for subsurface materials.

View east, context of Moree SAP AS06.

View north-west, context of Moree SAP AS06.

Likely scarred trees

A series of trees with scarring were identified that were considered on balance (c.f Long 2005) likely to be the result of Aboriginal scarring and were recorded as likely scarred trees.

Updated Location AHIMS #10-6-0039

This site had been previously recorded as AHIMS #10-6-0039 and the grid reference placed this tree over 260 m east of the correct location. This site consists of a single scarred tree considered to be Aboriginal in origin located within a small sparse grove of trees, located 880 m southwest of the ephemeral Halls Creek. The tree is an alive and standing Bimble Box (*Eucalyptus populnea*) species. A single curved scar assessed as conforming to the standard scarring morphology accepted for Aboriginal modification (cf. Long 2005) is in fair condition. The oval scar is in good condition and located on the trunk of the tree facing south. The scar measures 214 centimetres (cm) in length by 92 cm in width and has a depth of 18 cm. The base of the scar is approximately 70 cm above the ground. No axe marks were visible. It was noted that the heartwood has broken near the base of the scar as a likely result of pressure from the epicormal shoot extending opposite to the main trunk.

	
Close up of scar AHIMS #10-6-0039, facing north.	Context of AHIMS #10-6-0039, facing west.

Moree SAP LST01 AHIMS #10-6-0073

This site consists of a single scarred tree considered to be Aboriginal in origin located within a small grove of trees towards the south of the TSR, located 550 m south-west of Halls Creek. The tree is an alive and standing *Eucalyptus populnea* (Bimble box) species. It comprises a single oval scar assessed as conforming to the standard scarring morphology accepted for Aboriginal modification (cf. Long 2005). The oval scar is in good condition and located on the trunk of the tree facing north. The scar measures 70 cm in length by 18 cm in width and has a depth of 20 cm. The base of the scar is approximately 40 cm above the ground. No axe marks were visible. It was noted that the vine extending from the above branch obscured most of the scar with limb fall evident surrounding the trees and some disease apparent across the trunk. Additionally, the scar demonstrated consistent regrowth excepting the regrowth lump towards the top of the scar.

	
Close up of scar Moree SAP LST01.	Context of Moree SAP LST01.

Moree SAP LST02 AHIMS #10-6-0082

This site consists of a single scarred tree considered to be Aboriginal in origin located within a corridor of trees bordering Halls creek in the western TSR, located 53 m south of Halls Creek. The tree is an alive and standing Bimble box species. A single oval scar assessed as conforming to the standard scarring morphology accepted for Aboriginal modification (cf. Long 2005) is in good condition. The oval scar is in good condition and located on the trunk of the tree facing north. The scar includes several pronounced axe marks with insect activity evident towards the top of the scar. The scar measures 122 cm in length by 50 cm in width and has a depth of 9 cm. The base of the scar is approximately 55 cm above the ground. It was noted that there is limb fall evident surrounding the tree and epicormal shoot extending opposite from the main trunk of the tree.

Moree SAP LST02.

Context of Moree SAP LST02.

Possible scarred trees

A series of other trees with scarring were identified that could not with certainty be identified as Aboriginal in origin. These were recorded and noted as possible scarred trees.

Moree SAP PST01 AHIMS #10-6-0096

The scar identified on this tree was determined to possibly conform to the standard scarring morphology accepted for Aboriginal modification (cf. Long 2005). The morphological characteristics of the scarring are interpreted to likely be a result of natural scarring (cf. Long 2005). The amorphous shape of the scar and tearing towards the base of the scar as well as the shallow regrowth make a definitive determination of Aboriginal scarring difficult.

 Moree SAP PST01.	 Context of Moree SAP PST01.

Moree SAP PST02 AHIMS #10-6-0072

The scar identified on this tree was determined to possibly conform with Aboriginal scarring morphology. The amorphous shape of the scar, hollowed-out nature, lack of other cultural procurement indicators such as axe marks, tearing towards the base of the scar and approximate age of tree make the determination of scarring origin difficult.

 Moree SAP PST02.	 Context of Moree SAP PST02.

Moree SAP PST03 AHIMS #10-6-0081

The scar identified on this tree was determined to possibly conform to the standard scarring morphology accepted for Aboriginal modification. The amorphous shape of the scar, inconsistent regrowth, lack of other cultural procurement indicators such as axe marks, tearing towards the base of the scar and approximate age of tree make scarring origin difficult to determine.

Moree SAP PST03.

Context of Moree SAP PST03.

Moree SAP PST04 AHIMS #10-3-0075

This site consists of a single scarred tree and is possibly Aboriginal in origin located within a predominantly cleared TSR, located 550 m south of drainage line extending south from the Mehi River. The tree is an alive and standing Bimble box species. A single scar assessed as possibly conforming to the standard scarring morphology accepted for Aboriginal modification (cf. Long 2005) is in fair condition and oval shape. The regrowth at the top of the scar was pointed. Jacki French (Gomeroi Native Title Applicant) and Aaron Talbott (AT Gamilaroi) indicated that this point modification was similar to the stories recounted about the Red Chief Shield which was deliberately shaped to assist in decapitation in battle. The oval scar is in good condition and located on the trunk of the tree facing south. The scar measures 80 cm in length by 45 cm in width and has a depth of 15 cm. The base of the scar is approximately 100 cm above the ground. No axe marks were visible. The apparent young age of the tree, however, casts some doubt about the Aboriginal cultural origin of the scar.

Close up of scar Moree SAP PST04.

Context of Moree SAP PST04.

Moree SAP PST05 AHIMS #10-6-0080

This site consists of a single scarred tree considered to be possibly Aboriginal in origin located in a small grove of trees, located 1,000 m southwest of Halls Creek. The tree is an alive and standing Bimble box species. A single scar assessed as conforming to the standard scarring morphology accepted for Aboriginal modification (cf. Long 2005) is in fair condition and oval shape likely intended for shield manufacture. The top of the scar was contoured into a pointed end. The oval scar is in poor condition and located on the trunk of the tree facing east. The scar measures 53 cm in length by 14 cm in width and has a depth of 13 cm. The base of the scar is approximately 127 cm above the ground. No axe marks were visible. It was noted that the scar was hollowed out, the tree is one of the larger Bimble Box species in the area and branch fall is evident.

Close up of scar Moree SAP PST05.

Context of Moree SAP PST05.

Moree SAP PST06 AHIMS #10-6-0079

This site consists of a single scarred tree considered to be possibly Aboriginal in origin located in a small grove of trees, located 15m north of Halls Creek. The tree is alive and possibly a *Eucalyptus albens* (White box species. The tree includes two scars. Scar #1 consists of an elongated scar that largely conforms with the standard scarring morphology accepted for Aboriginal modification (cf. Long 2005). Scar #1 is located high on a major branch of the tree and appears to have metal cut marks above hollows in the heartwood and additional axe marks at the base of the scar. The oval scar is in fair condition and located on the trunk of the tree facing east. The scar measures 110 cm in length by 15 cm in width and has a depth of 4 cm. The base of the scar is approximately 320 cm above the ground and for that reason as well as the steel axe cuts are assessed as only possibly of Aboriginal origin. Scar #2 is located on the inside of a lower branch and is less likely to be culturally related. Scar #2 is also of an elongated shape and is 117 cm in length, 20 cm wide and 19 cm in depth. No axe marks were visible in relation to the second scar. Determination of axe marks as resultant of Aboriginal cultural modification or more recent poaching activities is still undecided.

Close up of Scar #1, Moree SAP PST06.

Close up of axe marks towards the bottom of Scar #1, Moree SAP PST06.

Close up of axe marks towards the top of Scar #1, Moree SAP PST06.

Context of Moree SAP PST06.

Close up of Scar #2, Moree SAP PST06.

Context of Moree SAP PST06.

Moree SAP PST07 AHIMS #10-6-0078

This site consists of a single scarred tree considered to be possibly Aboriginal in origin located within a corridor of trees bordering Halls creek in the western TSR, located 70 m northeast of Halls Creek. The tree is an alive and standing *Eucalyptus albens* (White box) species. A single scar assessed as possibly conforming to the standard scarring morphology accepted for Aboriginal modification (cf. Long 2005) is in fair condition and oval shape, facing south. The scar includes several pronounced axe cuts that have opened what was probably an original tree hollow with insect activity evident towards the top of the scar. The scar measures 65 cm in length by 40 cm in width and has a depth of 50 cm. The base of the scar is approximately 60 cm above the ground. of the presence of steel axe marks around the hollow suggests people accessing birds or possums. However, whether this was the result of Aboriginal cultural modification or more recent poaching activities is unclear. It is possible that the more recent axe marks were made in a hollow formed within an Aboriginal scar.

Close up of axe marks on scar of Moree SAP PST07.

Close up of scar, Moree SAP PST07.

Moree SAP PST07.

Context of Moree SAP PST07.

Moree SAP PST08 AHIMS #10-6-0077

This site consists of a single scarred tree considered to be possibly Aboriginal in origin located within a corridor of trees bordering Halls creek in the western TSR, located 34 m south of Halls Creek. The tree is an alive and partly standing Bimble Box (*Eucalyptus populnea*) species. A single scar assessed as possibly conforming to the standard scarring morphology accepted for Aboriginal modification (cf. Long 2005) is in good condition. The irregularly shaped scar is in good condition and located on the trunk of the tree facing north. The scar includes several pronounced axe marks with insect activity evident towards the top of the scar. The scar measures 65 cm in length by 40 cm in width and has a depth of 5 cm. The base of the scar is approximately 40 cm above the ground. It was noted that there is limb fall evident surrounding the tree and the scar was located on the bottom half of the second trunk and in a position and of a shape that suggests only a possible Aboriginal cultural origin.

Moree SAP PST08.

Context of Moree SAP PST08.

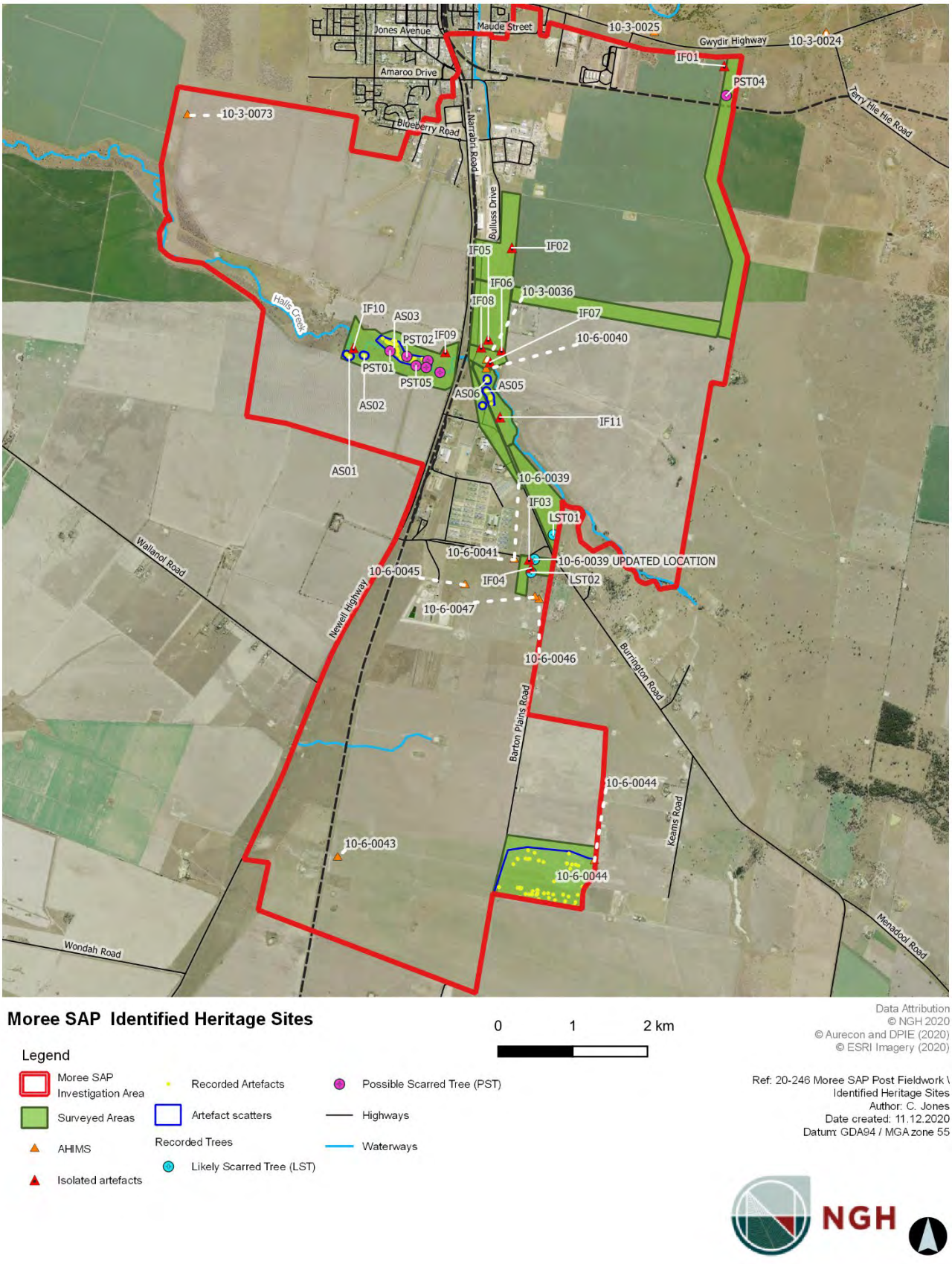


Figure 4-7 **Identified heritage sites within and in proximity to the SAP investigation area**

Results summary

In total, 165 stone artefacts were recorded, from 13 artefact scatters and 15 isolated artefacts (refer Figure 4-7). A large site was confirmed near what has been termed the 'Billabong'. The 'Billabong' is a natural depression that would likely have been swampy following flooding and rains in pre-European times. There were 75 artefacts recorded in this location across eight identified artefact clusters, that are likely to represent different exposures and possibly events within one overall large site complex.

The other artefacts identified were mainly concentrated in association with Halls Creek, with only a few outlying isolated finds identified away from the creek lines. Artefacts identified were generally concentrated along the creek lines and in sandy soil exposures. However, the prevalence of artefacts along the sandy exposures may be related to increased visibility owing to reduced vegetation cover in these areas. The higher concentration of artefacts in proximity to waterways and creeks accords with the predictive model and sensitivity mapping proposed in the heritage baseline analysis.

The material composition was predominantly characterised by chert, silcrete, quartzite and volcanic materials with occasional sandstone. Flakes or broken flakes were the most common artefact type followed by cores, retouched flakes, core tools and other utilised pieces such as grindstone fragments. The majority of complete flakes were all identified as products of the tertiary stage of reduction with one or two anomalous artefacts exhibiting characteristics of secondary reduction phase, with partial cortex visible on the dorsal surface, mostly of pebble cortex indicating sources in pebble beds.

While many of the woodland trees have been previously cleared, some woodland areas, particularly along Halls Creek and a small grove within a crown reserve have survived (Lot 4 DP234035). There were three likely Aboriginal scarred trees and eight possible scarred trees (refer Figure 4-7) which were recorded with the majority located along the Halls Creek TSR west of Newell Highway, mainly *Eucalyptus albens* (White box) and *Eucalyptus populnea* (Bimble box).

In addition to the sites recorded during the survey, several examples of native bush tucker to the area were identified by the Aboriginal representatives. These included:

- *Tetragonia tetragonioides* (Native spinach (Galan Galan))
- *Myoporum monatum* (Bimble box (boobiella)) which is generally used for chest rub medicine.
- *Solanum sp*. (Bush tomatoes (gumi))
- *Crinum flaccidum* (Darling Lilly (Dhaygalbaarrrayn)) which the bulb of the plant is similar to a vegetable like a parsnip or ground into flour with water and paste to bake
- *Atriplex sp (Old man saltbush)* and *Enchylaena tomentosa (*ruby saltbush (burra)) which are herbs used to flavour.
- Tarrat which includes a red fruit used for medicine
- *Eremophila debilis* (Winter apple (mulla))
- *Scaevola spinescens* (Marroon bush (Murrin Murrin))
- *Geijera parviflora* (Wilga; Quinoa gadabanya; yard river gum) (refer Figure 4-8).

Figure 4-8 **Left to right: Native spinach (Galan Galan); Bush tomatoes (Gumi); Darling Lilly (Dhaygalbaarrayn); Ruby saltbush (Burra); Winter apple (Mulla); Maroon bush (Murrin Murrin) (Courtesy of Kerrie Saunders, Yinarr-Ma).**

Halls Creek was colloquially called Crawbob Creek (refer Figure 4-9) by Kerrie Saunders, who noted that the creek west of the Newell Highway was where people including her and her family went fishing for freshwater mussels and crawbobs (yabbies) in the area. There was a clear modern connection to this area as well as the presence of archaeological material of stone artefacts and scarred trees.

Figure 4-9 **“Crawbob” creek adjacent to the western extent of Halls Creek and TSR**

Discussion

The site modelling that was undertaken as part of the baseline assessment confirmed that Aboriginal heritage was more prevalent in proximity to water sources and raw materials. Moreover, as anticipated, open campsites and scarred trees were the most common sites identified.

The Aboriginal cultural heritage survey has facilitated preliminary testing of the predictive model proposed in the cultural heritage baseline assessment and some further refinement of the cultural heritage sensitivity for the Moree SAP investigation area.

Although there was some bias in the survey sampling as a result of access issues, Aboriginal heritage sites were found to be more prevalent in proximity to water sources as expected within the predictive modelling and sensitivity mapping. The prevalence of stone artefacts in association with the water sources included both clusters of artefacts and isolated artefacts. Sites were identified along the western extent of Halls Creek within the TSR corridor. The artefacts continued along the Halls Creek corridor east of the Newell Highway although this area had been more heavily disturbed, and trees were less common. Where isolated artefacts were found in proximity to Halls Creek, they probably represent the presence of larger sites but with poor visibility or subsurface deposits obscuring other artefacts.

Some likely and possible scarred trees were also identified in the Crown reserves at the intersection of Barton Plains Road and Burrington Road. There was a further concentration of stone artefacts associated with the 'Billabong' south of the Solar Farm.

Within the 244 ha surveyed outside 200 m of a water source, there were eight artefacts recorded. Within the 228 ha of surveyed area within 200 m of a water source (creek or the depression) there were 157 artefacts recorded, showing the exceptionally strong relationship for the presence of stone artefacts in proximity to water. Several isolated finds were located on the river floodplain, up to 500 m from the river. This indicates that while the archaeological potential is generally predicted to decrease with distance from the water, landform potential and woodland distribution suggest transient movement across the landscape and thus cultural material and modification is more widely distributed and likely to occur across the SAP investigation area, although in lower densities.

The revised heritage sensitivity modelling that was updated following the Aboriginal cultural heritage survey for the SAP investigation area is included in Figure 4-10. This modelling shows the highest archaeological site potential as red areas based on GIS and interpretive layers of water sources. The areas of moderate sensitivity also relate to the main water sources and are identified as decreasing away from water, thus shown as a band outside the areas of highest sensitivity. Areas of low sensitivity include those that were surveyed and where results can therefore be confirmed and provide some basis for interpretation.

The unclassified areas are not assigned a sensitivity level due to two main reasons. Firstly, the inability to characterise the soil types. It was noted during the survey for some areas, where sandy deposits appear, there is a higher incidence of sites than on clay-based soils. The soils difference can be highly variable and was often observed to be patchy. As such, relying on broad landscape soil descriptions may not adequately identify smaller subtle changes within a paddock. Secondly, the degree that cropping activities disturb stone artefact scatters, is not understood for the area. Ploughing and cultivation activities will disturb sites and move artefacts but does not eliminate the artefacts from the location. While some of these areas are not located near obvious waterways, it is likely that there is a general low-density scatter across the entire plain.

Ozark (2004) and Benton's (2004) findings indicated that north of the Mehi River anthropomorphic and geomorphological processes associated with the heavily disturbed alluvial landform rendered identification of archaeological material unlikely. Contrary to this interpretation, artefacts were identified in all areas subject to cultural heritage survey, including those alluvial landforms. Although artefacts were more prevalent across sandy deposits, there were still artefacts apparent in the black soil alluvial plain areas, such as within the depression area, albeit in lower densities and frequencies. While indeed, the deep cracking of those soils may contribute to the taphonomic displacement of artefacts from their original surface contexts, several of the sites identified were located solely in the cracking black/grey soil context or in transitional areas between this and the sandier deposits.

The "billabong" or depression area within the southern portion of the SAP investigation area, appears more generally as a natural depression area rather than a cut off channel from the river. The presence of a large artefact scatter in association with this ephemeral water feature indicates that where water was present, Aboriginal occupation was also present. Therefore, it is likely that any areas of even ephemeral creeks or swamps can be assumed to have archaeological potential.

Determination of European versus Aboriginal versus natural scarring of trees for the natural old-growth trees identified during the survey was also not definitive. Natural scarring may occur as a result of trauma damage, storm and fire damage, faunal damage, impact and abrasion damage (c.f. Long 2005). While cultural scarring generally occurred for utilitarian purposes such as the manufacture of boomerangs, shields, coolamons, throwing sticks, spears, canoes, site/burial/ceremonial markers and bark shelters. In addition, access to food sources such as birds, eggs, honey, lizards and possums often required cutting into tree hollows. Some of the trees within the SAP exhibited metal axe marks around hollows that appeared to be evidence of recent activity and possibly indicate illegal poaching activities. There was one such tree noted that had a relatively recent chainsaw cut hole in a similar hollow.

However, Kelton (1999) does indicate that scarred trees with bird/possum and honey 'cut-out' scars may occur within the Moree area. Therefore, where the determination of Aboriginal cultural scarring could not be definitively determined, the trees recorded during the course of this survey were identified as possible scarred trees.

4.1.3 Cultural heritage values

The assessment of the significance of Aboriginal archaeological sites is currently undertaken largely with reference to criteria outlined in the ICOMOS Burra Charter (Marquis-Kyle and Walker 1994). However, it should be noted that as this assessment did not constitute a comprehensive archaeological inspection of the SAP investigation area, these values are only preliminary and do not represent the whole site. Criteria used for assessment are:

- **Social or Cultural Value:** In the context of an Aboriginal heritage assessment, this value refers to the significance placed on a site or place by the local Aboriginal community – either in a contemporary or traditional setting.
- **Scientific Value:** Scientific value is the term employed to describe the potential of a site or place to answer research questions. In assessing scientific value issues such as representativeness, rarity and integrity are addressed. All archaeological places possess a degree of scientific value in that they contribute to understanding the distribution of evidence of past activities of people in the landscape. In the case of flaked stone artefact scatters, larger sites or those with more complex assemblages are more likely to be able to address questions about past economy and technology, giving them greater significance than smaller, less complex sites. Sites with stratified and potentially in situ sub-surface deposits, such as those found within rock shelters or depositional open environments, could address questions about the sequence and timing of past Aboriginal activity and will be more significant than disturbed or deflated sites. Groups or complexes of sites that can be related to each other spatially or through time are generally of higher value than single sites.
- **Aesthetic Value:** Aesthetic values include those related to sensory perception and are not commonly identified as a principal value contributing to management priorities for Aboriginal archaeological sites, except for art sites.
- **Historic Value:** Historic value refers to a site or place's ability to contribute information on an important historic event, phase or person.
- **Other Values:** The Burra Charter makes allowance for the incorporation of other values into an assessment where such values are not covered by those listed above. Such values might include Educational Value.

All sites or places have some degree of value, but of course, some have more than others. In addition, where a site is deemed to be significant, it may be so on different levels or contexts ranging from local to regional to national, or in very rare cases, international. Further, sites may either be assessed individually or where they occur in association with other sites the value of the complex should be considered.

4.1.4 Social or cultural value

While the true cultural and social value of Aboriginal sites can only be determined by local Aboriginal people, as a general concept, all sites hold cultural value to the local Aboriginal community. An opportunity to identify cultural and social value was provided to all the registered Aboriginal stakeholders for this proposal through the process including the project methodology, the fieldwork and draft report. The following information has been provided regarding the cultural significance of the proposal site.

Feedback about the cultural value of the sites while in the field with the representatives was that all sites hold cultural value to the Aboriginal community. In particular, scarring on the modified trees were considered by the Aboriginal community representatives onsite as likely to be Aboriginal in origin which were viewed as an important and particular site type that should be avoided by the proposed development. Moreover, the Halls Creek corridor and related sites hold high cultural value to the community where the area known as “Crawbob” creek is still utilised for gathering and subsistence purposes in more recent times. It was also clear that where impacts to sites could not be avoided, management of the stone artefacts such as collection would be required.

It should be noted that the cultural values addressed in this report only relate to those areas surveyed as part of this assessment. It is recognised that there may be other areas of cultural value within the SAP investigation area that have not been identified.

Preliminary feedback from the RAPs has indicated that the Great Artesian Basin (including the bores and pools) as well as the Mehi River and Gwydir River hold high cultural values to the local community. The value of these water sources needs to be protected and acknowledged (P. Cutmore pers. comm. 11 November 2020).

Additionally, the retention and rehabilitation of the remnant native vegetation and bush tucker should be included as part of the precinct development (K. Saunders pers. comm. 16 October 2020 and P. Cutmore pers. comm. 11 November 2020).

4.1.5 Scientific (archaeological) value

The scientific significance of the sites identified is largely based on the amount of information they may reveal about the traditional Aboriginal life within the area. For this reason, those sites that contain a higher level of diversity, where there are multiple features or areas of potential archaeological investigation are deemed to be more scientifically significant. Artefact scatters, for this reason, are considered to have higher research value than isolated finds. There is also an element of rarity to be considered, where sites that are generally considered uncommon or at risk of loss are valued more highly. In this sense, scarred trees are considered to be of high value as they are more susceptible to natural decay and additional impacts such as fire than stone artefacts are.

There are some limitations however within the SAP investigation area that must be factored into any scientific significance assessment. Most notably is that the sites identified is likely to be only a small sample of sites present within the area. By necessity, the survey was largely concentrated on areas of high archaeological potential and there is a corresponding high degree of site prevalence within much of the area surveyed. The true nature and extent of sites are not yet known thus it is difficult to be able to make meaningful comparisons on representativeness, integrity, content variability and extent, all key aspects for scientific significance.

Nevertheless, based on the results of the current and previous surveys and a general appreciation of likely site types and landforms within the SAP area and greater Moree region, a general assessment of significance is possible.

Isolated Finds: The isolated artefacts may represent a transitory occupation of the landscape, artefacts dropped or discarded while traversing between nodes of more intense occupation or key campsites. They may also be an indicator of the presence of other artefact scatters where visibility or deposits obscure the greater site extent. In the case of the sites within the Moree SAP, the isolated finds are considered to represent the latter, given they were found in general proximity to other sites and in context close to creek lines. As individual site locations, they have some value in a research context showing site distribution but

limited in terms of technical archaeological research potential on their own. They are therefore considered to have low scientific significance in general.

Artefact Scatters: The artefact scatters, in particular, those that have been recorded along Halls Creek and in association with the depression, show a wide variety of raw materials, utilised and retouched artefacts and in some situations the potential for subsurface deposits. These sites clearly show a pattern of people revisiting the site over many times, building the archaeological record of stone artefacts. These sites, therefore, have a much greater ability to provide information about the land use, age and technology of occupation and a much greater value for research purposes. We consider these sites have moderate to high value, the highest being afforded to AHIMS #10-6-0044 associated with the depression and site **Moree SAP AS03** (AHIMS #10-6-0088)associated with Halls Creek.

Scarred Trees: The scarred trees that are attributed to most likely being Aboriginal in origin are considered to have high scientific value due to their general rarity and fragility. The trees that are not certain to show Aboriginal cultural scars would have a pending scientific significance of low unless it can be shown that they are indeed Aboriginal in which case they would be rated as high.

The scientific significance attributed to each of the sites identified as part of this assessment is included in Table 5-1.

4.1.6 Aesthetic value

There are no aesthetic values associated with the archaeological sites *per se*, apart from the presence of Halls Creek within the surveyed area in association with the presence of Aboriginal artefacts and modified trees in the landscape.

4.1.7 Historic value

There are no known historic values associated within the surveyed area, the sites identified or links to known important historic events, phases or persons.

4.1.8 Other values

The area has some potential educational value (not related to archaeological research) through opportunities to provide the public with information about the Aboriginal occupation and use of the area especially in relation to the bush tucker and scarred trees in the area.

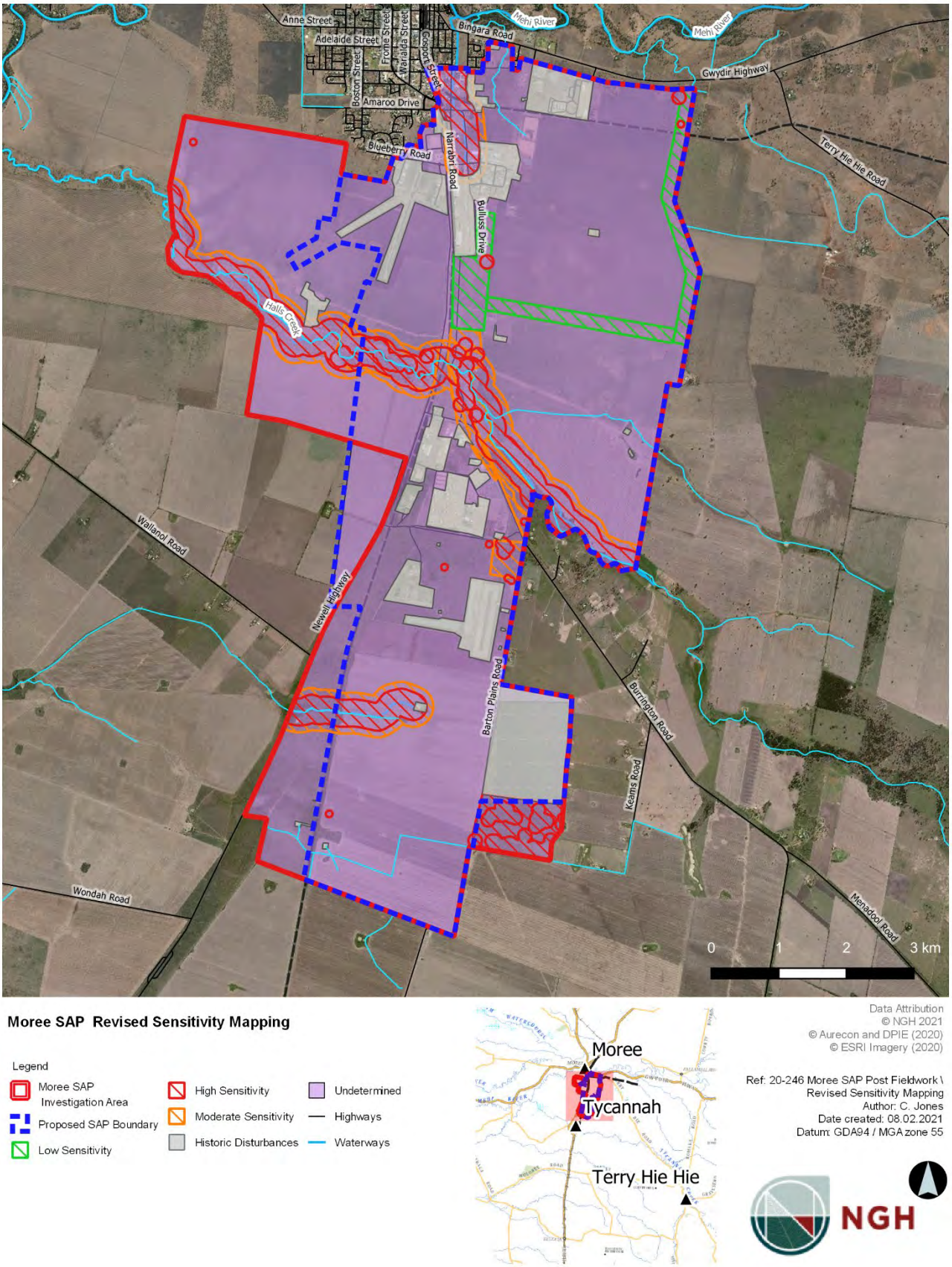


Figure 4-10 Moree SAP sensitivity mapping

4.2 Non-Aboriginal heritage baseline analysis

The SAP investigation area is relatively unconstrained from a European/non-Aboriginal heritage perspective. Most importantly there are no non-Aboriginal (ie European/historic) items listed on statutory or non-statutory heritage registers located within the SAP investigation area. Further, there are no known areas or zones of European archaeological potential located within the SAP investigation area.

4.2.1 Heritage items in the vicinity of the SAP

Generally, the SAP investigation area has been extensively cultivated for farming and cropping and European/historical archaeological remains are likely to be fragmented or ephemeral. Listed heritage items relating to the history and development of Moree and surrounds are concentrated in the township to the north, where the bulk of commercial and settlement activity occurred along the rivers and in proximity to the major transport interchanges.

The closest listed heritage items to the SAP investigation area are:

- Moree Baths National Heritage Place (600 m north of the SAP investigation area)
- Moree Railway Station local heritage item (600 m north of the SAP investigation area)
- Kirby Park Bandstand local heritage item (600 m north of the SAP investigation area)
- Victoria Hotel local heritage item (700 m north of the SAP investigation area)
- “Wee Bolla” Homestead Kitchen Block local heritage item (1.5 km to the east of the SAP investigation area)
- Steel Rail Bridge (Australian Rail Track Corporation (ARTC) Section 170 Register-listed Item) over the Mehi River, also the site of a former Aboriginal fringe camp (1.2 km north of the SAP on rail line)
- “Combadello” Homestead, Mallawa (12 km to the west of the SAP investigation area).

Heritage significance and listing details of these items and information on their heritage significance is included in Table 4-8. Locations are shown in in Figure 4-11.

Table 4-8 Heritage items within the vicinity of the SAP investigation area

Item name	Location	Listing and Significance	Photo
Moree Baths National Heritage Place	Corner of Anne Street and Warialda Street, Moree ■ 600 m north outside the SAP investigation area	NHL: #106098 ■ Nationally significant recreational baths associated with Dr Charles Nelson Perrurle Perkins AO and his fellow students who successfully challenged racial discrimination in Moree in 1965.	

Item name	Location	Listing and Significance	Photo
Moree Railway Station	Werris Creek-Moree Railway Land, Gosport Street/Moreton Street ■ 600 m north outside the SAP investigation area	SHR: #I025 ■ Moree Railway Station is significant at a local level as an important location on the 1890s section of the Mungindi line, being the rail head and the junction of three branch lines as well as a locomotive servicing centre.	
Victoria Hotel	339 Gosport Street ■ 700 m north outside the SAP investigation area (opposite the Baths)	Local #I022 ■ A two-storey weatherboard and galvanised steel building on a corner site with an encircling verandah constructed in 1918. The hotel is a remnant of the post WWI years.	
Kirby Park Bandstand	Frome Street ■ 600 m north outside the SAP investigation area	Local #I013 ■ 1930s-era bandstand with an octagonal structure on a concrete base. It was designed by Hugh McCourt, an architect practicing in Moree and built by Frederick Atkinson. ■ A picturesque feature of Kirby Park.	
"Wee Bolla Bolla"—original kitchen block	Terry Hie Hie Road ■ 1.5 km to the east outside the SAP investigation area	Local #I029 ■ Remnant of the historic centre of Wee Bolla Bolla homestead property dating to 1848. The property has been in the ownership of the Munro family since 1873.	No image available

Item name	Location	Listing and Significance	Photo
Moree, Mehi River Bridge (Steel Bridge)	Mungindi Line 663.34 kms, NSW 2400 ■ 1.2 km north of the SAP on rail line	ARTC S170 Register #SHI4281692 ■ Steel Bridge is a major component of infrastructure on the branch railway line to Mungindi ■ A good example of a steel pratt truss bridge retaining ■ Also of significance to the Aboriginal community as location of Steel Bridge Camp	
"Combadello" Homestead, Mallawa	Off the Gwydir Highway on Shire Road no.4 ■ 12 km to the west of the SAP investigation area	Local #I003 ■ Late Victorian residence (c1880) which is a remnant of a working station and large sheep run. Set in established gardens	

Figure 4-11 Moree SAP investigation area heritage items

4.2.2 Potential heritage items within the Moree SAP

There are several historic components extant within the SAP investigation area that hold some interest, whilst not being formally heritage listed. These elements are representative or important in the historic development of Moree and the cultural narrative of the region. These are:

- The old Inverell Rail line (c1902) that intersects the SAP investigation area east-west
- The Mungindi main line, which opened between Narrabri and Moree in 1897 and intersects the investigation area running north south. The line is partially subject to the ARTC Inland Rail (Narrabri to North Star) current project corridor. (Table 4-9)
- The TSR, running north-south through the investigation area
- Stanley Village, directly outside the northern perimeter of the investigation area. Stanley Village evolved from Top Camp where Aboriginal families originally relocated from the Terry Hie mission in the 1920s. Stanley Village has been addressed in the Aboriginal cultural heritage sections of this report.
- The GrainCorp silos (c1964-1970) located at Industrial drive Moree (visible from the Newell Highway) within the investigation area

Whilst not subject to any existing heritage protection or status, the grain silos and large grain storage sheds located along the rail line in the northern section of the SAP investigation area are recognisable rural landmarks within an open landscape setting. The utilitarian form and monumental scale of these structures serve as markers of Moree's agriculture history and heritage and contribute to the rural agricultural character of the area.

A preliminary heritage assessment of these potential heritage items is provided below in accordance with the NSW Heritage Assessment Criteria. The assessments inform the subsequent recommendation as to whether DPIE/MPSC should investigate local heritage listing for these items.

Table 4-9 Heritage Assessment – Old Inverell Railway Line

Old Inverell Railway Line	
NSW Heritage Criteria	**Assessment discussion**
A – Historical significance	The line from Inverell to Moree was completed in 1902 and has historical significance as one of with the early Pioneer Lines in rural NSW at the beginning of the twentieth century. A section of the line intersects the SAP investigation area from east to west. The line supported the settlement, agricultural and pastoral development of Moree Plains region by enabling the agricultural produce of the surrounding region to be transported quickly east to coastal ports and transport at the turn of the century. The Inverell line generally is considered to be of potential local significance. Of particular importance is the Gwydir River Underbridge at Gravesend which is listed on the John Holland S170 Register (outside the SAP investigation area). The line is now redundant, rail operations having ceased in 1983. Significance is intrinsic to the route and corridor, rail function and agricultural structures adjacent (such as silos) rather than being embodied in the fabric – which is not original and has changed over time as is common for railway sites. The item has potential local-level heritage significance against criteria A – historic significance.
B – Associative significance	The Inverell line is not associated with any particular person or persons of historic importance. The item does not meet the local significance threshold under this criterion.
C – Aesthetic significance	The railway line is not distinguished by any stylistic or aesthetic features and is typical of early twentieth century railway construction. Aspects of the line that do hold aesthetic significance are subject to existing listings outside the SAP investigation area (notably Moree Railway Station and Gwydir River Underbridge).The item does not meet the local significance threshold under this criterion.
D – Social significance	The line is likely to hold some social significance to the broader Moree community; however this significance is generally focused existing heritage listed sites which form major components of the line (notably Moree Railway Station and Gwydir River Underbridge). The item does not meet the local significance threshold under this criterion.

Old Inverell Railway Line	
E – Research potential	The Inverell line is unlikely to make a substantive contribution to research questions, or other significant questions about the history and development of NSW. Rail history is generally well documented and understood. The item does not meet the local significance threshold under this criterion.
F – Rarity	Rural railway lines are found across NSW. The Inverell Line is not associated with any unusual or remarkable aspect of railway history, and is not considered rare or uncommon. The item does not meet the local significance threshold under this criterion.
G - Representativeness	The Inverell line is generally typical of a NSW rural railway line of the early twentieth century. The item does not meet the local significance threshold under this criterion.
Summary and recommendations	The old Inverell line corridor is of potential local heritage significance under criteria A – historic significance. Heritage listing of rail corridors is rarely undertaken; it is more common to list individual components such as buildings and bridges associated with a particular historic rail line or corridor. Historic associations with the Inverrell line are embodied in the route, the rail function and the already listed components such as Moree Railway Station and Gwydir River Underbridge. The line was upgraded over time up until the 1980s. Heritage listing is not recommended.

Table 4-10 Heritage Assessment Inland Rail Railway Line (Mugindi main line)

Inland Rail Railway Line (known historically as the Mugindi main line)	
NSW Heritage Criteria	**Assessment discussion**
A – Historical significance	The Inland Railway line (known historically as the Mugindi main line) has historical significance associated with the construction of branch rail lines and Pioneer Lines in rural NSW at the end of the nineteenth and beginning of the twentieth century. The line played an important role in encouraging settlement, agricultural and pastoral development in the Moree Plains region. Consequently, the line is generally considered to be of potential local significance, notwithstanding that works associated with the Inland Rail (Narrabri to North Star project) will result in the removal of the existing rail line, including rail, sleepers, ballast and associated culverts and original bridges (including the Mehi River steel bridge outside the SAP investigation area). The item has potential local heritage significance against criteria A – historic significance. Significance is intrinsic to the route and corridor, rail function and agricultural structures adjacent (such as silos) rather than being embodied in the fabric – which is not original, has changed over time and will soon be overhauled again for construction of the Inland Rail project.
B – Associative significance	The Mugindi line is not associated with any particular person or persons of historic importance. The item does not meet the local significance threshold under this criterion.
C – Aesthetic significance	The railway line is not distinguished by any stylistic or aesthetic features and is typical of early twentieth century railway construction. Aspects of the line that do hold aesthetic significance are subject to existing listings (notably Moree Railway Station and Mehi River Steel Bridge – described at Table 4-8). The item does not meet the local significance threshold under this criterion.
D – Social significance	The line is likely to hold some social significance to the broader Moree community, however this is generally focused existing heritage listings (notably Moree Railway Station and Mehi Steel Bridge). The item does not meet the local significance threshold under this criterion.
E – Research potential	Due to successive upgrades over time, minimal early or historic fabric remains along the Mugindi line corridor. The line is unlikely to make a substantive contribution to research questions, or other significant questions about the history and development of NSW. Rail history is generally well documented and understood. The item does not meet the local significance threshold under this criterion.
F – Rarity	Rural railway lines are found across NSW and are not especially rare or uncommon. The Mugindi line is not associated with any unusual or remarkable aspect of railway history. The item does not meet the local significance threshold under this criterion.

Inland Rail Railway Line (known historically as the Mugindi main line)	
G - Representativeness	The line is generally typical of a NSW rural railway line of the early twentieth century. It is not a particularly notable or representative example of its type. The item does not meet the local significance threshold under this criterion.
Summary and recommendations	The Mugindi main line rail corridor, including where it passes through the SAP, has local-level heritage significance against criteria A. Given that the corridor will be maintained as a rail corridor, albeit upgraded and converted to the new Inland Rail Corridor, it is neither practical nor feasible to pursue heritage listing of this particular section of railway as a local heritage item. Significant structures and components (Moree Railway Station and Mehi Steel Bridge- both outside the investigation area) are already listed. Heritage listing is not recommended.

Table 4-11 Heritage Assessment – Moree SAP TSR

Moree SAP TSR	
NSW Heritage Criteria	**Assessment discussion**
A – Historical significance	TSRs form an important network of Crown land that is reserved and protected for use by travelling livestock. TSRs generally have historic interest closely associated with agriculture, grazing, pastoralism and droving. Whilst not any containing individual sites, structures or features of note, the Moree TSR has some historic and cultural importance as a demonstration of the regions grazing and agricultural history. This importance is in the context of the broader network, operational use and biodiversity/conservation potential. The item does not meet the local significance threshold under this criterion.
B – Associative significance	The TSR is not associated with any particular person or persons of historic importance. The item does not meet the local significance threshold under this criterion.
C – Aesthetic significance	The TSR provides some level of visual amenity to the SAP area and is typical of cleared, grazed stock route landscape. The item does not meet the local significance threshold under this criterion.
D – Social significance	The item does not meet the local significance threshold under this criterion. TSRs more broadly are of social significance as a holistic network of public land that offer opportunities for compatible uses, including cultural uses, conservation and recreational use.
E – Research potential	The TSR has limited research potential and a limited ability to yield information about substantive research questions related to Australian history. The item does not meet the local significance threshold under this criterion.
F – Rarity	The total TSR network in NSW covers almost two million hectares of land. Moree TSR is not a rare or uncommon. The item does not meet the local significance threshold under this criterion.
G - Representativeness	The item does not meet the local significance threshold under this criterion.
Summary and recommendations	TSRs in NSW are generally managed to sustain an ongoing agricultural function social alongside compatible social, community, environmental and cultural uses. This is considered a compatible approach commensurate with the items value in the context of the larger TSR network of NSW. **Heritage listing of the Moree TSR is not recommended.**

Table 4-12 Heritage Assessment – Moree Grain Silos (GrainCorp site)

Moree Grain Silos (Graincorp Site)	
NSW Heritage Criteria	**Assessment discussion**
A – Historical significance	The GrainCorp Silos at Moree were built c1964-1970 and remain in operation today. They are amongst a series of at approximately 30 facilities that were built in the late twentieth century in the Moree Plains region along the rural railways and sidings of the area. Comparable bulk grain storage facilities and silos are located alongside the Werris Creek, Bogabilla, Mugindi and Inverell rail lines. Hal Pratt photographed wheat silos on the Moree lines in 2007 for the State Library of NSW, including the GrainCorp silos located within the SAP investigation area.

Moree Grain Silos (Graincorp Site)	
	Bulk handling of wheat was introduced during the 1920s after wheat emerged as a key crop for rural NSW and huge amounts of wheat were lost due to spoiling during WWI. In NSW silos were built first by the federal Australian Wheat Board, then by the Grain Elevators Board and Government Grain Elevator which became GrainCorp. Bulk handling used vertical concrete and steel silos had high operating costs during lean years but could handle large crops of exceptional harvest years. Public silos are inextricably linked to the railway lines as the Australian wheat industry has historically depended on rail freight. The item has potential local heritage significance against criteria A – historic significance as part of the broader assemblage of silos along the Moree rail lines.
B – Associative significance	The GrainCorp silos are not associated with any one particular historic individual. The structures are associated with GrainCorp and earlier entities including the Grain Elevators Board and AWB. The item does not meet the local significance threshold under this criterion.
C – Aesthetic significance	The silos have landmark value as they are located in a prominent position adjacent to the Newell Highway and the rail line at the southern approach into Moree. The item has potential to meet the local significance threshold under this criterion.
D – Social significance	The item has potential to meet the local significance threshold under this criterion. Further social significance investigation would be required to establish this.
E – Research potential	The silos date from a well-documented period c1970. The item does not meet the local significance threshold under this criterion.
F – Rarity	The GrainCorp silos date from a period where many similar facilities were being constructed in the NSW wheat belt along the rural rail lines during the 1960s and 1970s. The 1970s era structures are not rare or uncommon and are part of the history standardised bulk grain facilities rolled out across NSW and Australia in the twentieth Century. Some earlier era grain silos (c1920 and c1930) are becoming increasingly rare, however this particular period of silo less so because many remain in commission. The item does not meet the local significance threshold under this criterion.
G – Representativeness	The item is typical of late twentieth century silo construction, and it is unknown whether these silos are a particularly good or representative example of their type. Further investigations and/or comparative analysis would be required to establish this. At this stage, the item does not meet the local significance threshold under this criterion.
Summary and recommendations	The silos date from the late twentieth century period of silo construction and remain in ongoing use and operation. They are not part of the early and increasingly rare group of 1920s and 1930s wheat silos built during the interwar years in NSW. Whilst they do hold historic and aesthetic (landmark) value, the Moree silos site is one site of at least thirty groups of silos that were constructed from 1964-1970 in the Moree region. As these silos remain in operation, practicality and feasibility considerations inform this recommendation. **Heritage listing of the Moree GrainCorp silos is not recommended.**

5 Assessment of potential impacts

The proposed Structure Plan for the Moree SAP has been developed through an enquiry by design process which included heritage experts contributing to the processes of enquiry from the initial baseline studies. As part of this process, the heritage expert was present at the EbD workshop to provide immediate technical input where heritage issues were raised.

These processes included robust, extensive discussions with a range of subject matters experts, designers and stakeholders to test and refine development scenarios and ensure a balance between community need, environmental values, cultural heritage, economic development and technical considerations.

The enquiry by design process informed key decisions in the development of the preferred Structure Plan including:

- Potential locations to accommodate the Intermodal Precinct
- Long-term transport infrastructure connections
- Protection of areas of high biodiversity and cultural heritage value
- Potential opportunities to create local jobs that would result in the long-term protection and management of both biodiversity and cultural heritage values in those areas

In terms of heritage outcomes, the aims of this process has been to avoid significant impacts to heritage places identified within the SAP and in providing any Aboriginal community stakeholder perspectives, where they were known.

5.1 Aboriginal heritage

As discussed in Section 1.3, the findings from the desktop and field assessment, including preliminary discussions and feedback from the Aboriginal representatives on site, were utilised to inform discussions during the EbD workshop and ultimately the proposed Structure Plan design. Context and locations for all archaeological and cultural heritage sites were advised and recommendations for design to limit impacts to sites and heritage values through avoidance informed design of the proposed Structure plan. While the EbD identified a design that largely avoided the majority of the heritage values, consideration of the SAP initiatives and other environmental technical constraints meant that some heritage values may still be impacted by the proposed Structure Plan design, particularly in areas that were not subject to ground survey. The assessment of potential impacts henceforth reviews harm and impacts to those sites that may be unavoidably impacted by the draft Structure Plan and formulates mitigation measures to limit the impacts to these sites.

5.1.1 Historical land use and proposed land use

Current land use of the SAP investigation area comprises mostly agriculture in the southern and eastern portions, the Moree Regional Airport in the north-west, the industrial areas in the northeast and central portions, the solar farm in the south-east and the water park and resource recovery areas also in the central portion along with roads and rail lines and other service infrastructure. More natural features such as the TSR, vegetated road reserves along the Newell Highway, and vegetated riparian areas at Halls Creek also characterise the investigation area (Aurecon 2020). Historic land uses such as these, in combination with geomorphological processes compound disruption of the heavily disturbed alluvial landform of the area, contribute to the high land disturbance history of the area. Stream channel migration has further contributed to the translocation of soils within the local area (Ozark 2004; Benton 2004). It should be recognized however, that agricultural disturbance of the ground is likely to be less than through intensive infrastructure or industrial development.

Proposed future land uses are outlined in Section 1.2 and predominantly comprise a regional enterprise area as part of precinct development with continued use of the existing airport area. Additional potential

development options include rail intermodal, associated warehousing, transport and freight handling, agricultural activities and value add industries, additional power generation facilities such as solar farms and development of interconnecting infrastructure between the development precincts such as the east-west connector, northeast rail bypass, north-south connector, and northeast intermodal loop.

While the airport, solar farm, highways, the waterpark and resource recovery area, and some agricultural areas may have been subject to previous disturbances, the extent of the proposed SAP boundary encompasses large areas which have not clearly been subject to previous intensive disturbances.

5.1.2 Assessment of harm

For the purpose of the following section, assessment of impacts and harm relate to the draft Structure Plan (within the proposed SAP boundary). Based on the level of detail provided in the draft Structure Plan, certain assumptions have been made in relation to the land uses and types of development to assess the potential impacts on heritage values. This assessment assumes that where areas identified for precinct development potentially intersect directly with heritage sites, the impact would be a total loss of value to that item if mitigation strategies are not implemented. It should be noted that while the Rural Buffer Precinct forms part of the draft Structure Plan, no future development within this area is proposed and impacts associated are considered to only relate to noise, odour and air quality. If any ground disturbance works are proposed as part of development future of this area, further archaeological assessment including survey will be required.

Impacts to values

Impacts to known heritage sites

The proposed Structure Plan has the potential to impact Aboriginal cultural heritage values within the SAP investigation area. Table 5-1 identifies the sites within the SAP and those at risk by the draft Structure Plan design. The impact to the heritage values, if the known artefacts were to be impacted by the draft Structure Plan, including potentially enabling infrastructure, is considered moderate with possible impacts to six isolated finds, two artefact scatters and four scarred trees within the SAP investigation area. Table 5-1 outlines the potential impacts to recorded sites and the consequence of harm based on scientific values attributed as discussed in Section 6.2. The extent to which the total or partial loss of the sites would impact on the cultural values attributed by the Aboriginal community is only something the Aboriginal community can articulate. No feedback on these issues has been provided to date.

Avoidance of all Aboriginal cultural heritage sites identified within the draft Structure Plan scenario is technically possible through appropriate design in the delivery stage of the project. The draft Structure Plan design was informed by the results of the cultural heritage survey and has largely aimed to avoid all known heritage items within the Proposed SAP boundary area while integrating the existing interconnectivity corridors. However, there are some key infrastructure such as the road and rail crossing of Halls Creek that may impact the sensitive landform. Detailed design should consider minimising avoidance of such features, utilising areas of already disturbed land where possible.

For those areas of the draft Structure Plan that do intersect with heritage sites, impacts can be mitigated through the development of the detailed design plan and the implementation of other mitigation measures to ensure the recovery of information about the sites if they ultimately cannot be avoided.

Table 5-1 provides an assessment of the Aboriginal cultural heritage values and sites relating to the draft Structure Plan that is likely to be directly or indirectly affected by the SAP. This table considers the potential harm to known sites and assumes impacts, however, it is acknowledged that there may be opportunities to avoid impacts in future concept and detail design stages.

Table 5-1 Identified risks to known sites based on preferred Structure Plan scenario

AHIMS identified number	Site name	Scientific significance	Precinct associated with the impact	Potential type of harm	Potential degree of harm	Potential consequence of harm
10-3-0074	IF01	Low	Located within north-eastern TSR area	Nil – outside precinct development area	Nil, if no impact encroaches to TSR and any proposed rehabilitation or weed management of the TSR avoids the site.	Nil – outside precinct development area
10-6-0076	IF02	Low	Regional Enterprise Precinct (General - LALC Land)	Direct	Total	Total loss of value
10-6-0075	IF03	Low	Located within existing TSR to be protected	Located within the existing TSR to be protected and therefore Aboriginal heritage values are assumed to be protected	Nil – within the existing TSR to be protected and therefore assumed no impact to Aboriginal heritage values	Nil – outside precinct development area
10-6-0085	IF04	Low	Located within existing TSR to be protected	Located within the existing TSR to be protected and therefore Aboriginal heritage values are assumed to be protected	Nil – within the existing TSR to be protected and therefore assumed no impact to Aboriginal heritage values	Nil – outside precinct development area
10-6-0074	IF05	Low	Northeast rail bypass, North East Intermodal Loop, North-South Connector, realigned TSR	Direct	Total - given that the width of the proposed corridors associated with the transport infrastructure is not yet known.	Assumed total loss of value
10-6-0095	IF06	Low	North-South Connector, realigned TSR	Direct	Total - given that the width of the proposed corridors associated with the transport infrastructure is not yet known.	Assumed total loss of value
10-6-0094	IF07	Low	North-South Connector, realigned TSR	Direct	Total - given that the width of the proposed corridors associated with the transport infrastructure is not yet known.	Assumed total loss of value
10-6-0093	IF08	Low	North-East Intermodal Loop and North-East Rail Bypass, realigned TSR	Direct	Total - given that the width of the proposed corridors associated with the transport infrastructure is not yet known.	Assumed total loss of value
10-6-0083	IF09	Low	Located along Halls Creek	Located within buffer area to Halls Creek and therefore Aboriginal heritage values are assumed to be protected	Nil – within buffer area to Halls Creek and therefore assumed no impact to Aboriginal heritage values	Nil – outside precinct development area

AHIMS identified number	Site name	Scientific significance	Precinct associated with the impact	Potential type of harm	Potential degree of harm	Potential consequence of harm
10-6-0092	IF10	Low	Located along Halls Creek	Nil – outside of precinct development area	Nil- outside of precinct development area	Nil – outside precinct development area
10-6-0091	IF11	Low	Located along Halls Creek	Nil- outside of precinct development area	Nil- outside of precinct development area	Nil – outside precinct development area
10-6-0090	AS01	Low	Located along Halls Creek	Nil- outside of precinct development area	Nil- outside of precinct development area	Nil – outside precinct development area
10-6-0089	AS02	Low	Located along Halls Creek	Nil- outside of precinct development area	Nil- outside of precinct development area	Nil – outside precinct development area
10-6-0088	AS03	Low	Located along Halls Creek	Nil- outside of precinct development area	Nil- outside of precinct development area	Nil – outside precinct development area
10-6-0084	AS04	Low	High Impact Sub-Precinct, North-South Connector	Direct	Total - given that the width of the proposed corridors associated with the transport infrastructure is not yet known.	Assumed total loss of value
10-6-0086	AS05	Low	Located along Halls Creek	Nil – outside of precinct development area	Nil- outside of precinct development area	Nil – outside precinct development area
10-6-0087	AS06	Low	Located along Halls Creek	Nil- outside of precinct development area	Nil- outside of precinct development area	Nil – outside precinct development area
10-6-0073	LST01	High	Located along Halls Creek	Located within buffer area to Halls Creek and therefore Aboriginal heritage values are assumed to be protected	Nil – within buffer area to Halls Creek and therefore assumed no impact to Aboriginal heritage values	Nil – outside precinct development area
10-6-0082	LST02	High	Located within existing TSR to be protected	Located within the existing TSR to be protected and therefore Aboriginal heritage values are assumed to be protected	Nil – within the existing TSR to be protected and therefore assumed no impact to Aboriginal heritage values	Nil – outside precinct development area
10-6-0096	PST01	N/A	Located along Halls Creek	Located within buffer area to Halls Creek and therefore Aboriginal heritage values are assumed to be protected	Nil – within buffer area to Halls Creek and therefore assumed no impact to Aboriginal heritage values	Nil – outside precinct development area
10-6-0072	PST02	N/A	Located along Halls Creek	Located within buffer area to Halls Creek and therefore Aboriginal heritage values are assumed to be protected	Nil – within buffer area to Halls Creek and therefore assumed no impact to Aboriginal heritage values	Nil – outside precinct development area

AHIMS identified number	Site name	Scientific significance	Precinct associated with the impact	Potential type of harm	Potential degree of harm	Potential consequence of harm
10-6-0081	PST03	N/A	Located along Halls Creek	Located within buffer area to Halls Creek and therefore Aboriginal heritage values are assumed to be protected	Nil – within buffer area to Halls Creek and therefore assumed no impact to Aboriginal heritage values	Nil – outside precinct development area
10-3-0075	PST04	N/A	Located within existing TSR to be protected	Located within the existing TSR to be protected and therefore Aboriginal heritage values are assumed to be protected	Nil – within the existing TSR to be protected and therefore assumed no impact to Aboriginal heritage values	Nil – outside precinct development area
10-6-0080	PST05	N/A	Located along Halls Creek	Located within buffer area to Halls Creek and therefore Aboriginal heritage values are assumed to be protected	Nil – within buffer area to Halls Creek and therefore assumed no impact to Aboriginal heritage values	Nil – outside precinct development area
10-6-0079	PST06	N/A	Located along Halls Creek	Located within buffer area to Halls Creek and therefore Aboriginal heritage values are assumed to be protected	Nil – within buffer area to Halls Creek and therefore assumed no impact to Aboriginal heritage values	Nil – outside precinct development area
10-6-0078	PST07	N/A	Located along Halls Creek	Located within buffer area to Halls Creek and therefore Aboriginal heritage values are assumed to be protected	Nil – within buffer area to Halls Creek and therefore assumed no impact to Aboriginal heritage values	Nil – outside precinct development area
10-6-0077	PST08	N/A	Located along Halls Creek	Located within buffer area to Halls Creek and therefore Aboriginal heritage values are assumed to be protected	Nil – within buffer area to Halls Creek and therefore assumed no impact to Aboriginal heritage values	Nil – outside precinct development area
Update #10-6-0044	BP Solar Open Site 1 with PAD	Moderate	Outside proposed SAP boundary	Nil – outside of precinct development area	Nil- outside of precinct development area	Nil – outside precinct development area
Update #10-6-0039	WMF-ST1	Low	Located within existing TSR to be protected	Located within the existing TSR to be protected and therefore Aboriginal heritage values are assumed to be protected	Nil – within the existing TSR to be protected and therefore assumed no impact to Aboriginal heritage values	Nil – outside precinct development area
#10-6-0043	BP Solar Scarred Tree 2	High	Regional Enterprise Precinct – Potentially Hazardous Industry/Solar Farm	Direct	Total	Total loss of value

AHIMS identified number	Site name	Scientific significance	Precinct associated with the impact	Potential type of harm	Potential degree of harm	Potential consequence of harm
#10-6-0046	Moree Evergreen Precinct Scarred Tree 2	High	Regional Enterprise Precinct (General)	Direct	Total	Total loss of value
#10-6-0047	Moree Evergreen Precinct Scarred Tree 3	High	Regional Enterprise Precinct (General)	Direct	Total	Total loss of value
#10-6-0045	Moree Evergreen Precinct Scarred Tree 1	High	Regional Enterprise Precinct (General)	Direct	Nil- outside of precinct development area	Nil – outside precinct development area
#10-6-0041	MR-ST1-A	High	Located within existing TSR to be protected	Located within the existing TSR to be protected and therefore Aboriginal heritage values are assumed to be protected	Nil – within the existing TSR to be protected and therefore assumed no impact to Aboriginal heritage values	Nil – outside precinct development area
#10-6-0039	WMF-ST1	High	Located within existing TSR to be protected	Located within the existing TSR to be protected and therefore Aboriginal heritage values are assumed to be protected	Nil – within the existing TSR to be protected and therefore assumed no impact to Aboriginal heritage values	Nil – outside precinct development area
#10-6-0040	HC-OS1	Moderate	North-South Connector	Direct	Total - given that the width of the proposed corridors associated with the transport infrastructure is not yet known	Assumed total loss of value
#10-3-0036	HC-IF-1	Low	North-South Connector	Direct	Total - given that the width of the proposed corridors associated with the transport infrastructure is not yet known	Assumed total loss of value

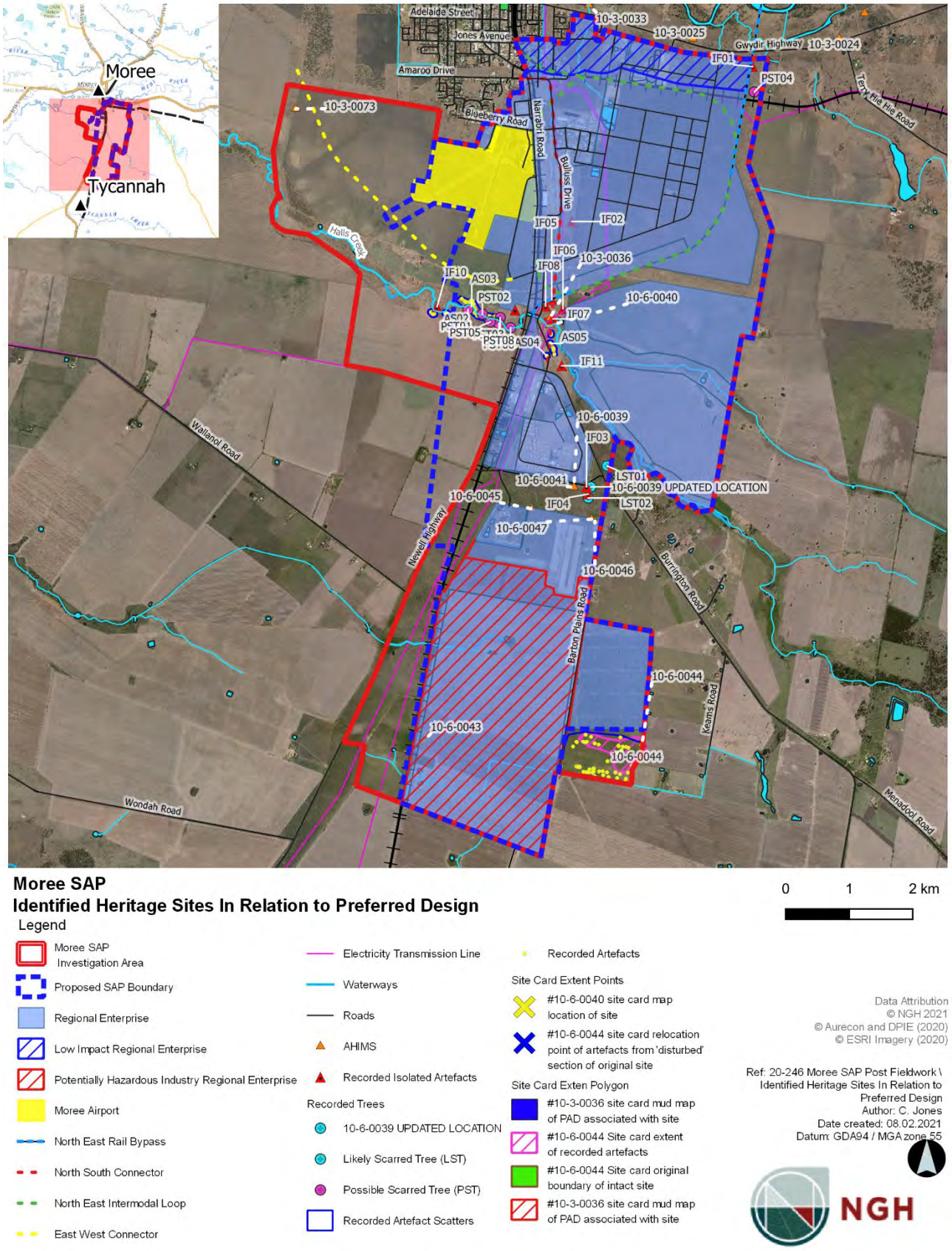


Figure 5-1 **Identified heritage sites in relation to the draft Structure Plan**

5.2 Non-Aboriginal heritage

Within the proposed SAP boundary, there are no known listed items or areas of significance with the potential to be impacted by development occurring as part of the SAP. The draft Structure Plan has not been restricted or limited by the presence of built heritage items, nor are there any known zones of non-Aboriginal archaeological sensitivity inside the proposed SAP boundary. Listed heritage items in proximity to the northern boundary of the draft Structure Plan are visually and physically separate from the development precincts (Figure 5-2). The closest sites by proximity, including the Moree Baths, Railway Station and Kirby Park Bandstand are unlikely to be impacted directly or indirectly by the development occurring as part of the preferred Structure Plan.

The draft Structure Plan incorporates several initiatives that will contribute to the protection and promotion of the Moree region's history and heritage without resulting in adverse heritage impacts to significant items and places. The rehabilitation and activation of places such as Halls Creek and the TSR will add to the region's cultural and heritage offering. Incorporation of mural art on the grain silos, and delivery of welcome to country nodes and interpretive signage will enhance and promote important cultural narratives and local identity.

Significant items and places are located outside the structure plan boundary (ie the Moree Baths) or within the main township (ie the built heritage of the Moree CBD). Items within the SAP that do hold some historic importance, including the Inland Rail line (known historically as the Mungindi main line), the old Inverell line, the TSR and the grain silos are being incorporated within the SAP Structure Plan. This is a positive heritage outcome as operation and ongoing use often helps ensure good heritage outcomes and continued appreciation of historically important places.

The performance criteria of the SAP Master Plan and the planning provisions under the statutory planning framework for the SAP will speak to place, landscape, history and heritage. Section 6 outlines the recommendations for the SAP Master Plan and the Activation Precincts State Environmental Planning Policy (AP SEPP) specific to heritage protection and conservation. Adoption of these recommendations into the planning framework and subsequent SAP Delivery Plan will ensure that cultural heritage is protected and promoted in the SAP outcomes and upheld in the streamlined planning approvals process that will apply.

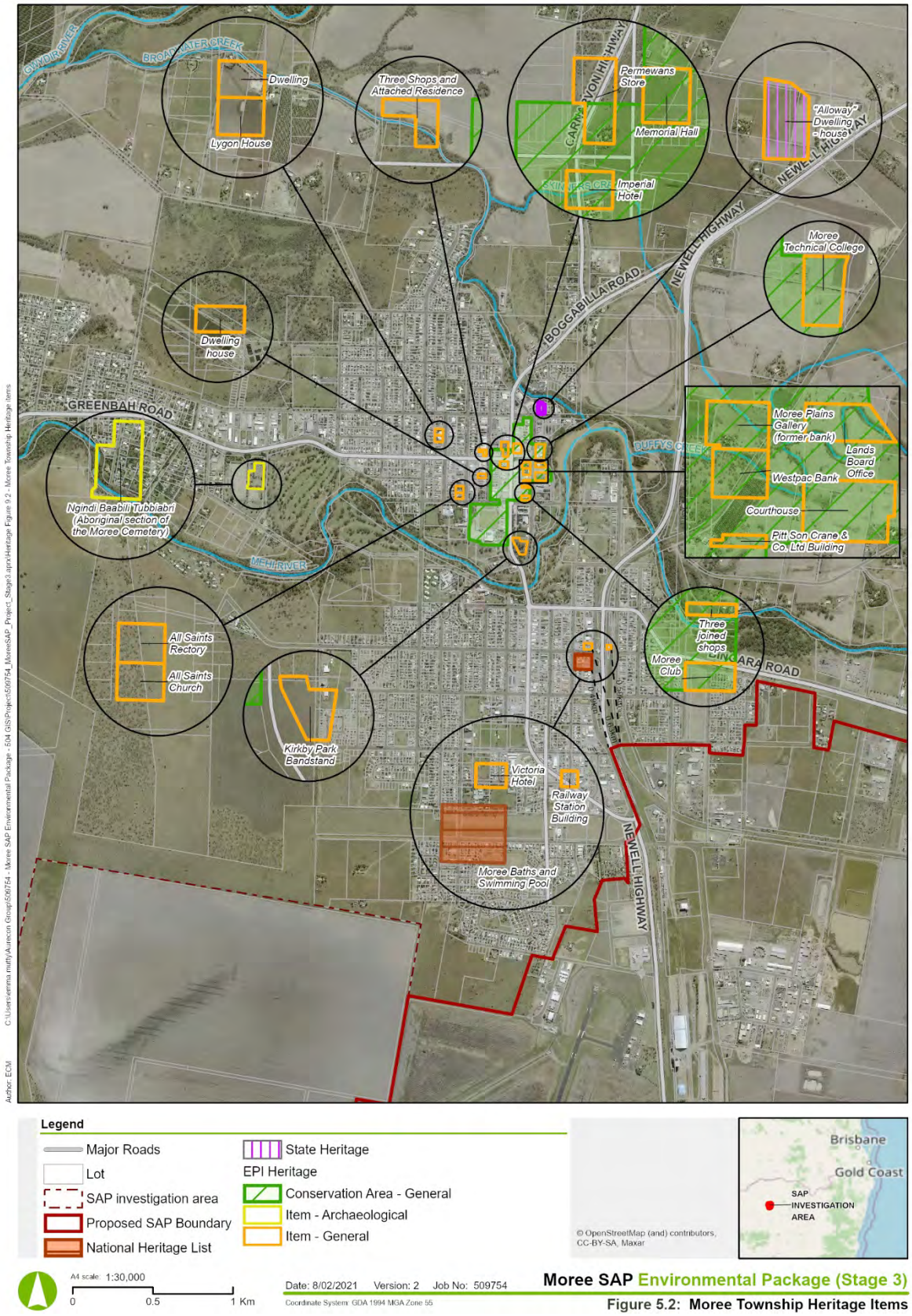


Figure 5-2 Moree township heritage items

5.3 Opportunities and constraints

A series of opportunities to enhance, promote and celebrate shared history and heritage are reflected in the structure plan. Many of these incorporate initiatives across place, history, community and landscape and will be explored further in future stages of the SAP.

5.3.1 Aboriginal heritage

Opportunities

The process for investigating the SAP combined both on-ground survey for archaeological sites as well as discussions and consultation with Registered Aboriginal Parties (RAPs) who have an interest and knowledge in the area. These combine to provide both physical and cultural (intangible) information about the presence and importance of Aboriginal heritage and cultural features of the landscape. Broadly, the heritage assessment of the SAP investigation area to date has provided the following opportunities:

- To identify cultural heritage values within the SAP investigation area and inform the development of recommendations to manage risks to these sites with regard to the development of the preferred Structure Plan
- To ground truth a predictive model for archaeological sensitivity that can inform the targeted cultural heritage survey of the preferred Structure Plan going forward
- Collaboration with the other technical disciplines to form a contemporary comprehensive assessment of the SAP investigation area and inform the design of the Structure Plan
- Facilitated consultation with the Aboriginal community to identify heritage values within the SAP investigation area and provided input from the community regarding documentation of the significance of these sites and management of them going forward.

Beyond the immediate opportunities relevant to the heritage assessment of the SAP, consultation through this heritage study has also informed further opportunities in the relation to the SAP development as a whole. These include:

- Aboriginal community involvement opportunities for employment and land management practices
- Realignment of the TSR near the proposed intermodal may more actively incorporate traditional land management of the corridor
- Designated Biodiversity Protection Zone will subsequently facilitate controlled protection of that small cluster of Aboriginal cultural values (IF03, IF04, #10-6-0039, #10-6-0047, LST02). Biodiversity offsets within these areas may also provide opportunity to reintroduce native bush food and medicines to the area.
- Aboriginal employment and education opportunities associated with the management of sites within the area
- Integration of the welcome to country signage initiatives with messages of Gomeroi history, culture and place
- Opportunity to highlight the cultural narrative of the Moree area through utilisation of Aboriginal artwork for the silo design in the High Impact Sub-Precinct of the Regional Enterprise Precinct.

Beyond these more specific opportunities, this assessment will align with several major initiates outlined within the Opportunity, Choice, Healing, Responsibility, Empowerment (OCHRE) (NSW Government, 2013). These include:

- *Language and Culture Nests* through detailed cultural heritage assessment with input from the local Aboriginal community will elaborate on Aboriginal information pertaining to language group histories for the Moree area

- *Local Decision Making* by collaborating with the local Aboriginal community through consultation, local decision making through active engagement during the assessment process will directly culturally inform management of cultural sites and knowledge.

Constraints

During the initial stages of the EbD process, it was identified that there were important clusters of Aboriginal heritage sites along Halls Creek. The importance of these sites was further confirmed by Aboriginal stakeholders who identified that this area was important in both the value of the existing sites but also for the biodiversity values associated with the native food and medicinal plants present. The contemporary importance of Halls Creek was also identified as an area where people swim and enjoy the outdoors. Halls Creek, particularly where there was a high concentration of Aboriginal heritage sites west of the Newell Highway was identified as a significant constraint to development and should be avoided. This area was subsequently removed from the SAP. While some of these sites along Halls creek are incorporated as part of the draft Structure Plan, they are comprised within the Rural Buffer Precinct where no future development is proposed and impacts associated are considered to only relate to noise, odour and air quality. However, it is noted that no survey has been undertaken in this area and therefore if any ground disturbance is proposed as part of future development, further archaeological assessment including survey will be required.

This assessment identified that the draft Structure Plan has the potential to impact eight artefact sites (IF02, IF05, IF06, IF07, IF08, AS04, #10-3-0036, #10-6-0040,). It is considered that the artefact based sites would not prevent development entirely, however appropriate management strategies, in the form of avoidance or salvage, where appropriate, based on the site type and significance, would need to be identified to minimise any likely harm. Salvage of stone artefacts through collection or testing and excavation would serve to mitigate some of the potential impacts.

Further, the four scarred trees (#10-6-0043, #10-6-0045, #10-6-0046, #10-6-0047) within the SAP are considered to pose a constraint to future development. Scarred trees are a rare site type subject to natural decline through aging, decay and fire that increases their rarity and vulnerability. As such they are considered to have higher scientific value and impact to scarred trees should be avoided. It should be noted that each of these sites is in a position where avoidance would be possible as they are in open areas or on the edge of precinct boundaries and careful planning to avoid is considered feasible and practical.

Based on the results of the survey to date and the sensitivity mapping that has been compiled, the balance of the SAP away from water sources is considered to have generally low potential to contain significant archaeological sites. There are no anticipated major constraints that would prevent development of the SAP as per the draft Structure Plan, acknowledging that further assessment and survey would be required to identify and manage any sites not yet recorded. Further cultural heritage survey of those remaining areas of the proposed Structure Plan that have not been previously surveyed will ensure heritage obligations to ensure identification and management of unknown potential heritage items are met.

The crossing of Halls Creek for road and rail connections is likely to require some additional investigation, depending on the final Structure Plan. While there are parts of this potential connection corridor that are highly disturbed in association with the existing road and rail alignments, if design requires further disturbance of the creek in proximity to the identified sites, further assessment to clarify the impacts may be required. This may take the form of subsurface testing to determine the extent and character of the sites within this area, which may assist to inform the design of this enabling infrastructure or provide guidance on any possible impact mitigation measures.

5.3.2 Non-Aboriginal heritage

Opportunities

Moree's history, embodied in the broader region's heritage sites and places, remains a source of identity and memory for the Aboriginal, non-Aboriginal and other multicultural groups that call Moree Plains home. A SAP scenario that maximises and is able to deliver beneficial outcomes for heritage is desirable. Designing with

heritage, local history and place in mind is likely to add interest to the precinct and better connect it to the township, where the majority of people live and stay when they visit Moree.

A suite of high-level opportunities for heritage have been identified for the Moree SAP Structure Plan. These opportunities are not specific to non-Aboriginal cultural heritage. The Master Plan could potentially reflect a combination or range of these initiatives with the opportunity to fulfil shared objectives for both Aboriginal and non-Aboriginal cultural heritage. These opportunities can be understood under the categories of **placemaking**, **heritage interpretation/public art** and **community partnerships**.

Silo mural depicting Wergaia Elder (Uncle Ron Marks), a Wotjobaluk Elder (Aunty Regina Hood) and two children painted by Adnate at Sheep Hills in Victoria
Source: Silo Art Trail

A large-scale urban mural depicting Indigenous AFL star Adam Goodes, Surry Hills painted by Apparition Media
Source: Broadsheet Sydney

Placemaking

The new precincts planned within the preferred Structure Plan could be designed to reflect the history and heritage of Moree and surrounds through placemaking. Placemaking is a planning approach that has a particular focus on site-specific design, often factoring in community aspirations and needs to help deliver a quality-built environment and better urban spaces. Placemaking generally involves a range of disciplines including planning, architecture, urban design, landscape architecture and heritage. Through placemaking, interesting and thought-provoking responses to Moree's strong local identity and sense of place, of which heritage is an important part, could enrich the precinct for businesses, workers, community and visitors. Placemaking can extend to include site layout, built form and choice of materials and site-responsive landscaping. Further detailed opportunities for placemaking could be identified in the detailed master plan, including for land uses, building typologies and development within the landscape.

The placemaking opportunities reflected in the preferred Structure Plan include the public domain throughout the Enterprise Precinct, the Gateway Precinct and the Halls Creek/TSR alignments (accessible to the public) represent the greatest opportunities for place considerations to be employed.

Heritage interpretation and public art

Interpretive initiatives could be employed throughout the SAP. These have the potential to be creative and to include a range of values and shared histories, conveyed through cultural/historic plantings, the use and application of water in design, place naming/street naming to reference people and events of historic importance and a site-specific palette of materials. Heritage interpretation and public art can intersect and often overlap – with the former guiding and informing the latter. Regional historic themes and memorable past events can be used as inspiration for developing artist's briefs and curatorial themes. These briefs could explore regional themes such as connection to Country, sunshine and water, agriculture, and the proud heritage of the Gamilaroi people. The SAP presents an opportunity to contribute to the current experience of arrival and departure from Moree via road, rail and air. Experiences of arrival and departure could be enhanced and made memorable through the incorporation and celebration of landmark features such as the monumental grain silos and grain storage sheds. Consideration should be given to the integration of local Aboriginal art and prominent Aboriginal leaders on the grain silos, to signify the history and stories of the Moree Plains region.

Heritage interpretation and public art opportunities reflected in the preferred Structure Plan include a place to celebrate the brolga bird, mural art on the grain silos, interpretive initiatives along the realigned TSR and the Halls Creek corridor.

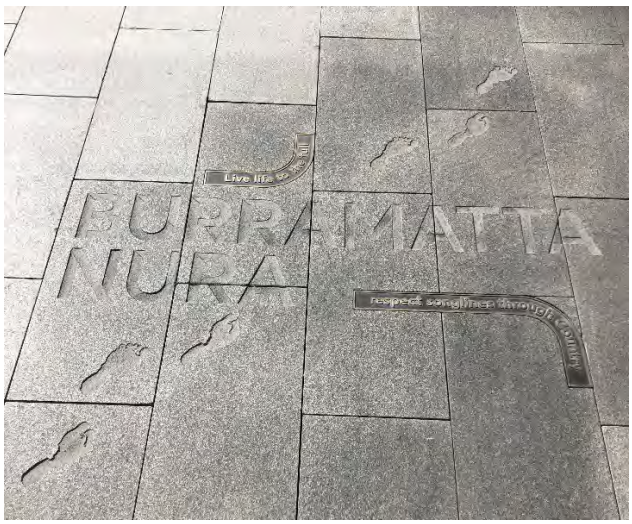
Community partnerships

The targeted consultation identified a number of heritage organisations and initiatives within Moree that may be suitable for fostering partnerships and co-delivering projects as part of the SAP. There are partnership and community benefit opportunities wherein the SAP could contribute to Moree's existing heritage, tourism and cultural programs, through funding streams and in-kind support as well as via physical means such as wayfinding, connectivity and cultural tourism trails.

There is an opportunity to involve Aboriginal and non-Aboriginal heritage stakeholders and knowledge holders in the above-mentioned initiatives, to embed important cultural knowledge and community memory in the project's design and delivery. A successful community partnership example can be found at Yerrabingin Eveleigh, wherein collaboration with Indigenous entrepreneurs helped to co-deliver a facility for a rooftop cultural garden where knowledge and wisdom about plants and horticulture can be shared with visitors.

Community partnership opportunities reflected in the preferred Structure Plan include a place to celebrate the brolga, a welcome to country hub and entry point near the Moree Regional Airport and other diverse opportunities for business and entrepreneurship within the Enterprise Precinct.

Interpretive garden at Royal Prince Alfred Hospital in Sydney. The goanna and the Southern right whale represent the Cadigal and Wangal Clans of the Eora Nation.
Source: Sydney Local Health District



Parramatta Square interpretive inlays in Darug language. The traditional clans of Parramatta are the Burramattagal and 'Burra' means eel. Brass ground inlays read: 'live life to the full, respect songlines through country.'
Source: Aurecon, 2020

The Goods Line, Ultimo – Interpretive planning and landscape design by Aspect Studios in a former industrial context
Source: Australian Design Review

Yerrabingin - Australia's First Indigenous Rooftop Farm in Eveleigh NSW Source: Maggie Beer
Read more on Yerrabingin at **yerrabingin.com.au**

Constraints

There are no notable non-Aboriginal heritage constraints that apply to the preferred Structure Plan. Going forward, the interrelationship between the Moree Baths National Heritage place, and between other locally listed items outside the structure plan boundary should be monitored and managed to avoid adverse impacts due to development encroachment. Any potential heritage items that are revealed during the detailed design and development process should have their significance fully assessed and addressed in further specialist reporting. Items of historic interest and local importance, such as the two rail lines, the grain silos and the TSR have been incorporated into the design of the precinct and will continue to have an important function in the SAP as well as the broader region's growth and prosperity. At this stage, local heritage listing of these items is not recommended as outlined in Tables 4.9-4.12.

6 Avoiding or mitigating harm

6.1 Aboriginal heritage

6.1.1 Consideration of ecologically sustainable development principles

Consideration of the principles of Ecologically Sustainable Development (ESD) and the use of the precautionary principle was undertaken when assessing the harm to the sites and the potential for mitigating impacts to the sites recorded within the SAP investigation area. The main consideration was the cumulative effect of the proposed impact to the sites and the wider archaeological record. The precautionary principle in relation to Aboriginal heritage implies that development proposals should be carefully evaluated to identify possible impacts and assess the risk of potential consequences.

In broad terms, the known archaeological material located during this investigation is similar to what has been found previously within the Moree region, comprising of isolated artefacts, artefact scatters and scarred trees. The result of this Aboriginal heritage assessment supports the proposed model of site location and site distribution, whereby objects and sites should be expected in proximity to waterways but also contradicts the theory that anthropomorphic and geomorphological processes associated with the heavily disturbed alluvial landform rendered identification of archaeological material unlikely. Contrary to this interpretation, while more prevalent across sandy deposits, there were still artefacts apparent in the black soil alluvial plain areas, albeit in lower densities and frequencies than areas close to creek lines.

The implications for ESD principles are that other artefacts and scarred trees are likely to be present in the district and the SAP investigation area. As demonstrated by the revised sensitivity modelling informed by the cultural heritage survey results (refer Figure 4-10), the SAP investigation area as a whole, and in particular the proposed SAP boundary, encompasses several moderate and high cultural heritage sensitivity areas. The likely manifestation of archaeological sites within the broader SAP and precinct areas that were not subject to survey would be isolated artefacts, and small artefact scatters, except where any areas associated with water such as ephemeral creeks, depressions or springs, which may contain larger and more dense artefact scatters. These sites are likely to be similar in context to those already recorded, but their locations are currently unknown. Scarred trees may occur where old growth trees are present although within the broader SAP, most of the land has been cleared for agricultural purposes and therefore such sites are unlikely to occur. While the surrounding Moree district has also been largely impacted through agricultural land use and other Aboriginal heritage sites are also likely to have been disturbed, the conclusion that other, similar sites exist reduces the representative values of the sites within the SAP. Moreover, the preferred Structure Plan was informed by the cultural heritage survey and largely aims to avoid the majority of known, most scientifically significant Aboriginal heritage sites.

As noted above, the archaeological values of the sites, considering the scientific values were deemed to be moderate. While representativeness and rarity have been assumed based on regional findings, such assessment would be further informed by a survey of the remaining proposed SAP boundary where similar sites (i.e., Artefact scatters and isolated artefacts) would be expected to occur. Therefore, generally, it is believed that the proposed impacts to the sites through the development would not adversely affect the broader archaeological record for the local area or the region.

It is therefore concluded, that while the current development proposals have the potential to impact six isolated finds, two artefact scatters and four scarred trees, these could all be avoided through careful design and planning. If these sites were impacted, the overall cumulative impact on the archaeological record for the region is likely to be moderate based on the significance of the trees but through avoidance by design of the trees, the impact to the artefacts is considered minimal and the cumulative impacts of the SAP proposal can effectively be managed through avoidance by design.

6.1.2 Mitigation of harm

Mitigation of harm to cultural heritage sites generally involves some level of detailed recording to preserve the information contained within the site or setting aside areas as representative samples of the landform to preserve a portion of the site. Mitigation can be in the form of minimising harm, through slight changes in the development plan or through direct management measures of the sites.

The following general management options are likely to be key to individual site management measures.

- **Avoid harm through appropriate design of future development within the precincts**. A suitable curtilage around each site to be provided to ensure protection both during the short-term construction phase of development and in the long-term use of the area. This is recommended for all scarred and cultural trees. If the design is altered, care must be taken to ensure that impacts do not occur to areas not previously assessed.
  - Detailed design for the development of precincts to be developed to avoid a 15 m buffer around all Likely Scarred Trees and Possible Scarred Trees
- **If the impact is unavoidable** then the justification for any likely harm to Aboriginal cultural heritage values would be provided, including a discussion of any alternatives considered for the development. Further, management strategies to minimise the harm would be identified. The ultimate management measures identified for any sites to be impacted would be guided by the following principles:
  - Site type: this will inform the likely mitigation measures acceptable and practical, for example, artefacts may be collected, sites may be excavated. Collection of all artefactual sites identified as being directly impacted would be undertaken by a qualified archaeological consultant with a methodology for the proposed approach and involvement of the local Aboriginal community. For any sites impacted and/or salvaged, an Aboriginal Site Impact Recording Form for each site is required.
  - Site significance: different levels of significance may require different approaches to mitigation to retain the scientific and cultural value of the site

Ongoing consultation with the RAPs would be undertaken prior to any and all works proceeding to ensure a comprehensive assessment of the significance, impact assessment and recommendations for all Aboriginal heritage values are appropriately captured and managed.

6.2 Non-Aboriginal heritage

It is unlikely that there will be any indirect or construction impacts to non-Aboriginal heritage resulting from the proposed SAP.

At this stage it is not anticipated that the SAP will adversely affect the Baths and their recreational, historic and social values due to the distance and degree of separation from new SAP development activity (approximately 600 m). It is not possible to fully quantify and assess potential impacts to the Moree Baths National Heritage Place however it is unlikely that any indirect visual or setting impacts would occur.

Importantly, the national significance of the Baths is tied to their historic association with the events and racial justice protests that occurred there during the 1965 Freedom Rides. The Baths themselves have been rebuilt several times, and the physical fabric and external appearance of the place are of far lesser importance than the cultural, historic and social importance arising from what the place symbolises: a long history of racial injustice and Indigenous civil rights, and the fight spearheaded by Charles Perkins in the 1960s to overcome these injustices.

Further modelling, development massing studies and visual impact assessment should inform an understanding of any adverse effect the preferred Structure Plan may have (if any) on the Moree Baths National Heritage Place, as well as consultation with the Moree Aboriginal community for whom the place holds special significance.

The following mitigation measures and strategies would be considered throughout future design stages to ensure harm to heritage places and items can be avoided:

- In future detailed planning, development would be prevented from encroaching on the National and local heritage places located outside the structure plan area by ensuring appropriate setbacks and separation between heritage items and prevention of incompatible development.
- Setting, views, access, visual presentation and landscape context would remain important considerations in detailed planning stages in order to avoid impacts on heritage
- The structure plan design would be reassessed for impacts to surrounding heritage if the boundary and extent of new development departs considerably from the current scheme
- Assess any potential heritage items that may be identified during later stages of the SAP, including detailed design and development. Dependant on the outcomes of a heritage assessment process (conducted in accordance with the NSW Heritage Criteria) incorporate any items of local heritage significance into the heritage schedule of the Moree SAP Master Plan and identify these items on the plans that are gazetted under the APSEPP. This statutory measure will ensure the retention and incorporation of potential items into the design, if the heritage significance assessment suggests it is appropriate to do so.
- Continue to incorporate elements of historic interest in the design and delivery of the Structure Plan, including the silos, the two train lines and the TSR.
- Adopt objectives focused on place, history and landscape within the performance criteria of the Master Plan that will support the opportunities and initiatives outlined in this report (placemaking, heritage interpretation and public art, community partnerships)
- Adopt a general provision within the APSEPP that aligns with the heritage conservation priorities of MPSC, to *Protect the region's historic heritage assets.*
- Adopt detailed provisions for protecting and managing heritage items within the provisions of the Delivery Plan, including a requirement for future development to ensure the protection and promotion of local heritage

7 Recommendations

In accordance with heritage management intentions for the SEPP, this report has assessed the potential impacts of the preferred Structure Plan on known and identified heritage sites. The following recommendations have been provided based on the following considerations:

- Findings of the survey
- Consultation with Aboriginal community
- Outline of the SAP Structure Plan
- Intentions of the AP SEPP for a pathway for approval

7.1 Aboriginal heritage

It is understood that for the SAP, the AP SEPP would apply and therefore the normal provisions of the NPW Act in terms of approval requirements to impact sites (AHIP) would not apply. However, some steps to further assess the potential impacts on cultural heritage in the delivery stage may be required. To provide more certainty for the development approval pathway, Aboriginal heritage could be managed through utilising a landscape management plan that identifies the requirements for managing Aboriginal and non-Aboriginal heritage sites where development is proposed.

- Prepare an Aboriginal Cultural Heritage Management Plan (ACHMP) to provide an overarching framework on how management of known and unknown heritage values is undertaken. The ACHMP would effectively serve as an approval document, providing fast track guidance on heritage management requirements. The ACHMP would include guidance on, but not limited to, the following:
  - Assessment requirements for new development proposals based on potential impacts and results of this and previous assessments
  - Standards and procedures for assessment, notification and reporting
  - Management requirements of known sites within the SAP
  - Parameters for management of impacts to known or unknown sites within the SAP such as collection, recording, excavation
  - How and who to engage with in the Aboriginal community including opportunities to obtain relevant cultural information to enhance the precinct
  - The plan could also provide guidance on the Aboriginal community considerations for cultural outcomes and provide a platform for further development of ideas and consultation with the local community

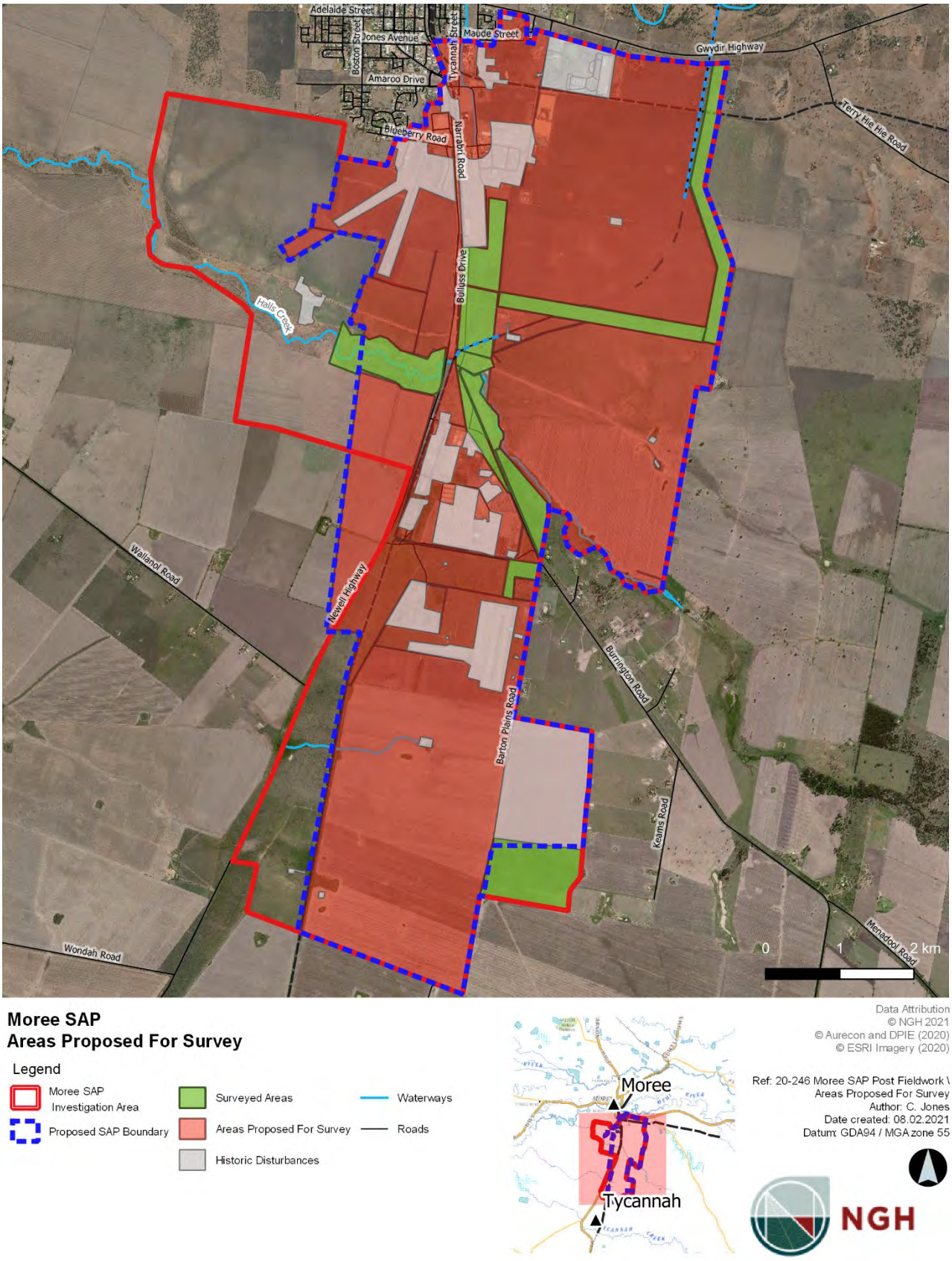
  Such a plan would be a live document, updated as new information came to light or as a way of improving the deliverables of greater Aboriginal community outcomes in relation to cultural heritage. It is considered that Moree Plains Shire Council or the Regional NSW Growth Development Corporation would take the lead role in the implementation of the plan to continue to foster positive relationships with the Aboriginal community.

Some general considerations for Aboriginal heritage management from the results of this assessment include the following.

- Conduct an Aboriginal cultural heritage survey within the areas required for survey identified in Figure 7-1. The survey aim would be to identify and record any Aboriginal heritage sites and to provide recommendations for management in relation to specific precinct development.
- Surveys should be undertaken on a precinct wide basis to ensure all items are identified and a wholistic management approach is taken to avoid sites where possible. It is not necessary to undertake a survey of

all precincts at the same time. As such, the survey and reporting could be staged depending on the development program for infrastructure and precincts.

- Where sites are unable to be avoided, management and mitigation strategies would be developed consistent with those outlined in Section 6.1.2
- It is noted that consultation is considered to have lapsed if more than six months pass between correspondences about the SAP. Therefore, the landowner responsible for the management of the land (ie Regional NSW Growth Development Corporation) would maintain correspondence with the RAPs at least every six months in relation to the SAP.



Moree SAP
Areas Proposed For Survey

Legend

- Moree SAP Investigation Area
- Proposed SAP Boundary
- Surveyed Areas
- Areas Proposed For Survey
- Historic Disturbances
- Waterways
- Roads

Ref: 20-246 Moree SAP Post Fieldwork \ Areas Proposed For Survey
Author: C. Jones
Date created: 08.02.2021
Datum: GDA94 / MGA zone 55

NGH

Figure 7-1 **Areas proposed for future Aboriginal heritage survey**

7.1.1 Performance criteria

Under Part 3 of the *State Environmental Planning Policy (Activation Precincts) 2020*, to be complying development, the development must –

> (c) not be carried out on land which a heritage item or Aboriginal object is located or that is within a heritage conservation area or Aboriginal place of heritage significance.

The following general management options are proposed as individual site management measures.

- Avoid harm to known sites through appropriate design of future development within the precincts. Detailed design for the development of precincts would be developed to avoid a 15 m buffer around all Likely Scarred Trees and Possible Scarred Trees.
- Avoid development in areas of high and moderate archaeological sensitivity
- If impact to artefact sites is unavoidable then undertake salvage collection of stone artefacts. This would need to be undertaken by a qualified archaeologist and representatives of the Aboriginal community. The management of artefacts collected would be either buried in a location nearby not subject to development or subject to curation by an organisation such as the LALC. The latter may require a formal care agreement with Heritage NSW. Any burial of artefacts would require completion of an AHIMS sites card for the new location.
- Where impacts to sites in proximity to Halls Creek or another area of high sensitivity are unavoidable, conduct a subsurface testing program to determine the true nature and extent of the sites present, or the potential for unrecorded sites within the high sensitivity area. Subsurface testing would involve hand excavation under the *Code of Practice* by qualified archaeologist and representatives of the RAPs.
- Consultation with the RAPs would be ongoing to keep the community informed of development progress and to obtain feedback about the opportunities for Aboriginal community engagement.

Through implementation of these management measures of avoidance, salvage collection of artefacts and continued consultation with the community, it is considered that future development as part of the draft Structure Plan will not be carried out on land with significant heritage values.

7.2 Non-Aboriginal heritage

There are no non-Aboriginal (historic) heritage items or heritage conservation areas recommended to be included on the heritage schedule for Moree SAP under the AP SEPP. Should future stages of the Master Plan or development process identify or uncover potential heritage items, places or relics it may become necessary to incorporate any item that are assessed to be of local heritage significance into the heritage schedule of the Moree SAP Master Plan and to identify these items on the plans that are gazetted under the APSEPP. This would occur following the outcomes of a heritage significance assessment process which concludes that the item, place or relic exhibits a level of significance that meets the local or state threshold for heritage listing. In this instance, protection and incorporation into the precinct may be warranted. Potential heritage items have been subject to preliminary assessed at Tables 4.9-4.11 in this report. No items, places or objects have been identified in heritage investigations to date that may require listing.

7.2.1 Performance criteria

These performance criteria fall under place, history, heritage and landscape:

- Incorporate place, history, heritage and landscape considerations across the precinct with a view to increasing the regions cultural and heritage offering via the activation and delivery of new and significant places
- Protect and interpret items of historic importance and community value
- Minimise how development intrudes upon the landscape and on new areas slated for rehabilitation and renewal through the choice of design, colours, materials and landscaping with local natives

- Promote culture and Gamilaroi country by incorporating Aboriginal Design Principles into the Master Plan
- Require a visual impact assessment as part of an application for Activation Precinct Certificate or Complying Development Certificate to ensure there is no encroachment of new development on the highly significant Moree Baths National Heritage place
- Create shared places and celebrate shared values, using heritage and history to promote community and social cohesion, conversations and dialogue

8 References

Aurecon Australasia Pty Ltd 2020, Moree Special Activation Precinct Biodiversity Assessment Report – Biodiversity. Report to Department of Planning, Industry and Environment.

NGH Pty Ltd 2020, Moree Special Activation Precinct Cultural Heritage Survey Report. Report to Aurecon and Department of Planning, Industry and Environment.

Balme, J. 1985, A Preliminary Archaeological Assessment of the Moree Plains Shire Council Region. Report to Moree Plains Shire Council. As cited in Ozark Environmental Heritage Management 2010.

Benton, J.N. 2004, Field Assessment of the Archaeological Issues relevant to Gosport Street Moree Bypass Option. Report to RTA. As cited in Ozark Environmental Heritage Management. 2004.

BOM (Bureau of Meteorology). 2020. Moree Weather Observations. http://www.bom.gov.au/climate/dwo/IDCJDW2084.latest.shtml. Accessed 17 July 2020.

DECC. 2002, Descriptions for NSW (Mitchell) Landscapes Version 2. Based on the description of Dr. Peter Mitchell. Viewed 15 August 2019. https://www.environment.nsw.gov.au/resources/conservation/LandscapesDescriptions.pdf

DE&E 2016, Brigalow Belt South Bioregion, viewed 22 July 2020, Environment.nsw.gov.au.

DECCW 2010a, Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales.

DECCW 2010b, Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales.

DECCW 2010c, Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.

Department of Agriculture, Water and Environment. 2020, National Heritage Places - Moree Baths and Swimming Pool Complex, viewed 22 July 2020, https://www.environment.gov.au/heritage/places/national/moree-baths.

DPIE 2020, SR2246974816 - Part D Statement of Requirements Moree SAP Package C Environmental Assessment.

Forde, S. 2019. Pulling down fences An oral history with Lyall Munro Jr. Griffith Review. Griffith Review 63. Writing the County, accessed 30 July 2020, https://www.griffithreview.com/articles/pulling-down-fences-oral-history-lyall-munro-jr/.

Heritage Concepts 2009, Aboriginal Heritage Study: Moree Plains Shire Council Local Environmental Plan. Report for Moree Plains Shire Council.

Howitt, A. W. 1904, The Native Tribes of South East Australia. Aboriginal Studies Press, as cited in Heritage Concepts 2009.

Kelton, J. 1999, An Archaeological overview of the Proposed State Highway 17, Newell Highway - Moree Eastern 'Outer' Bypass, Moree, North-Western NSE. Report to Egis consulting Australia Pty Ltd.

Mitchell 1839, Three Expeditions into the Interior of Eastern Australia: With Descriptions of the Recently Explored Region of Australia Felix and of the Present Colony of New South Wales. Boone London As cited in Murawin, 2020.

Moree Plain Shire Council, 2020 Past, present and future of the Shire, accessed 20 August 2020. https://www.mpsc.nsw.gov.au/index.php/roads/suggesting-road-names/28-about-us/our-heritage/past-present-and-future-of-the-shire.

Murawin 2020, Moree Special Activation Precinct Aboriginal Community Needs Baseline Report.

NSW National Parks and Wildlife Services (NPWS) 2004, Gamilaroi Nature Reserve Plan of Management.

Ozark Environmental Heritage Management. 2004, Archaeological Test Excavation of Mehi River (DEC #10-3-0032) and Skinners Creek PADs (DEC #10-3-0040 and 41) Proposed Moree Bypass, Moree NSW. Report for NSW Roads and Traffic Authority Western Region.

Ozark Environmental Heritage Management 2010, Aboriginal Heritage Assessment Proposed Power Station in Moree. For Walsh Consulting on behalf of BP Power.

Ozark Environmental Heritage Management 2012, Aboriginal Heritage Assessment Proposed Water Storage Ponds at Evergreen Precinct. For Construction Solutions on behalf of Moree Plains Shire Council.

Ozark Environmental Heritage Management 2013, Aboriginal Heritage Impact Assessment Proposed Moree Solar Farm - Project Modification. Report on behalf of FRV Services Australia and Pacific Hydro Pty Ltd.

Ozark Environmental Heritage Management 2018, Newell Highway Heavy Duty Pavements, North Moree Aboriginal and Historic Archaeological Survey Report. For NSW Roads and Maritime Services.

Ozark Environmental Heritage Management 2019, Aboriginal Due Diligence Archaeological Assessment East-West Bypass, Moree. Report prepared for Moree Plains Shire Council.

Tindale, A 1974, Aboriginal Tribes of Australia. University of California Press, as cited in Heritage Concepts 2009

Appendix A

Aboriginal cultural heritage survey report

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